

2019 UNIVERSAL REGISTRATION DOCUMENT INCLUDING THE ANNUAL FINANCIAL STATEMENTS



EURONEXT

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DR: Items above in the Contents of the Universal Registration Document with the symbol DR concern the Directors' Report within the meaning of Article 2:391 of the Dutch Civil Code.

2019 UNIVERSAL REGISTRATION DOCUMENT

including the Annual Financial Statements

Euronext N.V. (the “Company” or “Euronext” and together with its subsidiaries, the “Group”) is a Dutch public company with limited liability (naamloze vennootschap), whose ordinary shares are admitted to listing and trading on regulated markets in the Netherlands, France, Belgium and Portugal. The applicable regulations with respect to public information and protection of investors, as well as the commitments made by the Company to securities and market authorities, are described in this Universal Registration Document (the “Universal Registration Document”).

In addition to historical information, this Universal Registration Document includes forward-looking statements. The forward-looking statements are generally identified by the use of forward-looking words, such as “anticipate”, “believe”, “estimate”, “expect”, “intend”, “plan”, “project”, “predict”, “will”, “should”, “may” or other variations of such terms, or by discussion of strategy. These statements relate to Euronext’s future prospects, developments and business strategies and are based on analyses or forecasts of future results and estimates of amounts not yet determinable. These forward-looking statements represent the view of Euronext only as of the dates they are made, and Euronext disclaims any obligation to update forward-looking statements, except as may be otherwise required by law. The forward-looking statements in this Universal Registration Document involve known and unknown risks, uncertainties and other factors that could cause Euronext’s actual future results, performance and achievements to differ materially from those forecasted or suggested herein. These include changes in general economic and business conditions, as well as the factors described under “Risk Factors” below.

This universal registration document has been filed with the Stichting Autoriteit Financiële Markten (the “AFM”) on 1 April 2020 as competent authority under Regulation (EU) 2017/1129 without prior approval pursuant to Article 9 of Regulation (EU) 2017/1129. This universal registration document may be used for the purposes of an offer to the public of securities or admission of securities to trading on a regulated market if approved by the AFM together with any amendments, if applicable, and a securities note and summary approved in accordance with Regulation (EU) 2017/1129.

A MESSAGE FROM OUR CEO AND CHAIRMAN OF THE MANAGING BOARD

“

Today, Euronext is determined to build the leading pan-European market infrastructure by growing and seizing opportunities, to accelerate innovation and sustainable growth.”

Stéphane Boujnah

CEO and Chairman of the Managing Board

Dear Shareholders,

Euronext delivered a strong performance in 2019, as the Group demonstrated the resilience of its core business and successfully diversified into new geographies, new asset classes and new products. Despite lower trading volumes, our trading business proved its robustness with strong cash trading market share and improved yield management. At the same time we further reduced our exposure to volume related businesses, expanding our post-trade offering as we acquired Oslo Børs VPS and further developed our investor services and corporate services offering.

On the technology front, we successfully rolled out Optiq to our Derivatives market, demonstrating our agile approach to technology as we raise industry standard. By operating our Cash and Derivatives Markets on a single platform, Euronext can fully leverage features across asset classes and deliver a truly innovative and flexible trading environment to our clients.

2019 also saw the launch of our new strategic plan. Let's Grow Together 2022 is the next phase of the exciting journey we embarked on in 2014. Over the past few years, Euronext has significantly increased in scale, diversified its business profile, and optimized its structure. The Group has continuously invested in technology, innovation and people. Today, Euronext is determined to build the leading pan-European market infrastructure by growing and seizing opportunities, to accelerate innovation and sustainable growth. The Group will continue to extend its business across the full value chain of financial markets, enhancing its best-in-class services to all clients, and consolidating its key role within the pan-European financial ecosystem. Let's Grow Together 2022 will leverage those strengths, guiding Euronext as it transforms its business and delivers on its



mission of connecting local economies to global capital markets.

The Group already reached a first milestone with the acquisition of Nord Pool, strengthening its presence in the Nordics and diversifying into power markets. Euronext remains committed to deploying its capital, in a disciplined way, to diversify its revenue profile and to expand its federal model further.

As we are at the heart of the financial ecosystem, Euronext is committed to support the acceleration of the transition towards sustainable growth and finance, notably by capitalizing on Oslo Børs VPS's expertise and the Group's franchise in green bonds and ESG indices. Euronext commitments will translate into the development and active support of innovative and sustainable products and services for clients and other members of the financial community. The Group will also support the promotion of tangible sustainable practices in Euronext and within its wider ecosystem to support the transition to sustainable growth and to contribute to the Sustainable Development Goals. A first step was achieved in late 2019 with the successful launch of our Green bonds segment.

Stéphane Boujnah

A STRONG PERFORMANCE IN 2019

€399.4m

58.8%

EBITDA MARGIN

63.5%

EBITDA TO NET
OPERATING CASH FLOW

€3.90

+10.9%⁽¹⁾

ADJUSTED EPS

€1.59⁽²⁾

DIVIDEND
PER SHARE

IN 2020

AS A RESULT OF THE INTEGRATION OF OSLO BØRS VPS AND INTERNAL DIGITALIZATION PROJECTS, EURONEXT EXPECTS ITS OPERATING COSTS EXCLUDING D&A TO TEMPORARILY **INCREASE** BY A **MID-SINGLE DIGIT** IN 2020, COMPARED TO ITS SECOND HALF 2019 ANNUALISED COST BASE⁽³⁾

€4.5trn

MARKET CAPITALISATION
ON EURONEXT MARKETS

1,500 +

ISSUERS

46

NEW EQUITY LISTINGS

68.8%

ORGANIC MARKET SHARE
ON CASH TRADING

€7.8bn

CASH AVERAGE
DAILY VALUE

0.53bps

ORGANIC CASH YIELD

20 +

COUNTRIES

+1,200

EMPLOYEES

1.5x

NET DEBT TO EBITDA RATIO

(1) Percentages compare 2019 data to 2018 data.

(2) To be proposed to the AGM on 14 May 2019.

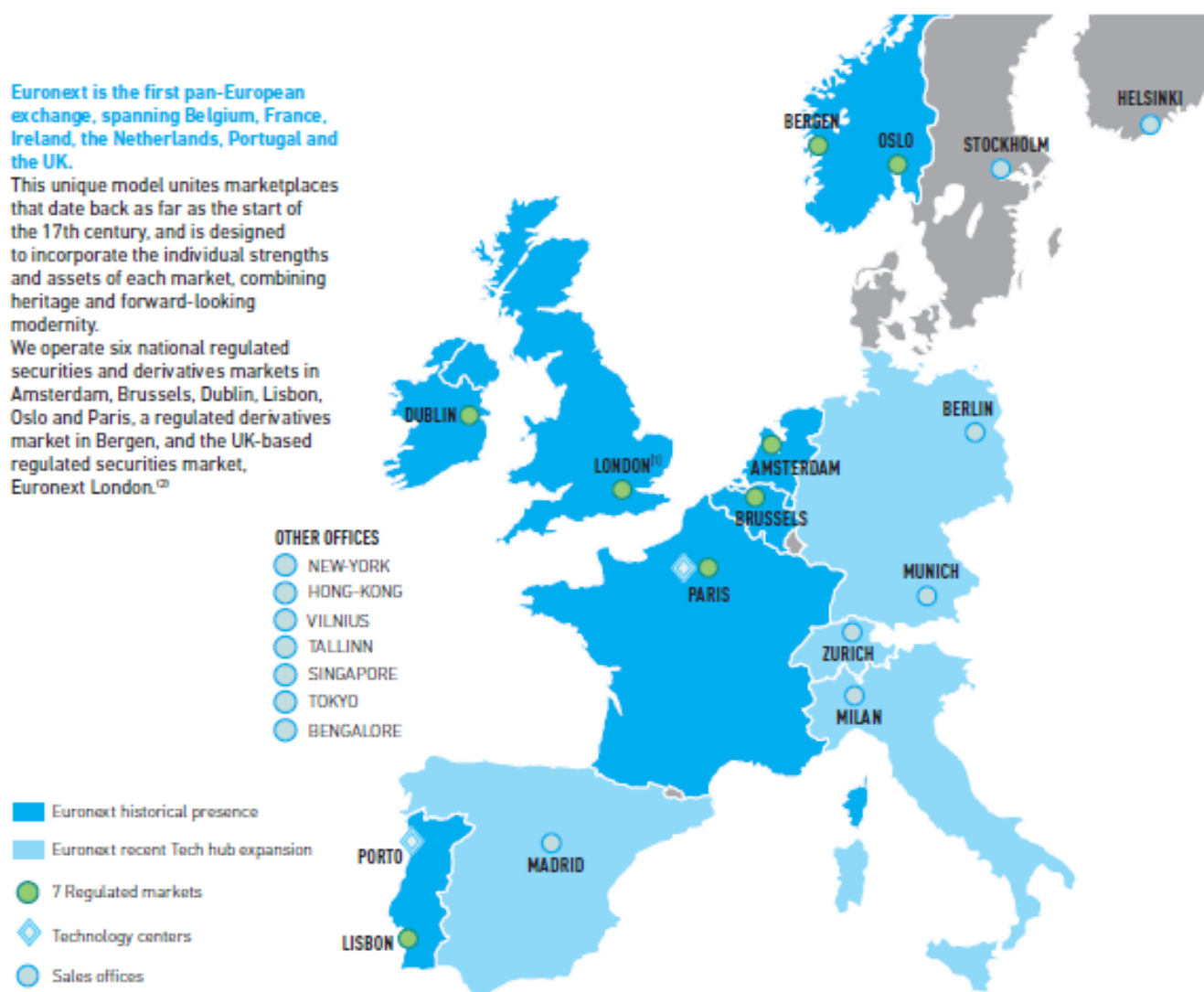
(3) Based on H2 2019 reported operating costs excluding D&A, excluding Nord Pool of around €311 million.

EURONEXT FEDERAL MODEL

Euronext is the first pan-European exchange, spanning Belgium, France, Ireland, the Netherlands, Portugal and the UK.

This unique model unites marketplaces that date back as far as the start of the 17th century, and is designed to incorporate the individual strengths and assets of each market, combining heritage and forward-looking modernity.

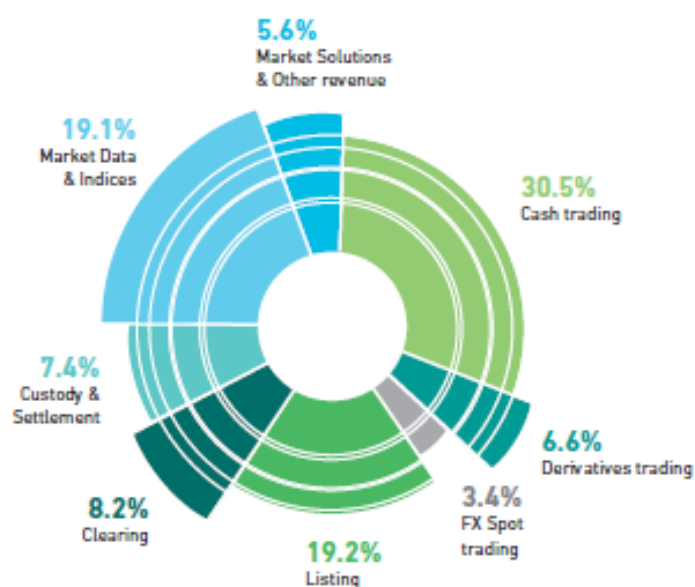
We operate six national regulated securities and derivatives markets in Amsterdam, Brussels, Dublin, Lisbon, Oslo and Paris, a regulated derivatives market in Bergen, and the UK-based regulated securities market, Euronext London.⁽²⁾



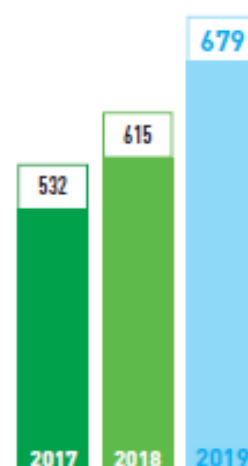
⁽¹⁾ Euronext London is recognised as a Recognised Investment Exchange (RIE) by the Financial Conduct Authority (FCA).

⁽²⁾ On 30 March 2020 Euronext has filed an application for the revocation of its RIE licence, subject to approval from the FCA. Under the applicable rules this implies that Euronext will have to cease all regulated activities in the UK as per 30 June 2020. Euronext will ensure an orderly wind down of its limited regulated activities in close consultation with the FCA.

SOURCE OF 2019 REVENUE



REVENUE IN €M



EURONEXT 'S GOVERNANCE

► Euronext N.V. is a Dutch public company with a two-tier governance

SUPERVISORY BOARD

 **Jim GOLLAN**
Independent
Non-executive director
Age: 64

 **Dick SLUIMERS**
Independent
Chairman of the Supervisory Board
Age: 66

Nathalie RACHOU 
Independent
Senior Advisor of Rouvier
Associés
Age: 62

 **Kerstin GÜNTHER**
Independent
Helmholtz Institute Munich
Managing Director
Age: 52


 **Manuel FERREIRA DA SILVA**
Independent
Non-executive director
Age: 62

10 SUPERVISORY BOARD MEMBERS,
OF WHICH **3** APPOINTED UPON NOMINATION
BY EURONEXT REFERENCE SHAREHOLDERS
AND **7** INDEPENDENT MEMBERS

Morten THORSRUD 
Independent
President and CEO of If P&C
Age: 49

Franck SILVENT 
Reference Shareholders Repr.
Managing partner,
Degroof Petercam Finance
Age: 47

 **Padraic O'CONNOR**
Independent
Non-executive director
Age: 70

Luc KEULENEER 
Reference Shareholders Repr.
Professor financial and treasury management
Age: 60


Lieve MOSTREY 
Reference Shareholders Repr.
CEO of Euroclear
Age: 59

AUDIT
Jim GOLLAN
Kerstin GÜNTHER
Luc KEULENEER
Franck SILVENT
Morten THORSRUD

**NOMINATION
& GOVERNANCE**
Dick SLUIMERS
Manuel FERREIRA DA SILVA
Lieve MOSTREY
Padraic O'CONNOR
Nathalie RACHOU


REMUNERATION
Lieve MOSTREY
Manuel FERREIRA DA SILVA
Padraic O'CONNOR
Nathalie RACHOU
Dick SLUIMERS

MANAGING BOARD

 **Stéphane BOUJNAH**
Chief Executive Officer,
Chairman of the Managing
Board
Age: 55

 **Chris TOPPLE**
CEO Euronext London
Age: 50

PERMANENT ATTENDEES TO THE MANAGING BOARD

 **Anthony ATTIA**
CEO Euronext Paris,
Head of Global listing
& Post-trade
Age: 45

 **Vincent VAN DESSEL**
CEO Euronext Brussels
Age: 61

 **Sylvia ANDRIESSEN**
General Counsel

 **Giorgio MODICA**
Chief Financial Officer


 **Daryl BYRNE**
CEO Euronext Dublin
Age: 47

 **Øivind AMUNDSEN**
CEO Oslo Børs VPS¹⁾
Age: 52

 **Alain COURBEBASSE**
Chief Information
& Technology Officer

 **Simon GALLAGHER**
Head of Cash
& Derivatives

 **Simone HUIS IN 'T VELD**
CEO Euronext Amsterdam
Age: 47

 **Isabel UCHA**
CEO Euronext Lisbon
CEO Interbolsa
Age: 54

 **Amaury HOUDART**
Chief Talent Officer

1) Subject to regulatory and shareholders approvals

EURONEXT'S 2022 STRATEGIC AMBITIONS

Leveraging Euronext's unique federal model, creating a sustainable competitive advantage

- Simplicity of access to European markets
- Proximity to local clients
- Diversity of flows

- Strong links with local regulators
- Strong integration track record
- Large Investor customer base

- 7 local markets
- Attractive workplace

Building on strong assets to deliver future growth

- Expertise in liquidity and yield management
- Largest liquidity pool in Europe
- Strong national and ESG Indices

- Comprehensive suite of Corporate and Investors Services

- Cutting-edge proprietary technology platform Optiq®
- Strong listing franchise
- Culture of efficiency
- Agile capital deployment, flexibility

LET'S GROW TOGETHER 2022

OUR AMBITION

Build the leading pan-European market infrastructure

OUR MISSION

Connect local economies to global capital markets, to accelerate innovation and sustainable growth

EURONEXT STRATEGIC PLAN TO FULFILL ITS AMBITION

Diversify local and global infrastructures

Enhance client connectivity

Deliver operational excellence

Empower people to grow, perform and innovate

Enable sustainable finance

Execute value-creative M&A programme

2022 FINANCIAL TARGETS REFLECTING EURONEXT GROWTH AMBITIONS

	2018	2022e TARGETS <small>VS. PROFORMA</small>	COMMENTS
Revenue	PROFORMA €734m	+2 to 3% <small>CAGR_{2018F-2022e}</small>	<ul style="list-style-type: none"> Organic growth, excluding potential M&A Cross-cycle trading growth in line with European GDP Continued focus on revenue diversification and services
EBITDA margin	PROFORMA 57.0%	≥60%	<ul style="list-style-type: none"> Organic margin, excluding potential M&A Continued best-in-class cost discipline Investments in operational excellence Uplift profitability of acquired companies to Euronext level
One-off costs			<ul style="list-style-type: none"> Internal Projects costs: €12m over the plan
Capex	c. 4% of revenue <small>Current</small>	3% to 5% <small>of revenue</small>	
Dividend Policy	50% of Reported Net Income <small>Current</small>	50% of Reported Net Income	

Pro forma include full year 2018 of Commisce, Euronext Dublin and Oslo BorsVPS. 2018 pro forma EBITDA margin rebased for the adoption of IFRS 16.

EXECUTING DISCIPLINED AND VALUE ACCRETIVE M&A

Rigorous capital allocation policy

- Investment criteria:
ROCE > WACC in year 3 to 5
- Optimised leverage with credit floor rating
≥ Strong investment grade



BUSINESS MODEL

Inputs

Financial capital

The pool of funds that is available to an organization for use in the production of goods or the provision of services or obtained through financing: Listing fees, trading fees, clearing fees, market data's fees, ...

Intellectual capital

Organizational, knowledge-based intangibles, including intellectual property, such as patents, copyrights, software, rights and licenses

Human capital

Skills, team, people, knowledge, ...

Social capital

The institutions and the relationships within and between communities, groups of stakeholders and other networks, and the ability to share information to enhance individual and collective well-being

Natural capital

All renewable and non-renewable environmental resources and processes that provide goods or services, i.e. energy, database

5

Impact areas

Our Markets
Our environnement
Our People
Our Partners
Our Society

11

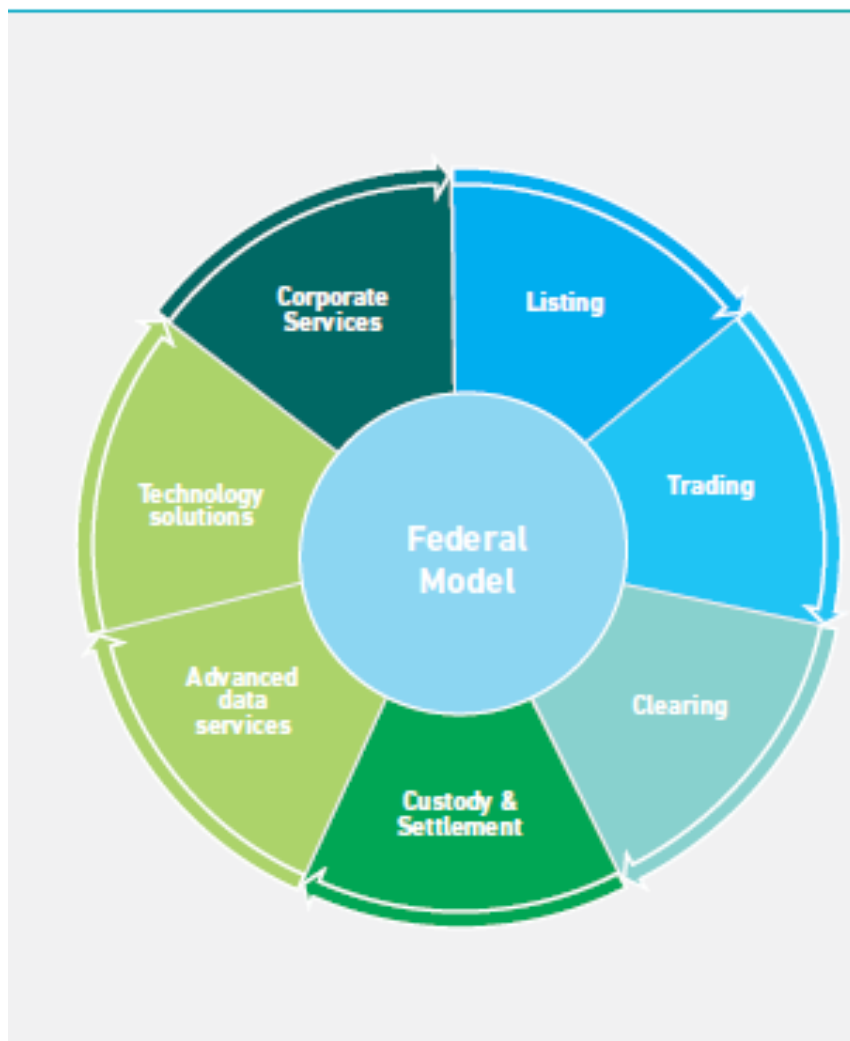
Key issues

- Act ethically, with Integrity and the highest standards in terms of good governance
- Develop skills and retain talents in an open culture of dialogue
- Educate and engage with local communities
- Educate partners on financial literacy and Regulations
- Foster "Issuer-Investor" dialogue
- Maintain an ongoing dialogue with multi stakeholder partnerships
- Organise a trusted, fair, transparent and efficient market, thereby enhancing access to capital
- Promote and develop sustainable and Innovative products
- Promote diversity
- Reduce our own carbon footprint and contribute to the protection of the Environment
- Respect human rights and local labour laws

FEDERAL MODEL



- ▶ **Euronext's Business Model:** to connect local economies to global markets, to accelerate innovation and sustainable growth
- ▶ **Euronext ESG mission:** to accelerate the transition to a more sustainable economy



▶ ▶ Euronext is the only pan-European exchange operating across multiple jurisdictions with an harmonised regulatory framework, a Single Order Book and a single trading platform offering access to all markets through a single connection.

Outputs

Financial capital

Net operating income,
dividend, capital raised,
market cap, EPS, share price,
...

Social capital

Access to capital, Shareholder
value, Transparent and
reliable market place
Services to issuers,
Sustainable products
Deep liquidity pool

Human capital

Talent development,
Financial education

Impacts



LET'S GROW TOGETHER

2022 WILL DELIVER ON SUSTAINABLE DEVELOPMENT GOALS IN 5 IMPACT AREAS

“Euronext has a key position in the financial ecosystem. It serves the real economy by bringing together buyers and sellers in high integrity trading venues that are transparent, efficient and reliable. In this key role, Euronext has a responsibility *vis-à-vis* the whole finance community to contribute to the financial stability and the sustainable agenda in the countries in which it operates”



Market

- Organise a trusted, fair, transparent and efficient market, thereby enhancing access to capital
- Promote and develop sustainable and innovative products

Euronext Green Bond section. Cleantech franchise and ESG ETF suite Expand our suite of ESG indices in partnership with specialised provider

Environment

- Reduce our own carbon footprint and contribute to the protection of the environment

Enhance Euronext's ESG reporting on agreed material issues on the basis of GRI standards Group wide carbon footprint analysis

People

- Develop skills and retain talents in an open culture of dialogue
- Promote diversity
- Respect human rights and local labour laws

Continue implementation of diversity action plan Improved performance & development cycle

Partners

- Foster "Issuer-Investor" dialogue
- Maintain an ongoing dialogue with multi-stakeholder partnerships
- Educate partners on financial literacy and regulations
- Leverage on Oslo Børs expertise

Publish dedicated material to help issuers with their ESG obligations

Society

- Act ethically, with integrity and the highest standards in terms of good governance
- Educate and engage with local communities

Define common goals and motto for community actions and employee engagement

ACCELERATING THE TRANSITION TOWARDS SUSTAINABLE FINANCE

Driving investment in innovative, sustainable products and services

through secure and transparent markets, in continuous dialogue between the players of the financial community

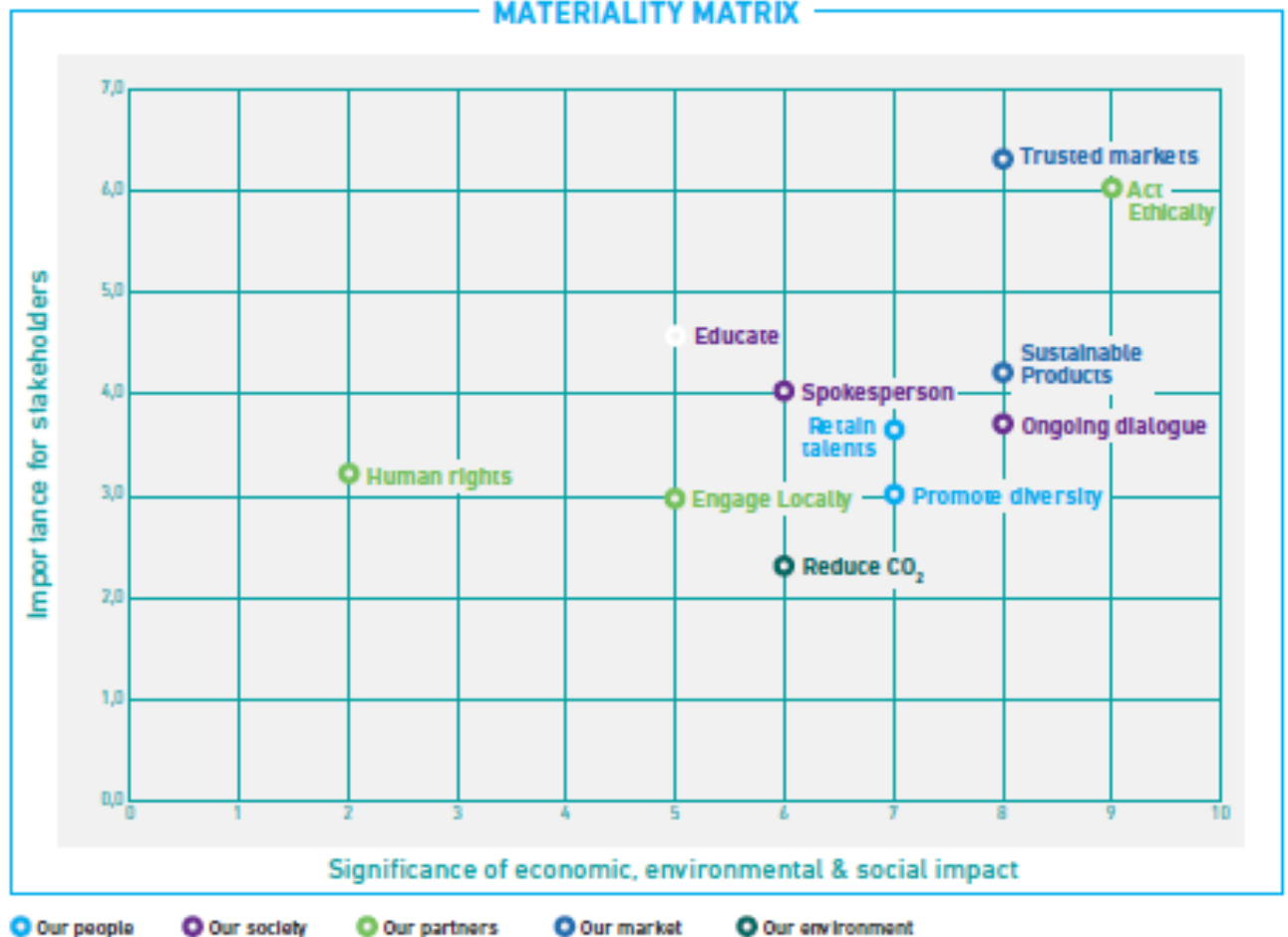
Inspiring and promoting sustainable tangible practices

within the company and towards our communities, by respecting and developing our people and by supporting our ecosystem

STAKEHOLDERS EXPECTATIONS AND MATERIALITY MATRIX

At the end of the year 2019, the internal and external stakeholders were invited to prioritise the 11 key issues – labelled under the 5 material impact areas: "In terms of their influence on the company's stakeholders and the significance for Euronext's ESG impact?".

MATERIALITY MATRIX



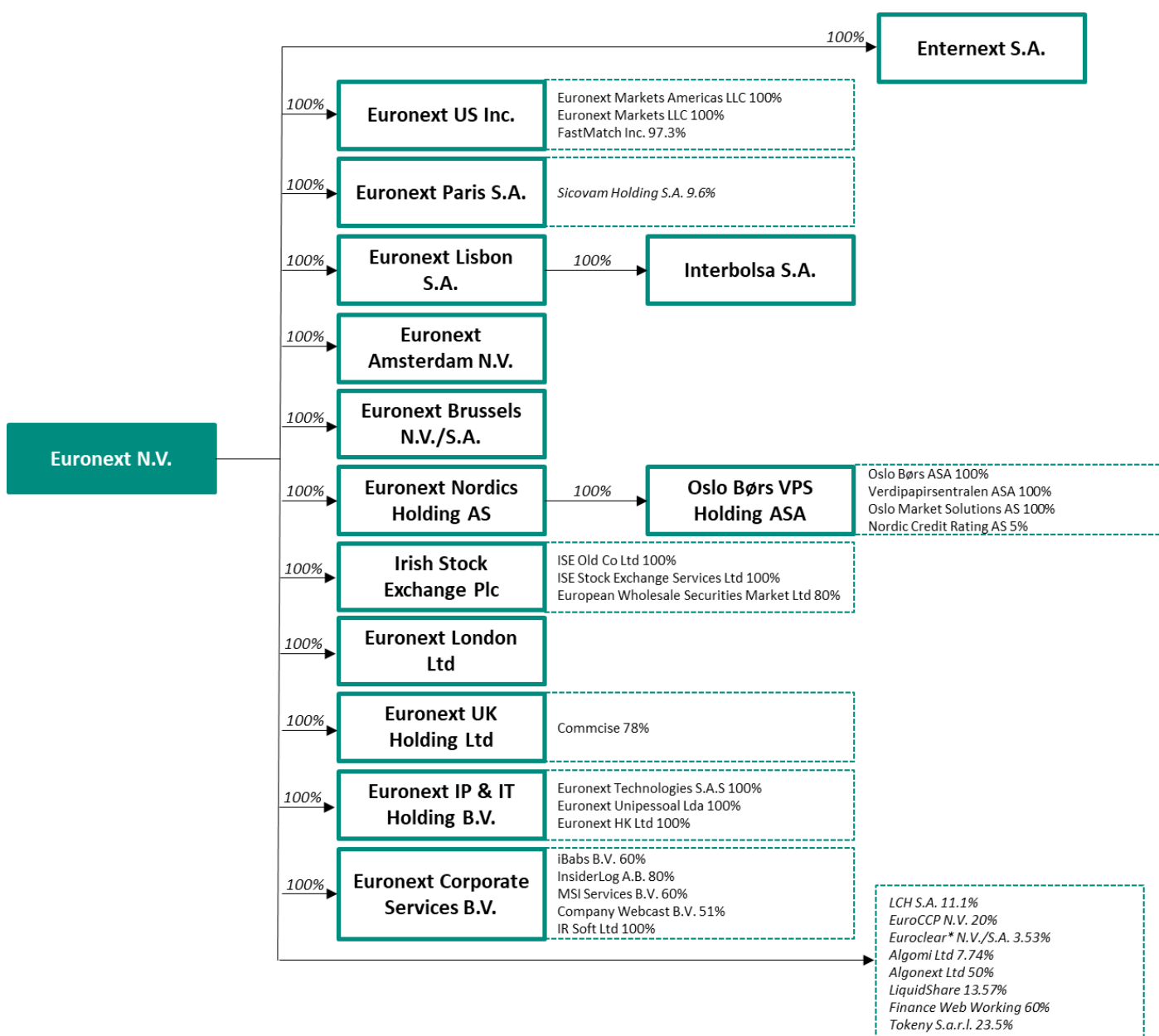
1 PRESENTATION OF THE GROUP ^{DR}

1.1 Company Profile

Euronext N.V. is a Dutch public company with limited liability (*naamloze Vennootschap*) which has its registered office in Amsterdam. Euronext N.V. is registered with the trade register of the Chamber of Commerce for Amsterdam, the Netherlands, under number 60234520. Euronext N.V. has its main subsidiaries in Belgium, France, Ireland, the Netherlands, Norway, Portugal and the United Kingdom. Euronext N.V. has expanded its European federal model, with the acquisition of 100% of the Irish Stock Exchange on 27 March 2018 and of 100% of Oslo Børs VPS since 4 July 2019. Euronext N.V. has a two-tier governance structure with a Supervisory Board and a Managing Board.

Euronext was incorporated under the name Euronext Group N.V. on 15 March 2014 in the context of a demerger of Euronext N.V., which was a company owned by ICE. Euronext Group N.V. changed its name to Euronext N.V. on 2 May 2014.

The following chart provides with an overview of Euronext N.V. entities as of 31 December 2019. Percentage refer to both share of capital and voting rights.



* Sicovam owns a 15.89% stake in Euroclear.

1.1.1 HISTORY

Today, Euronext is a pan-European exchange group, offering a diverse range of products and services and combining transparent and efficient equity, fixed income securities and derivatives markets in Amsterdam, Brussels, Dublin (since March 2018), Lisbon, London¹, Oslo (since June 2019) and Paris. Euronext's businesses comprise: equity, debts, funds and ETFs listing, corporate and investors services, cash trading, foreign exchange trading, derivatives trading, advanced data services, post-trade services as well as technology. In December 2019, Euronext announced the acquisition of 66% of the capital of Nord Pool expanding into power trading²

Euronext in its original form was created in 2000 and takes its roots from the European construction. It was first the result of a three-way merger of the Paris, Amsterdam and Brussels exchanges, soon completed by the acquisition of the London-based derivatives market, LIFFE, and the merger with the Portuguese exchange. The continental exchanges were combined into a unique federal model with unified rules and a Single Order Book (except for Portugal), operating on the same electronic trading platform and cleared by LCH S.A. CCP, creating the first genuinely cross-border exchange in Europe and pre-dating all initiatives by policy makers to allow for the creation of pan-European market places.

In May 2006, Euronext entered into an agreement with NYSE group for the combination of their respective businesses. The new holding company of these combined businesses, NYSE Euronext, was subsequently listed on the New York Stock Exchange and on Euronext Paris.

In 2010, NYSE Euronext launched Euronext London, a London-based securities market aiming at attracting international issuers looking to list in London and benefiting from Euronext's value proposition.

In November 2013, ICE, an operator of global markets and clearing houses, acquired NYSE Euronext. A key element of the overall transaction was the separation and IPO of NYSE Euronext's continental European exchanges as a stand-alone entity. In order to do this, ICE carved the continental European operations of NYSE Euronext and Euronext London into a newly formed entity, which was subsequently renamed Euronext N.V. Since its successful IPO on 20 June 2014, Euronext N.V. has been an independent listed company.

In May 2016, Euronext N.V. launched its strategic plan named "Agility for Growth" which defines the growth ambitions for 2019, both through organic growth and bolt-on acquisitions. In 2017, Euronext N.V. has diversified its top line, through the acquisition of 90% of the shares of the forex platform FastMatch, and by investing in corporates services companies.

In 2018, Euronext N.V. has expanded its listing franchise, welcoming a new exchange in its federal model with the acquisition of the Irish Stock Exchange. The Group also strengthened its Corporate Services offering with the acquisition of InsiderLog and widen its products offering with the launch of Investor Services through the acquisition of Commcise in December 2018.

In 2019, Euronext N.V. pursued the expansion of its federal model with the acquisition of Oslo Børs VPS, strengthening its post-trade franchise and marking the first step of its Nordics expansion ambitions. The Group also continued to invest into innovative solutions, investing in Tokeny Solutions and acquiring a majority stake in OPCVM360 (renamed as Euronext Funds 360). Euronext N.V. entered, in December 2019, in a binding agreement with Nordics and Baltics transmission system operators to acquire a majority stake in Nord Pool, a leading power trading infrastructure¹.

1.1.2 AMBITION

Euronext is the leading continental pan-European marketplace for the real economy. Its core mission and the driver of its strategy is to power pan-European capital markets to finance the real economy, while delivering value to shareholders.

As a pan-European group with a profile 'united in diversity', Euronext's ambition is to play a constructive role in the local ecosystems and act as an industry problem solver while contributing to making Europe an attractive block in a multipolar world. The Group's model is best suited to contribute to the construction of a true pan-European market. It operates regulated markets in Belgium, France, Ireland, the Netherlands, Norway, Portugal and the United Kingdom, all of which are connected via a unique, single trading platform with a harmonised regulatory framework. Euronext can easily connect other independent exchanges to its single trading platform, as demonstrated with Euronext Dublin on 4 February 2019 and the planned migration of Oslo Børs markets in 2020. Euronext's unique Single Order Book allows investors to get the benefit of being able to trade, clear and settle in a uniform way throughout various jurisdictions while also accessing a broad and deep pool of liquidity. Euronext is also ready to welcome other independent Eurozone market platforms within the Euronext model, which is demanding in terms of commercial and financial performance, ambitious in terms of innovation, and fundamentally federal in its governance, as demonstrated by the closing in 2018 of the acquisition of Euronext Dublin, formerly the Irish Stock Exchange and in 2019 with the acquisition of Oslo Børs VPS

As an operator of regulated markets, Euronext's mission is to bring together buyers and sellers in venues that are transparent, efficient and reliable. The Group combines cash, fixed income securities and derivatives markets in its seven locations together with a global foreign exchange trading venue. Euronext's broad portfolio of products, services and platforms covers the full range of market services, including the provision of market information, the development and operation of information technology systems, investor services and the ease of access to settlement and clearing facilities.

In the recent years, Euronext has expanded into fast growing revenue services and new asset classes. Euronext has built a complete Corporate Services offering through successive bolt-on deals. This offering, also aiming at non-issuers, was designed to meet clients' needs in today's critical areas such as regulation, governance, communication, and compliance. Euronext has also entered new asset classes with the acquisition of Euronext FX, expanding into the spot FX market and then targeting a new set of clients around the globe.

These successful integrations highlight Euronext's value proposition to benefit from Euronext's extended client base and several cross-selling opportunities.

¹ On 30 March 2020 Euronext has filed an application for the revocation of its RIE licence, subject to approval from the FCA. Under the applicable rules this implies that Euronext will have to cease all regulated activities in the UK as per 30 June 2020. Euronext will ensure an orderly wind down of its limited regulated activities in close consultation with the FCA.

² Transaction completed on 15 January 2020

Euronext aims to be the trusted choice for its clients providing them access to European financial markets and to transform from an exchange into a market infrastructure, boosting its presence across the full value chain of financial markets, offering best-in-class services to all its clients.

1.1.3 BUSINESS ENVIRONMENT

As an exchange operator, Euronext's operations and performance depend significantly on market and economic conditions in Europe, but also the United States, Asia and the rest of the world. Euronext is operating in a business environment that is best described as a complex non-linear system with dependencies on decisions of policy makers and regulators worldwide, with subsequent developments in the legal, regulatory and tax environment as well as the macroeconomic environment both in Europe and abroad.

Competition

On the corporate listing side, competition between exchanges for domestic issuers is rare. When a domestic issuer lists on another exchange, it tends to be on a sector specific market rather than on another European stock exchange, in particular in respect of global companies and SMEs in the technology sector. As part of its Agility for Growth strategy, Euronext strives to attract issuers from new markets: Germany, Switzerland, Italy and Spain and therefore will face the competition of local market operators. Euronext has offices in four European cities outside its core markets – in Munich (Germany), in Milan (Italy), in Madrid (Spain) and in Zurich (Switzerland) – to assist Tech companies in developing their business on a greater scale through capital markets. Euronext has welcomed 16 companies from those countries in 2019 on its markets, with a combined market capitalization of close to €1 billion. More than 40% of the 132 TechShare participants were issued from those countries..

While competition in the cash trading market is relatively mature, in recent years Euronext has faced increased pressure on pricing and market share in equity options trading, in particular from new entrants to the market that have fee structures that are significantly lower than the Company's fee structure and a reduced cost structure aligned with their narrower service offering. However, Euronext remained the largest liquidity pool in Europe, with a market share on its cash equity markets above 60%.

The competition for proprietary real-time market data is still limited as trading participants prefer to receive and use market data from the home exchange rather than using substitute pricing. However, Euronext is experiencing an increasing pressure, both from a regulatory (MiFID II) and competitive perspective (alternative trading platforms, including MTFs such as CBOE who focus on the most liquid blue chip stocks). Nevertheless, Euronext believes that diversity in a wide range of stocks is Euronext's strength in this increasingly competitive environment and will help Euronext retain its position as preferred data source.

In less time critical areas such as reference data – and particularly corporate actions and historical data – participants want a consolidated European feed from a single source. Euronext is not the only source of corporate actions or historical data so there is more competition in these areas.

As for market operator technology, the market for financial information technology is intensely competitive and characterised by rapidly changing technology and new entrants. Euronext has built the next generation trading platform, Optiq®, and is well positioned to benefit from its state-of-the art stability and latency.

Regulated Markets

Regulated markets are markets constituted in an EEA Member State's territory that fulfilled the criteria of the MiFID. Regulated markets have higher disclosure and transparency requirements than multi-lateral trading facilities ("MTF"). Trading on regulated markets is subject to stricter rules than on other types of trading venues.

A regulated market cannot operate without securing prior authorisation from its regulator(s). Authorisation is subject to compliance with organisational requirements pertaining to conflicts of interest, identification and management of operational risks, systems resilience, the existence of transparent and non-discriminatory trading rules, as well as sufficient financial resources.

Multilateral Trading Facilities

Multilateral trading facilities ("MTFs") are primarily institutional investor-focused marketplaces offering trading in pan-European securities on low latency, low cost platforms and are usually operated by financial institutions (e.g. banks, brokerages) or operators of regulated markets. MTFs are also subject to less stringent disclosure, transparency and trading rules than regulated markets and have more discretion to operate and organise themselves.

Euronext operates a number of MTFs, including its SME and midcap-dedicated marketplace Euronext Growth (formerly Alternext) (Belgium, France, Portugal), Enterprise Securities Market in Ireland, Euronext Access (formerly the Marché Libre) in Belgium and in France and Merkur Market in Norway. Euronext also operates several MTFs in Ireland: Global Exchange Market, for listing debt securities aimed at professional investors and investment funds, Atlantic Securities Market, for US listed companies seeking to access euro pools of capital. In Norway, Euronext operates NOTC, a platform to provide quotes and allow non-listed firms to benefit from a level of liquidity. Finally, Euronext operates Euronext Block, a pan-European equity block pool from the United Kingdom).

Systematic Internaliser

The systematic internaliser ("SI") regime was introduced by MiFID in 2007 which defines a SI as an investment firm which, on an organised, frequent systematic and substantial basis, deals on own account when executing client orders outside a regulated market, an MTF or an OTF without operating a multilateral system. SIs are bilateral trading platforms usually operated by banks or brokers and offering them the possibility to match client orders against their own capital, as an alternative to sending their orders to multilateral trading venues such as

regulated markets or MTFs. SIs are subject to much lighter organisational, disclosure, and transparency requirements than regulated markets and MTFs while some elements of the framework could be amended (see Risk chapter).

Over-the-counter (“OTC”)

In all asset classes, Euronext is faced with competition from unlicensed marketplaces operating over-the-counter (“OTC”).

1.2 Strategy: “Let’s grow together 2022” Strategic Plan

1.2.1 “LET’S GROW TOGETHER 2022”, MAPPING PATH TO BUILD THE LEADING PAN-EUROPEAN MARKET INFRASTRUCTURE

Since the IPO, through optimal resource allocation and cost control, as well as stronger development of underexploited businesses, Euronext has strived to deliver its solutions for the real economy.

Following the delivery of its IPO objectives a year in advance, in May 2016 Euronext published its strategic plan, Agility for Growth, outlining its growth ambitions to 2019. Euronext achieved most of its Agility for Growth ambitions one-year in advance, and announced in October 2019 its new strategic plan, Let’s grow together 2022, introducing its growth ambition to 2022.

Under this plan, Euronext is determined to build the leading pan-European market infrastructure, connecting local economies to global capital markets, by growing and seizing opportunities, to accelerate innovation and sustainable growth. The Group will continue to extend its business across the full value chain of financial markets, enhancing its best-in-class services to all clients, and consolidating its key role within the pan-European financial ecosystem.

The strategic plan relies on leveraging Euronext’s unique federal model, creating a sustainable competitive advantage, and building on its strong assets to deliver future growth.

Euronext’s 2022 business ambitions

Euronext will build on its existing core assets to grow and diversify its local and global infrastructures. Euronext will proactively address the changing landscape by developing innovative solutions and models and capitalizing on local expertise.

Euronext will leverage its leadership in listing to expand its sectoral, Tech and SME expertise and attract even more international issuers. Euronext will be positioned upstream in the IPO process to accompany entrepreneurs and corporate leaders while getting closer to private equity players to become the preferred exit strategy. The Group will also develop its innovation and sustainable offering in Corporate Services to better meet the needs of its clients.

Euronext will develop its leading global position in the listing of debt and funds, expand ancillary services and its leading green bond offering.

Euronext will continue to extract value in cash trading, by leveraging its federal model and unrivalled European footprint, strengthening client relationships, and deploying new co-designed market models. The Group will roll-out its successful cash yield and liquidity management expertise to the derivatives business. Euronext will further expand its commodities franchise and target international clients.

Euronext FX will diversify through the development of new product sets, specifically derivatives, and target new client segments and geographies.

Euronext will invest in advanced data and build analytics products, while adapting its offering to the evolving needs of clients and to regulation. The Group will expand its agile and cost-effective index franchise.

Euronext will exploit the power of Optiq®, its proprietary new generation cutting-edge trading platform to build an entire ecosystem and become the trusted alternative trading platform.

Following the acquisition of VPS, Euronext aims to transform its post-trade assets from core local market infrastructures to value-added, innovative solutions.

Euronext’s 2022 transformation

Euronext will engage in transformation projects that will enable the Group to grow and make its model scalable.

Euronext will empower teams to grow, perform and innovate. It will support teams to execute, collaborate and challenge within a positive performance culture focused on clients.

Euronext will enhance client connectivity by developing new solutions through a focused client culture, cross-business alignment, improved data management and innovative tools deployment.

Euronext will deliver operational excellence by improving operating efficiency through an integrated technology backbone, enhance client service interaction and integrate new businesses while keeping its trademark cost discipline.

Innovation and sustainable finance at the heart of the strategy

Innovation

Euronext will pursue the development of innovation solutions and services to enable the Group to capture new opportunities and proactively address challenges from the industry. Euronext's innovation framework to 2022 will be articulated around:

- collective intelligence and co-design;
- accelerated digitalisation;
- enriching Euronext's core technology capabilities;
- leveraging innovative technology such as tokenisation, bespoke trading models and artificial intelligence.

Sustainable finance

As a key market infrastructure, at the heart of the financial ecosystem, Euronext will support the acceleration of the transition towards sustainable growth and finance, notably by capitalizing on Oslo Børs VPS's expertise and the Group's franchise in green bonds and ESG indices.

Euronext commits to:

- the development and active support of innovative and sustainable products and services for clients and other members of the financial community;
- the promotion of tangible sustainable practices in Euronext and within its wider ecosystem to support the transition to sustainable growth and to contribute to the Sustainable Development Goals.

Euronext 2022 financial targets¹

Euronext's growth ambition is reflected in the 2022 financial targets and a rigorous capital allocation strategy.

- Revenue is expected to grow by 2% to 3% CAGR ²2018ProForma-2022Expected, excluding potential acquisitions, driven by (i) organic growth, (ii) cross-cycle trading growth in line with European GDP and (iii) continued focus on revenue diversification and services.
- EBITDA³ margin is expected to be above 60%, excluding potential acquisitions, driven by (i) continued best-in-class cost discipline, (ii) investments in operational excellence and (iii) uplift profitability of already-acquired companies to Euronext's level.
- To realise these ambitions, Euronext expects to record one-off costs of €12m relating to internal project costs over the period.
- Euronext expects to achieve €12m of run-rate cost synergies by 2022 at Oslo Børs VPS, to incur €18m of restructuring costs⁴, and to achieve a ROCE⁵ on this transaction above the WACC by Year 3.
- Capex is expected to remain between 3% and 5% of revenue.
- Dividend policy set with a 50% pay-out of reported net income.

1.2.2 UPDATE IN 2019

Launch of Euronext Green Bonds Offering

In November 2019, Euronext announced the creation of a new Euronext Green Bonds offering across its six regulated markets. The initiative is operated out of Euronext Dublin, the group centre of excellence for Debt, Funds and ETFs, and is designed to encourage and promote more sustainable investment in Europe. The Green Bonds offering marks the first product launch of Euronext's new three-year strategic plan, 'Let's Grow Together 2022', illustrating Euronext's commitment to accelerating the transition towards sustainable finance, by developing sustainable products and services for the financial community.

Acquisition of Nord Pool

In December 2019, Euronext entered into a binding agreement to acquire 66% of the share capital and voting rights of Nord Pool⁶, which runs a leading physical power market in Europe, operating from its headquarters in Oslo and offices in Helsinki, Stockholm, Tallinn, Berlin and London. Nord Pool is the second largest power market in Europe, offering trading, clearing, settlement and associated services in both intraday and day-ahead physical markets across 14 European countries, notably in the Nordic and Baltic regions. The acquisition of Nord Pool diversifies Euronext revenue mix to new asset classes not correlated with financial market cycles, and will strengthen its commodity franchise by leveraging Nord Pool's leadership position and know-how in physical power markets.

1.2.3 STRATEGIC TARGETS AND PROSPECTS IN 2020

As announced at the 2019 Investor Day, Euronext expects to incur non-recurring costs related to the integration of Oslo Børs VPS and internal digitalisation projects, which will start generating savings in 2021. As a result, Euronext expects its operating costs excluding

¹ Based on 2018 proforma figures (including FY 2018 for Oslo Børs VPS and Euronext Dublin) of €734m revenue and 57% EBITDA margin, rebased for the adoption of IFRS16

² Compound annual growth rate

³ As defined in Chapter 5 and as defined as EBITDA1 in section 7.1.1

⁴ Do not meet the IAS 37 recognition criteria

⁵ Return on Capital Employed

⁶ Completed on 15 January 2020

depreciations and amortisations to temporarily increase by a mid-single digit in 2020, compared to its second half 2019 annualised cost base.

Euronext will pursue delivering on its 2022 strategic plan as well as the integration of Oslo Børs VPS with the migration of Oslo Børs market to the Optiq® trading platform expected in 2020.

Despite the high level of uncertainty resulting from the Covid-19 pandemic, the management believes that - on the basis of strong credit worthiness, flexible financial structure, high level of profitability and significant percentage of non-volume related revenues – the Group is well equipped to cope with the evolving situation and pursue its strategic objectives of its strategic plan “Let’s Grow Together 2022”. Please refer to Section 2.1 Risk Factors for more details on the Covid-19 pandemic.

1.3 Description of the Business

1.3.1 BUSINESS OVERVIEW

Euronext is a pan-European exchange group offering a diverse range of products and services and combining transparent and efficient equity, fixed income securities and derivatives markets in Amsterdam, Brussels, Dublin, Lisbon, London¹, Oslo and Paris. Euronext’s businesses comprise listing, cash trading, derivatives trading, spot FX trading, power trading, investor services, advanced data services, post-trade and technologies & other.

Euronext’s markets provide the leading listing venues in continental Europe based on the number of companies listed as of 31 December 2019. Nearly 1,500 issuers representing a combined market capitalisation of approximately €4.5 trillion were admitted to trading on Euronext’s markets as at 31 December 2019. In addition, the Company has 1,240 exchange traded funds (“ETFs”) and over 80,000 structured products. As of 31 December 2019, Euronext ranked first in Europe in terms of market capitalisation of listed companies and second in terms of number of companies listed among the largest exchange groups in Europe, excluding Bolsas y Mercados Españoles (on which a large proportion of listed issuers are open-ended investment companies, limiting comparability).

Euronext ranked first in terms of monthly lit order book trading volume in equity for the last twelve months ended 31 December 2019 among all trading venue in Europe (including BATS-Chi-X).

Euronext’s pan-European cash equities trading venue is the market leader in cash equity trading in its six home continental European markets of Belgium, France, Ireland, the Netherlands, Norway and Portugal, based on domestic market capitalisation as of 31 December 2019. Euronext market share reached 68.8% on cash trading market over 2019. Euronext provides multiple marketplaces including its MTFs, for investors, broker-dealers and other market participants to meet directly to buy and sell cash equities, fixed income securities and exchange traded products (“ETPs”).

Euronext’s derivatives trading business has a strong market position on benchmark index futures and options such as the CAC 40®, AEX®, BEL 20® and PSI 20®, single stock options and futures and commodity derivatives. It ranks third among European exchange groups in terms of open interests of derivatives traded as at 31 December 2019. With the CAC 40® being the second most traded national index in Europe for example, Euronext offers options contracts based on all of the blue-chip equities listed on Euronext, thereby reinforcing liquidity with respect to those equities. The commodity derivatives offered by the derivatives trading business include the milling wheat futures contract which is a world class contract for the European Union agriculture market.

Euronext’s advanced data services business distributes and sells real-time, historic and reference data to global data vendors, such as Reuters and Bloomberg, as well as to financial institutions and individual investors. With a portfolio of over 1,100 benchmark indices and iNAVS, including CAC 40® in France and AEX® in the Netherlands, the Company is a leading provider of indices and a provider of advanced analytics products

Post-trade services are an important part of the services Euronext provides to its clients. In 2013, the Company entered into a clearing agreement with LCH S.A., the Paris-based clearing house of LCH Group Limited (“LCH.group”), in respect of the clearing of Euronext’s cash products. In 2017, Euronext renewed the separate derivatives clearing agreement with LCH S.A. that provides for a revenue sharing arrangement in respect of the clearing of Euronext listed derivatives, and became minority shareholder with strong pre-emption rights, with 11.1% of LCH S.A. capital. In addition, Euronext owns and operates Interbolsa, the Portuguese national Central Securities Depository (“CSD”) and VPS, the Norwegian national CSD.

Since 2016, Euronext also offer user choice in clearing for the equity markets within the Eurozone, through the implementation of a preferred CCP model followed by a fully interoperable service.

Euronext Technology Solutions & other business offers technology solutions and services to exchanges and venue operators. These solutions and services use Optiq® and other applications developed by Euronext or licensed from third-parties. Optiq® has already been licensed to five international exchanges. This rapid take-up by the exchange industry demonstrates the attractiveness of the reliability, flexibility and cost of ownership benefits that Optiq® offers.

Euronext continues to provide software support and maintenance services for the legacy trading platforms, Euronext UTP and *Nouveau Système de Cotation* (“NSC™”). Euronext has a perpetual, royalty-free license from ICE to use, modify and sub-license these platforms (see section 7.2 “Material contracts and related party transactions”).

In addition to software licensing, Euronext offers access to its trading software in the form of managed services. Exchanges and venue operators can take advantage of fully-hosted trading and clearing platforms without investing in data center or network infrastructure. With

¹ On 30 March 2020 Euronext has filed an application for the revocation of its RIE licence, subject to approval from the FCA. Under the applicable rules this implies that Euronext will have to cease all regulated activities in the UK as per 30 June 2020. Euronext will ensure an orderly wind down of its limited regulated activities in close consultation with the FCA.

banks and financial intermediaries increasingly seeing migration to cloud and software-as-a-service as solutions to the competing pressures of cost-reduction and regulatory complexity, Euronext's experience as a service provider is receiving renewed interest. Euronext's MiFID II compliant MTF and SI services build on Euronext's own software, processes and infrastructure and offer clients an effective way to reduce costs without increasing regulatory risk.

The Technologies and other business also receives revenue for network connectivity and server colocation under a revenue sharing agreement with ICE. This agreement enables Euronext to benefit from service sales to clients who connect to its markets via the ICE SFTI® network or who take colocation space in the ICE data centers that house Euronext's trading platforms.

1.3.2 STRENGTHS



Focus on Core European Markets

Euronext benefits from a diverse client base, both in terms of geographic distribution and type of trading flow. The Company has an established continental European and United Kingdom client base, representing 55% of cash equities trading average daily volume and 71% of derivatives trading average daily volume for the year ended 31 December 2019. A substantial portion of the flow from the United Kingdom is from global clients with headquarters based in the United States. While United States and Asian clients accounted for 42% and 3% respectively of Euronext's cash equities trading average daily volume and 29% and 0% respectively of its derivatives trading average daily volume for the year ended 31 December 2019, the Group believes these geographic client segments are currently underexploited and offer potential for growth.

Resilient Model Delivering Consistent Growth and Profitability

Euronext's sources of revenues are diversified across the businesses, markets and client segments. For the year ended 31 December 2019, approximately 50% of the Company's revenues were generated by the non-volume related businesses. Non-volume related businesses include advanced data services, listings excluding IPOs, custody and settlement, and Euronext Technology Solutions & other. This helps to limit Euronext's exposure to cyclical demand for particular products or services or in individual markets.

The following table sets out information relating to the sources of total revenue for the year ended 31 December 2019 and for the year ended 31 December 2018:

	Year ended 31 December 2019		Year ended 31 December 2018	
	Revenue	% of total revenues	Revenue	% of total revenues
<i>In thousands of euros</i>				
Listing	128,951	19.0%	106,490	17.3%
Trading revenue	272,810	40.2%	276,572	45.0%
<i>of which:</i>				
■ Cash trading	205,565	30.3%	210,947	34.3%
■ Derivatives trading	44,324	6.5%	43,910	7.1%
■ Spot FX trading	22,921	3.4%	21,715	3.5%
Investor services	5,735	0.8%		
Advanced data services	128,756	19.0%	118,298	19.2%
Post-trade	104,831	15.4%	77,381	12.6%
<i>of which:</i>				
■ Clearing	55,237	8.1%	55,331	9.0%

■ Custody and Settlement	49,594	7.3%	22,050	3.6%
Euronext Technology Solutions & other	37,805	5.6%	36,063	5.9%
Other income	220	0.0%	229	0.0%
TOTAL REVENUE	679,108		615,033	

Euronext's businesses are characterised by recurring revenue streams which generate resilient and robust free cash flow and allow Euronext to operate and invest in its business with flexibility. The Group's market expertise and proven, multi-asset class technology infrastructure allow Euronext to launch new products without substantial additional capital expenditure. Further, the Company's trading businesses do not expose it to credit risk or counterparty risk, which is borne by the counterparties to the trade and not by the markets. Euronext believes that its capital-light business and resilient free cash flow generation provide a potential for attractive return for shareholders while observing its regulatory capital requirements.

Liquidity and transparency to all market participants through regulated exchanges

Euronext's cash equities markets have a diverse member base by geography and trading profile, making for a particularly rich and diversified order book.

The combination of Euronext's position as a leading pan-European trading venue, the quality of its markets and the expertise of the Company's teams have enabled Euronext to increase its market share in cash equities trading of the securities listed on its markets from 60% in the in 2011 to more than 65% since 2018.

The relative share of trading on competing platforms has been relatively stable over the past five years. The primary tool for supporting market share is the flagship Supplemental Liquidity Provision programme, which rewards liquidity providers for ensuring Euronext's market quality remains high, whilst balancing against yield management considerations. Further tool were developed to support market share such as dedicated fee schemes for non-member proprietary flows or retail flows.

Offering of a Wide Range Of Product Services and Platforms

Euronext's issuer base is diverse, comprising about 1,500 companies from within its home markets as well as elsewhere in Europe, internationally and span ten sectors by industry classification benchmark. Euronext's corporate issuers differ in size and represent a combined market capitalisation of €4.5 trillion.

The Company is the third-largest exchange traded funds ("ETF") market in continental Europe by number of ETF trades, with 1,240 listed ETFs and an average daily trading value of approximately €301 million from January to December 2019. Euronext is the third-largest warrants and certificates market in Europe, with over 80,000 instruments at 31 December 2019, and in total nearly 250,000 products have been listed in 2019. Close to 6.5 million trades took place on those instruments in the twelve months ended 31 December 2019.

Euronext is also a leading pan-European derivatives trading venue, with derivatives trading activities across financial and commodity derivative products. The Group has established the CAC 40 futures contract as the second most traded national index in Europe, with an equivalent of €6.5 billion in nominal value on an average daily basis. The milling wheat contracts which are the leading wheat derivatives in continental Europe as well as rapeseed commodity contracts continue to be included in recognised commodity benchmarks such as the S&P World Commodity Index and Rogers International Commodity indices.

Euronext operates an important bond market in Europe with approximately 49,000 corporate, financial institutions and government bonds listed on its markets and an internationally recognised derivatives platform.

Optiq®

Euronext has upgraded its core trading platform with Optiq, a new enhanced, multi-market trading platform, providing customers with maximum flexibility, simplified and harmonized messaging as well as high performance and stability. Optiq combines latest technologies with in-house expertise.

Optiq has been rolled out across the Euronext markets to replace the Euronext Universal Trading Platform ("UTP") in a phased implementation process. Market data have been managed through Optiq for both cash and derivatives since July 2017, already delivering massive benefits to the clients' community. In April and June 2018, Optiq® trading engine went live for fixed income and cash markets, with impressive stability and performance. In December 2019, Euronext completed the successful completion of the roll-out of its Derivatives market to Optiq®. Oslo Børs markets are planned to migrate to Optiq® in 2020.

Some of the third party exchange using UTP or former Euronext solutions have already started projects to migrate to Optiq. Other exchanges and market operators have also shown interest in this best of breed solution.

"United in Diversity" with an Open Federal Model

Euronext is the only pan-European exchange operating across multiple jurisdictions with a harmonised regulatory framework, a Single Order Book for its exchanges in Amsterdam, Brussels, Dublin, London and Paris and a single trading platform offering access to all markets through a single connection. The Single Order Book consolidates liquidity in each multi-listed security to tighten spreads and increase market depth and achieves optimal price formation. Issuers listing on more than one of the Group's markets benefit from enhanced visibility, qualification for inclusion in more local indices and greater exposure for their volumes and prices.

The Group has generated sustainable and diversified cash flows across institutional, high frequency and algorithmic trading, own account, agency brokerage and retail client classes. The Single Order Book model and pan-European technology are key to Euronext's unique federal market structure. This structure enables the Company to integrate its constituent markets while they remain subject to regulation by national regulators. As a reminder, Euronext is also regulated by a college of regulators at Group level (see section 1.4.2).

1.3.3 LISTING

1.3.3.1 Listing – Products and Services

The Group's issuer base is diverse, comprised of around 1,500 companies from within its home markets as well as elsewhere in Europe, and across the globe, spanning ten sectors by industry classification benchmark. Euronext's corporate issuers differ in size and represent a combined market capitalisation of €4.5 trillion. Euronext's listing franchise includes around 320 large cap companies (companies with a market capitalisation above €1 billion) and 1,110 small & mid capitalisation companies as of 31 December 2019.

At the end of December 2019 Euronext's listed issuers accounted for 50% of EURO STOXX 50 component securities, and 29% of EURO STOXX 600 component securities. In addition, since the acquisition of the Irish Stock Exchange in March 2018 (operating as Euronext Dublin), Euronext is the number one venue of choice for the listing of bonds globally, with over 49,000 corporate, financial institutions and government bonds and money market instruments, representing over 4200 issuers from over 90 jurisdictions listed on Euronext's markets. Euronext is also the number one venue globally for listing investment funds, with over 250 funds and almost 900 sub-funds listed.

Euronext issuers are also eligible to a family of leading index products in each of its national markets including the AEX® in the Netherlands, BEL 20® in Belgium, CAC 40® in France, ISEQ® in Ireland, PSI 20® in Portugal and the OBX® in Oslo. Euronext's family of index products provides investors and issuers with benchmarks enabling them to measure and trade the performance of key segments and strategies. The Group also offers extensive trading opportunities to investors, such as single stock derivatives on the underlying securities listed on its markets.

Furthermore Euronext offers issuers an established and credible financial marketplace for their capital market needs. In order to attract issuers to Euronext's marketplace and maintain relationships with clients (existing issuers, prospects and other stakeholders) the Company undertakes various initiatives through direct prospecting and continuous client interaction. In addition, Euronext organises dedicated events for prospects, issuers and investors aimed at improving and facilitating access to capital and promoting its markets on an international and national level.

A market for each step of a company growth

Euronext operates different kinds of markets according to suit the evolving needs of a company at various stages of growth. These markets enable corporate clients in different stages of their development, whether early stage growth companies or more established businesses, to access a broad range of investors and provide access to capital.

Main markets: Euronext, Oslo Børs and Oslo Axess

Euronext in Amsterdam, Brussels, Dublin, Lisbon, London, Paris, as well as Oslo Børs and Oslo Axess are European regulated markets under MiFID suited to mid and large sized companies with substantial financing requirements. These main markets provide access to a large range of international investors and the possibility of inclusion in well-known European indices. Euronext lists a wide variety of securities, including domestic and international equity securities, convertible bonds, debt securities (including corporate and government bonds), structured products (including warrants and certificates and structured notes), ETFs, open-ended and closed-ended investment funds.

Euronext is segmented according to market capitalisation:

- Compartment A: companies with a market capitalisation of more than €1 billion;
- Compartment B: companies valued between €150 million and €1 billion;
- Compartment C: companies with a market capitalisation of less than €150 million.

In 2020, Oslo Børs will form part of the Euronext harmonised rulebook.

Junior markets: Euronext Growth, Euronext Access and Merkur Market

Euronext Growth (Brussels, Paris, Lisbon and Dublin) the pan-European MTF dedicated to small & mid-caps – has been officially registered as "SME Growth Market" for both shares and bonds by the competent authorities in Belgium, France, Ireland and Portugal. This status, introduced under MiFID II, has been designed to facilitate access to capital markets for European SMEs by further developing qualified markets to cater to the specific needs of small and medium-sized companies.

Euronext Growth is dedicated to fast-growing small and mid-caps seeking to raise funds to finance their growth. It offers lighter requirements than Euronext's regulated markets while still providing access to a significant number of European investors focused on SMEs. Listed companies have greater flexibility in their choice of accounting standards and are subject to less extensive post-listing reporting requirements than companies listed on regulated markets. Euronext Growth lists a wide variety of securities, including domestic and international equity securities, convertible bonds and corporate bonds.

Euronext Access markets and Merkur Market are designed especially for start-ups and SMEs that wish to join a stock exchange to finance growth and gain the reputational advantages of listing but do not meet the criteria for admission to Euronext's regulated markets and Euronext Growth or Oslo Axess. These markets are open to any company, regardless of size, performance, maturity or industry. Corporate bonds and structured products are also traded on Euronext Access. Euronext Access+ is a special compartment of Euronext Access tailored to the needs of start-ups and SMEs. Launched in 2017, Euronext Access+ helps smaller companies make a smooth transition and acclimatisation

to other Euronext markets, notably in terms of investor communications and transparency. This compartment, which is part of Euronext Access, also serves as a springboard to other Euronext markets.

Other Markets

Euronext also offers alternative markets such as: 1) Trading Facility, a MTF in Belgium, 2) Euronext Expert Market, based in Brussels, which enables negotiation of prices for unlisted products – such as shares, real estate certificates notes and bonds – once a week, 3) Global Exchange Market (GEM), a multilateral trading facility based in Dublin, for listing debt securities aimed at professional investors and investment funds, which is the largest MTF listing venue in Europe, with over 21,000 bonds and 1,400 investment funds classes listed and 4) Atlantic Securities Market (ASM), a MTF in Dublin suited to US listed companies seeking to access euro pools of capital. 5) NOTC: the Oslo platform to provide quotes and allow non-listed firms to benefit from a level of liquidity.

Added-Value Services for Issuers

Euronext provides to its issuers a range of services including:

Advocacy Role

Euronext provides advocacy to represent the interests of corporate client companies at the level of Euronext as well as at national and European levels for specific issues related to financial markets. As part of this, Euronext regularly communicates with its issuers and investor relations organisations, arranges issuer committees and participates in consultations with regulatory bodies on a wide range of topics.

ExpertLine

ExpertLine is a team of market professionals who provide issuers with feedback on real-time events that may affect their share price. ExpertLine also acts as a first port of call for issuers listed on all Euronext's markets, listing sponsors and other intermediaries, and the team develops and provides issuers with a suite of services such as the Connect web portal that Euronext regularly enriches.

Connect

Companies listed on Euronext markets have access to Connect, a secure web portal that provides issuers with market intelligence. Connect is also a publication tool, enabling issuers to upload and publish press releases, maintain their financial calendar and update their company's profile on Euronext's website. In 2019, Euronext released a new version of Connect with upgraded content.

Education and Networking

Euronext informs and educates issuers on various topics including recent developments in its markets, new regulatory and legal developments, compliance, governance, social responsibility investments as well as new products and services through workshops and conferences organised during the year.

In particular Euronext has developed three pre-IPO programmes to help companies understand the benefits of, and ways of accessing, capital markets:

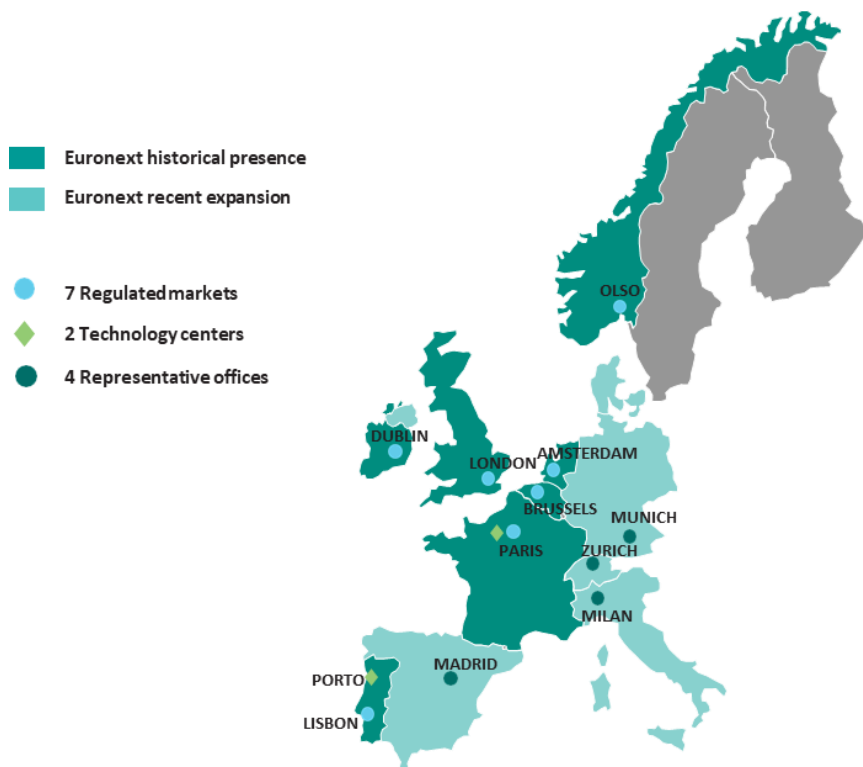
- TechShare, a free educational and mentoring programme to help Tech SMEs to grow their business;
- FamilyShare, a free training programme dedicated to enlightening family businesses on the financing solutions offered by the stock exchange;
- #IPOready, a programme designed to provide high-growth companies with a deep understanding of capital markets, fund raising options and the IPO process. Currently ran in Ireland with a view to being rolled out in the Dutch and Norwegian market in 2020.

Listing Venue of Choice for SMEs

With markets tailored to the needs of medium-sized companies and a presence in ten countries, Euronext is the listing venue of choice for small and mid-caps in Europe. Since 2015, more than 260 SMEs have listed on Euronext markets. As of 31 December 2019, over 1,100 SMEs are listed on Euronext markets representing a total market capitalisation of €178 billion.

Over the past few years, Euronext been offering small and medium companies financing solutions according to their profile and Euronext has also developed initiatives primarily on the Tech sector and family businesses.

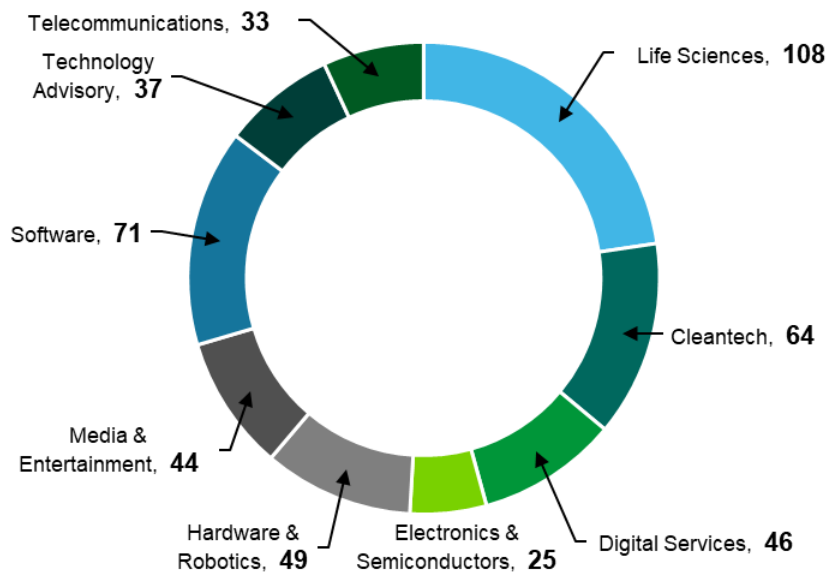
Boosting the Financing of the Tech Sector



Euronext is the leading European platform for fast-growing technology companies. Since 2015, close to 135 tech companies have gone public on Euronext markets, choosing Euronext to facilitate and support their strategic growth ambitions. Euronext's pan-European platform spans a vast range of subsectors with 476 listed Tech companies in Digital Services, Cleantech, Biotech, Medtech, TMT, Software, IT Consulting and Technology Hardware. These companies represent a total market capitalisation close to €684 billion.

On 30 March 2020 Euronext has filed an application for the revocation of its RIE licence, subject to approval from the FCA. Under the applicable rules this implies that Euronext will have to cease all regulated activities in the UK as per 30 June 2020. Euronext will ensure an orderly wind down of its limited regulated activities in close consultation with the FCA.

All Tech sectors are represented on Euronext markets (number of issuers by sector)



In September 2015, Euronext launched TechShare to help companies reach the next stage of development. TechShare is a 10-month educational and mentoring programme aimed at familiarizing CEOs of Tech companies with the financial markets.

Currently active in Belgium, France, Germany, Ireland, Italy, the Netherlands, Portugal, Spain and Switzerland, the program supports top executives from fast-growing companies through a combination of academic seminars, workshop sessions and individual coaching. TechShare is now a unique Tech network gathering 75 partners from the financial industry and 275 alumni since the first edition 2015-2016, of which already four alumni listed on Euronext: Osmosis, Balyo, Theranexus and Oxatis. The participants are Tech companies from a wide variety of sectors, including Biotech, software, Medtech, electronics, hardware, Cleantech, e-commerce and fintech.

Supporting Family-Owned Companies

Euronext has attracted an important community of family-owned companies, composed of 244 issuers representing a total market capitalisation close to €1,200 billion, including 166 SMEs.

In 2017, Euronext launched FamilyShare, a dedicated programme offering support and coaching to unlisted family businesses. The programme has been set up across the four Euronext domestic markets and tailored to the specific needs of each country. This unique pan-European initiative is designed to familiarise family-owned businesses with capital markets, both equity and bonds, giving them the information they need to bring their companies to the market. In June 2018, Cogelec was the first IPO from the FamilyShare programme raising €39 million on Euronext Paris, followed by one of Portugal's largest construction companies The Casais Group launching an €18.5m bond in 2019.

Family-owned companies also benefit from increased assistance in several areas. This includes European roadshows to meet investors, improved financial analysis coverage through the Morningstar programme and Euronext Family Business index®, a new European index with ninety component companies in the four countries covered by Euronext.

1.3.3.2 Listing – Recent Developments

Market Activity in 2019

Euronext's markets in 2019 provided financing to the real economy with over €1,200 billion raised from equity and debt financing through securities admitted to trading as of 31 December 2019, despite the continuation of challenging global market conditions which was present through 2018. Across all markets in EMEA listing activity was down almost 40% in 2019 compared to the prior year with the bulk of the listings waiting until H2 to join the markets. In total in 2019, Euronext welcomed 46 new listings – of which 39 were SMEs – raising a total of €4.7 billion across all markets with a combined market capitalisation of €115 billion. The Tech sector featured strongly in terms of new listings and accounted for over 40% in 2019, followed by a broad array of sectors notably industrial and financials listings. In Q3 and Q4 of 2019 Euronext welcomed some of Europe's prime listings with technology giant Prosus NV arriving to the market valued at over €95bn, Verallia's IPO raised €963m with a valuation of €3.2bn, along with the privatisation of La Française des Jeux in November which raised €1.8bn and a valuation of €3.7bn.

In addition, €34 billion was raised in follow-on equity and €1,242 billion was raised on Euronext in bonds including an addition of over 12,000 bond listings on Euronext markets. Notable listings highlight the Group's strength in key jurisdictions including Europe, the United States, Asia and the Middle East and include International Finance Corp (the World Bank), International Bank for Reconstruction and Development, China and Eastern and Southern African Trade and Development Bank, along with global financial institutions including Morgan Stanley, HSBC and Santander. In November 2019, Euronext launched its GREEN Bonds offering, with over €50 billion raised in 2019, and 170 green bonds listed across Euronext markets by more than 60 issuers, and delivering a one-stop-shop for investors seeking to access to Green Bonds.

There are almost 5000 funds classes listed on Euronext and notable listings during 2019 include Principal, BNY Mellon and Invesco. Euronext's funds service offering will be expanded in 2020 through Euronext Centevo and with the launch of a facility to trade Euronext Dublin-listed funds. At the end of 2019, there were over 1,200 exchange traded funds listed on Euronext markets.

Euronext – Total money raised (€bn)

2016	585
2017	789
2018	1,078
2019	1,281

Inclusion of Oslo Børs to the Euronext Group

Euronext acquired the Norwegian exchange in Q2 2019 expanding its pan-European presence and firmly cementing a foothold in the Nordics. Through this acquisition Euronext has not only positioned itself as a key player in the Oil & Gas, Shipping and Seafood industries but will now be able to further progress areas of internationalising under the Euronext Strategy "Lets Grow Together 2022" such as diversifying local and global infrastructures. At the time of acquisition Oslo Børs had close to 20% of its issuer base being foreign entities along with a strong Tech franchise which will further grow by leveraging off our Tech initiatives. Oslo Børs operates three equity markets, two of which are EU regulated and one OTC platform along with its wholly owned Central Securities Deposit VPS.

European Tech SMEs initiative

Euronext has seen considerable success in terms of expanding its international listing presence outside of its core markets having opened local offices in four European countries identified as high-potential ecosystems known as Tech Hub – in Germany, Switzerland, Italy and Spain – to assist tech companies in scaling up their business through capital markets. Euronext had identified the four target countries to set up and roll-out dedicated offers to attract tech companies on Euronext markets with the aim to become the leading exchange for European tech SMEs in continental Europe. Over the past two years alone almost 1 in 5 of every new listing was through Tech Hub.

With 421 listed Tech SME firms representing a total market capitalisation of over €49 billion, Euronext is already the leading listing venue in continental Europe for technology stocks. With the expertise of operating markets in six European countries – in Belgium, France, Ireland, the Netherlands, Portugal, and Norway, Euronext believes that it can propose its services to new innovative SMEs in the four target countries. In order to build networks of partners and attract the best tech companies in Germany, Switzerland, Italy and Spain, Euronext has set up a salesforce of experienced FTEs on the ground to sell its unique value proposition for the tech sector. Since the opening of the offices, Euronext welcomed on its markets 18 new companies from this particular operation.

Euronext's pre-IPO education program TechShare is dedicated to European tech SMEs to support its commercial effort. Private tech SMEs can join the pre-IPO program from Euronext which was launched in 2015 and is now active in 9 countries. TechShare has most recently attracted almost 60 participating companies from Germany, Switzerland, Italy and Spain further increasing our footprint across Europe (see above)

Corporate Services

Euronext Corporate Services is a fully-owned subsidiary of the Euronext group launched in 2016 with the ambition to help listed companies to make the most effective use of capital markets and support organisations with innovative solutions and tailor-made advisory services in Governance (iBabs), Compliance (InsiderLog), Communication (Company Webcast), Investor Relations (Advisory and IR Solutions). Euronext Corporate Services already serves more than 2,500 clients in over 15 countries, of which are 600 listed companies. When it comes to listed companies, Euronext Corporate Services helps them make the most effective use of capital markets, from blue-chip large caps to SMEs, located across all Euronext markets and beyond (Sweden, UK, Germany, Italy, etc.).

Euronext Corporate Services offers a unique and comprehensive value proposition articulated around four main pillars:

i. Investor Relations:

- tailor-made advisory, market intelligence and decision making analytics for listed companies,
- complete and intuitive investor relationship management and targeting platform,
- flexible and customized market data components for investor relations websites of listed companies;

ii. Communication: Comprehensive range of webcast, webinar and conference call services for all types corporate events (investor relations, internal communication, marketing, training, etc.);

iii. Governance: Digital board portal solution help organisations secure their board meetings and streamline their decision-making processes;

iv. Compliance: Innovative solution to automate the management of insider lists in a way that both saves time and ensures compliance with the requirements of the Market Abuse Regulation.

This offering has been built through a combination of organic developments and acquisitions. To achieve its ambition, Euronext has acquired four companies providing innovative solutions for corporates:

- Company Webcast (51% stake at the time of acquisition), a Dutch leading company specialized in professional webcast and webinar services;
- IR.Manager (100% stake acquisition), a London-based provider of investor relations workflow and targeting tools;
- iBabs (now renamed Skope) (60% stake at the time of acquisition), a Dutch leading provider of dematerialized and secured board portal solutions for corporate and public organizations;
- InsiderLog (80% stake acquisition), a Swedish leading provider of an insider list management solution, in compliance with the Market Abuse Regulation.

1.3.4 CASH, DERIVATIVES AND SPOT FX MARKETS

1.3.4.1 Cash, Derivatives and Spot FX Markets – Products and Services¹

Euronext provides multiple marketplaces for investors, broker-dealers and other market participants to meet directly to buy and sell cash equities, fixed income securities and ETPs. One of the primary functions of the Group's markets is to ensure that orders to purchase and sell securities are executed in a reliable, orderly, liquid and efficient manner. Order execution occurs through a variety of means and Euronext seeks to continue to develop additional and more efficient trading processes.

Cash Trading

Equities

The Company is the market leader in cash equity trading in its six home markets of Belgium, France, Ireland, the Netherlands, Portugal and Norway. Over 2019, Euronext market share on cash equity trading averaged 68.8% and the Company had a strong blue chip issuer presence, with twenty five issuers included in the EURO STOXX 50 stock index and 146 issuers listed on the EURO STOXX 600 benchmark index. Euronext is ranked first in Europe as measured by domestic market capitalisation and first by average daily lit equity trading value, including BATS-Chi-X. In addition, the Group has a solid ETF trading franchise based on the listing of 1,240 ETFs in its markets. In 2019, total Euronext transaction value on equity was €1,892 billion, down -9.5% from €2,090 billion in 2018 and compared to €1,935 billion in 2017. In Equities, Euronext outperforms peer exchanges in yield extraction while maintaining high market share. This is achieved through a combination of superior execution quality, sophisticated liquidity schemes and advanced pricing segmentation. Euronext offers a compelling value proposition across the transaction chain, from blue chips to small companies, with tailored market models to maximize the depth and quality of liquidity available for trading those companies in the secondary market.

Since the introduction of new European Union legislation in 2007, *via* MiFID, competition for share trading has been intense. Yet Euronext has been successful in maintaining market share above 60% throughout the past decade demonstrating the resilience in its core business. Euronext's product, pricing and client strategy and the execution thereof are vital to maintain the high quality of execution and broad diversity of clients active on Euronext's markets.

Euronext operates equity markets of which the main financial instruments are shares. Shares are any share of capital stock or any other equity securities issued by a corporation or other incorporated business enterprise.

Since 2017, in Equities, Euronext's competitive position has been enhanced due to evolution in the blue chip liquidity scheme, a new fee scheme for non-member proprietary flow, a new best execution service for retail investors (Best of Book) and new incentives embedded in the agency tariff to attract incremental flow from trading members. Euronext has re-positioned both the equity and warrants business to ensure its offering to local members in Euronext's home markets is attractive and that flow from the local client community is either retained or repatriated. These initiatives enable Euronext to continue enhancing execution quality available on Euronext's markets which is key to add value to clients and to compete effectively.

Best of Book Service for Retail Best Execution

Since 2017, Euronext kept improving its new best execution service for retail orders. In partnership with dedicated liquidity providers, Best of Book offers price improvement in the central order book for retail brokers. This helps ensure best execution for brokers executing orders on

¹ Historical figures have been restated to include Oslo Børs VPS

behalf of retail clients, in a way that ensures compliance and that the end investor achieves an optimum result. The service promotes and strengthens the diversity of Euronext's order book to the benefit of the whole market.

Omega Fee Scheme for Non-Member Proprietary Flow

In 2016, Euronext launched a new pilot fee scheme for non-member proprietary trading flow. Non-member proprietary firms wishing to participate in the Omega pilot scheme enter into a tripartite arrangement with Euronext and the member intermediary. This scheme provides non-member firms with improved value when trading on Euronext markets while promoting and strengthening the diversity of Euronext's order book to the benefit of the whole market.

Fixed Income

Euronext operates bond trading on its regulated market with a particular focus on the retail market. Over 100 members trade 5,600 corporate, financial institutions and government listed bonds, representing a monthly turnover of approximately €0.4 billion.

Euronext Block for SME

Dark trading venues have become crucial alternatives to regulated markets, and MiFID II regulatory changes have further solidified the need for such platforms, specifically in the large-in-scale (LIS) space. Investors continue to seek efficient mechanisms to source liquidity, and execute trades safely.

Euronext offers to the local community the Block MTF platform to establish itself as a hub for SME Block Trading. During the first phase of the new strategy roll-out, focus is on small- and mid-cap stocks in the Belgian, Dutch, French, and Portuguese markets. Euronext is to create a significant offer to the local members and Euronext is unique in its ability to utilize historical order and trade data to help trading participants target appropriate counterparties and increase their potential for trading. In addition to these benefits, onboarding new members is simplified thanks to a streamlined Euronext membership process.

Exchange Traded Funds

Euronext offers the ETF community a comprehensive solution for multi-national listing and trading in ETFs and investments, within Euronext's Single Order Book. Euronext's ETF markets are supported by robust market infrastructure where product supply and demand meet within a framework of deep liquidity and advanced price formation.



Euronext develops relations not only with issuers, but also with liquidity providers, intermediaries, investors, regulators and others in the ETF community to understand their challenges and needs, providing strong alignment with Euronext's business goals and a strong foundation to co-create new products to accelerate growth in the ETF industry with the support of its major participants.

Euronext's client alignment is demonstrated by Euronext winning ETF Express award during 2018, and in 2019 - the fourth time in a row, being consistently recognised as the Best European Exchange for Listing ETFs. This award is voted for by Euronext's clients.

Pan-European ETF MTF

Euronext intends to become the one-stop-shop pan-European ETF platform with an ambition to be the #1 trading venue for ETFs in Europe. The European ETF market is fragmented and opaque with approximately 70% of trading volume in the region taking place off-exchange. Yet ETFs are increasingly popular among both retail and institutional investors, as the trend for passive investing grows and there is ever increasing focus on investing and managing risk efficiently. Euronext is building a dedicated pan-European platform for ETF trading, with unique features seeking to attract volume into an exchange environment promoting transparency, improving efficiency and deepening liquidity. Euronext's mission is to accelerate the growth of the ETF industry in Europe to the benefit of end investors and intermediaries, Euronext has strong support from a diverse set of stakeholders within the ETF community. It is going to be live in 2020.

Open Ended Investment Funds

Euronext's Fund Services offer asset managers ways to achieve better operational efficiency and enhance asset gathering opportunities. By engaging in active discussions with key stakeholders, the Company believes its offering is a relevant choice for any issuer considering fund distribution in Europe.

The services include:

- Euronext Fund Service Amsterdam, first launched in 2007, which enables Fund Managers to further extend the geographic reach of their funds across Europe and will include a broader choice of trading solutions;
- Euronext Fund Service Paris, launched in May 2017, which is a complementary cutting-edge offer providing a global access to the funds universe, in order to meet the requirements for modern and automated solutions. This service is available for both UCITS funds and AIF (Alternative Investment Funds), and orders will be placed at Net Asset Value (NAV) in euros.

EFS enables both local and global asset managers to list their funds (whether large or small) on Euronext's regulated platform, enhancing the profile of the funds and helping to attract higher levels of investment into those funds. As of 31 December, there were already 101 funds admitted to trading. This is an important initiative to help service the distribution needs of asset managers and match those with investor appetite.

Warrants and Certificates

Euronext operates a retail Structured Products business across its continental European franchise, servicing the needs of retail investors *via* intermediary service provision, namely listing warrants, certificates and structured notes, developing Euronext's market model for high quality liquidity provision and ensuring execution by retail brokers is cost efficient. Euronext develops relationships with its issuers not only to expand

their usage of existing tailored services but also to create new and innovative services for operational efficiency and business expansion.

Cash Market Structure and Functionality

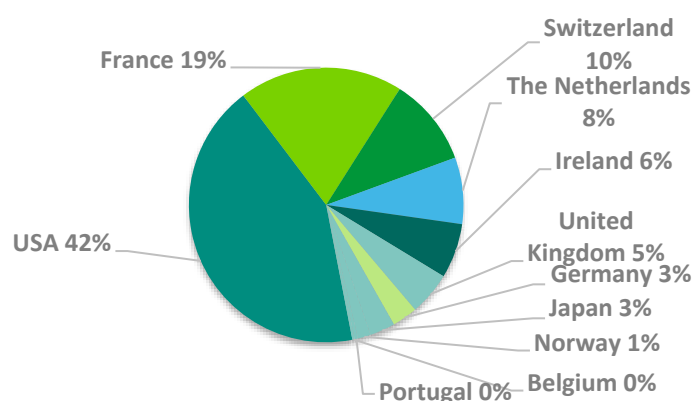
Since June 2018, Cash trading on Euronext's markets is hosted on the new proprietary strategic architecture Optiq®. The Group's trading rules provide for an order-driven market using an open electronic central order book for each traded security, various order types and automatic order matching and a guarantee of full anonymity both for orders and trades. While the core trading system is built on this order-driven principle, the flexibility of Euronext's technology enables Euronext to develop different types of matching algorithms and functionalities to suit the different price formation mechanisms that exist amongst the different cash asset classes and to cater for different market participant needs. For example, Euronext continued to develop its best execution service for retail investors, Best of Book, which brings retail brokers an additional layer of liquidity specifically aimed at offering price improvement for retail order flow. This service is integrated into Euronext's central order book enabling members to interact with this liquidity through the same connection as for the core market. As at year end, all of Euronext's retail brokers had signed up for the service.

The Company also operates a sophisticated liquidity provider program for blue chips and liquid mid cap equities which aims at ensuring Euronext offers superior market quality. Euronext's equity markets continue to yield the best market quality metrics amongst its competitors. These metrics include, amongst others, spread, market depth, best price setting and presence time at the best bid and offer spread. The program encompasses both a presence time obligation at the best bid and offer spread and a minimum passive volume obligation. This volume obligation is of particular interest as, in combination with the presence time obligation, it creates order persistence and therefore increases probability of execution. In a fragmented trading environment, market quality metrics are actively used by trading firms as decision making parameters embedded in their order routing systems and therefore contribute to maintaining Euronext's market share.

Cash Market Trading Members

As at 31 December 2019, Euronext had 184 direct trading members on its cash business, compared to 168 members as at 31 December 2018, 147 members as at 31 December 2017, 205 members as at 31 December 2016 and 213 members as at 31 December 2015, up in 2019 due to the arrival of 13 new members in Oslo. The Group has a diverse member base, with a deep presence in its five domestic markets and a strong international client base in London, which accounts for approximately two-third of equity trading volumes. A continued environment of increased regulation, tighter margins and capital constraints will require cost reduction and sustainable reform from most of Euronext's client base, therefore driving consolidation of continental tier three banks and brokers.

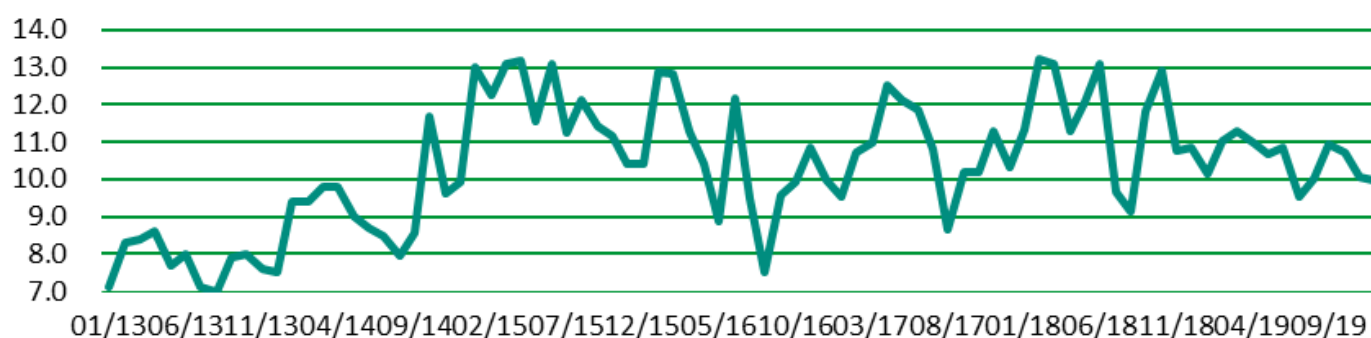
Cash Trading Average Daily Volume by Geographic Origin of Customers



The average daily volume on Euronext's cash trading markets for the last twelve months ended 31 December 2019 amounted to €8.1 billion (single counted).

The table below shows the proportion of Euronext's customer base by geographic origin (location of worldwide headquarters) using the Company's cash markets for the last twelve months ended 31 December 2019.

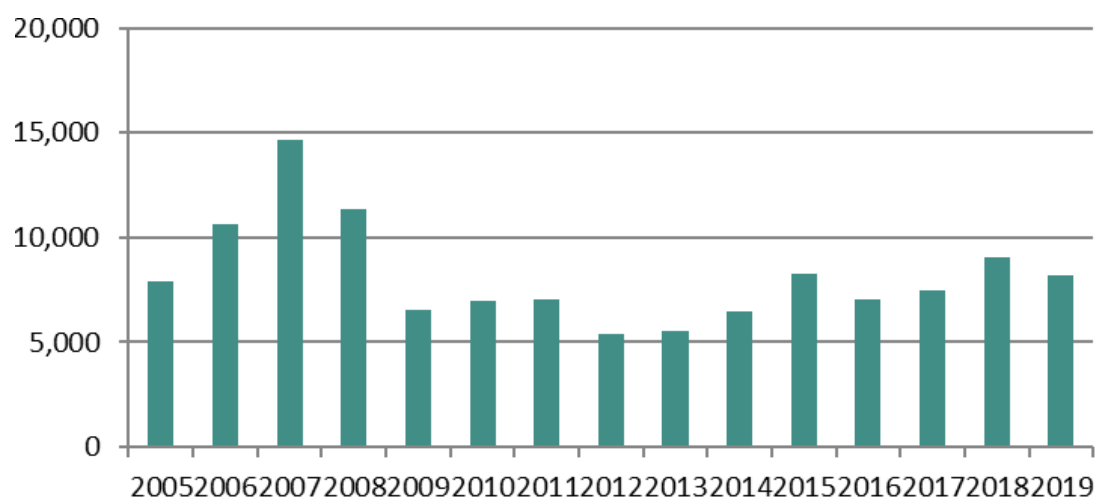
DAILY TRANSACTION VALUE ON EURONEXT STOCKS ¹ (€ BILLION/DAY)



HISTORICAL AVERAGE DAILY VOLUMES ² (€ MILLION).

¹ Including MTFs and excluding OTC, single counted.

² All Euronext securities.



Derivatives Trading

Euronext is a leading pan-European derivatives trading venue with trading activities across financial and commodity derivatives products.

Euronext offers financial derivatives trading in its markets in Oslo, Amsterdam, Brussels, Lisbon and Paris, and, as of 31 December 2019, was the second largest market in equity index futures and the second largest in equity index options in Europe in number of contracts.

Euronext offers local markets access to the trading of futures and options based on global equities, dividends, local market indices including the AEX®, BEL20®, CAC 40®, PSI20®, OBX® and established pan-European equity indices such as FTSEurofirst and FTSE EPRA/NAREIT real estate indices. Euronext is also innovating in the derivatives space notably with the launch in 2018 of the first Total Return Future (TRF) on a national benchmark, the CAC 40® Index and the launch in 2019 of new Single Stock Futures and Single Stock Dividend Futures

Euronext offers commodity derivatives trading with futures and options based on milling wheat, corn and rapeseed, and futures on dairy products, wood pellets, and UAN 30 fertiliser. The Group is the leading agricultural commodity franchise in Europe and its core commodity contracts have long been relied upon as trusted global and European benchmarks.

In 2019, the notional value of the derivatives traded on Euronext's derivatives markets was €4 trillion, equivalent to an average of €15.9 billion per day.

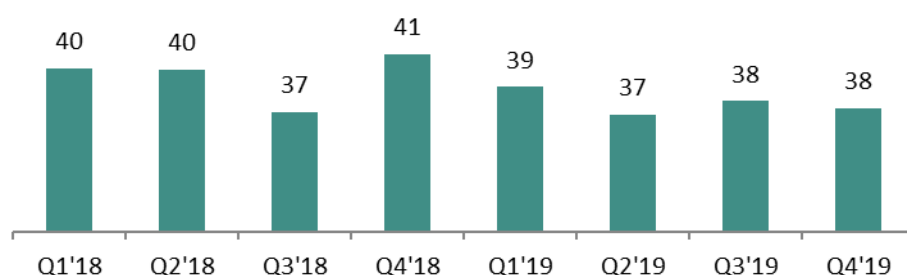
Euronext's mission: innovation, agility, strengthening Euronext's core.

Euronext's derivatives team has a mission to bring innovation and agility to the derivatives markets. Since Euronext's IPO in June 2014, Euronext focused on researching and developing new derivatives products together with its client community. These are now beginning to come to market and Euronext is excited about expanding its capabilities and making its business work better for Euronext's customers.

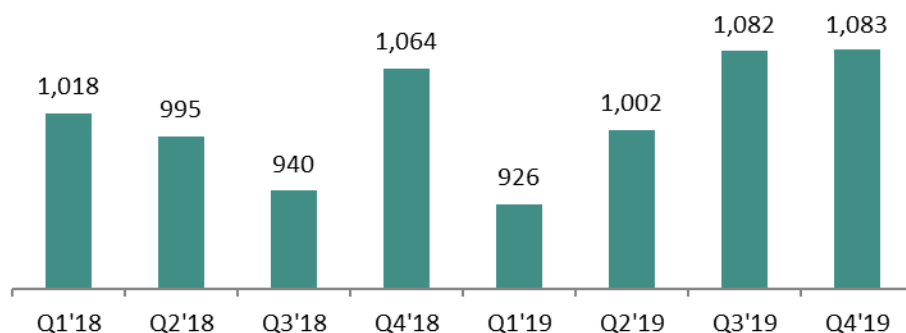
Euronext is pursuing the expansion of its commodity derivatives strategy along three axes:

1. focus on the core for European agricultural markets with EIM, new delivery points in corn and New Market Participants programme;
2. innovation and diversification with cash settled and Paris real estate;
3. enhanced client centric approach.

NUMBER OF CONTRACTS TRADED (LOTS IN MILLION)



NOTIONAL VALUE (€ BILLION)



Financial Derivatives

Equity Products: Versatility And Leverage

Equity options and futures enable holders to hedge against, or take position on, changes in the underlying share. More than 233 equity options and over 389 equity futures can be traded on Euronext, making the Company one of the leading markets for equity derivatives trading. Equity options trading has historically been particularly active in Amsterdam due to high retail participation.

Equity Index Products: Hedge Against Fluctuations in The European Equity Market

Equity index derivatives allow holders to hedge against, or take position on, changes in the future level of a particular index, the investor paying or receiving a cash sum representing its loss or gain on the future or option. Euronext's equity index derivatives allow customers to hedge against fluctuations in a range of European stock market indices and the European equity market as a whole, and many are available as weekly or daily contracts as well as the more usual monthly contracts.

Euronext's flagship equity index products include the CAC 40® index futures contract, which is the second most traded national index future in Europe, in terms of number of contracts traded, and the AEX® Index options contract, which is one of the most on-exchange traded national index options in Europe. Euronext's mini index derivatives ('minis') allow investors to follow the same investment strategies but with less initial margin or a smaller trading amount.

Dividend Products: A New and Rapidly Growing Asset Class

Dividend index futures and stock dividend futures allow holders to hedge against, or take position on, changes in the dividend of a particular index or underlying share. Euronext's flagship dividend products include the CAC 40® dividend index futures, which is one of the most traded dividend index futures in Europe and more than 290 Single Stock Dividend Futures (including 56 contracts on US names), making up the broadest offering in Europe.

Total Return Product: A Listed Solution to Access Implied Equity Repo

The Total Return Future (TRF) on the CAC 40® Index launched in October 2018 has been developed by Euronext in order to meet clients' need for a listed solution to trade total return swaps. With increased capital requirements being imposed by Basel III and EMIR, the new total return future contract offers strong netting advantages while providing a transparent and secure trading environment to access the implied equity repo rate on the constituents of the CAC 40 Index. Euronext is the first Exchange to launch a TRF on a national benchmark.

Commodity Derivatives

Euronext is a leading provider of agricultural commodity derivatives with several of the Company's contracts established as global price benchmarks for the international commercial and financial community. Volumes have grown strongly in recent years as commercials and investors alike increasingly seek to hedge their risks or use commodities to help diversify their portfolios.

The average daily volume of the flagship milling wheat futures contract remained stable and reached a level of more than 42,000 lots traded on a daily basis, representing the equivalent of 2.1 million tons of wheat or 3.7 times the milling wheat quality EU production traded over the course of one year. The Rapeseed futures contract volume suffered from adverse physical market conditions with a significant 16% drop in volumes year on, as the industry suffers from uncertainties regarding biofuels. The corn contract gained some renewed traction on the back of the announcement of the new Dunkirk and Ghent delivery silos, which should capture import flows besides French bay export volumes. These futures contracts have obtained international recognition status, both of which have been included in the main global commodity indices (S&P World Commodity Index, Rogers International Commodity index), making them the first non-U.S. grains contracts to be included in these global indices.

The commodity team continues to build on the strategy announced in 2018 which is articulated around:

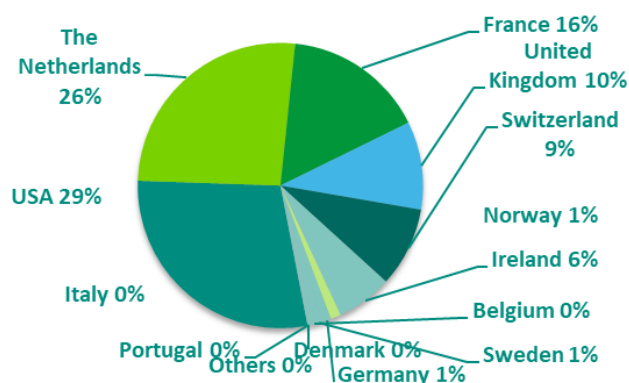
- focus on building our existing core contracts to their full potential and, in particular, leveraging on the MATIF brand for grains and oilseeds. EIM with trade finance and repos along with location swaps will become a core element of the agricultural franchise and generate growing revenue streams over the next 3-5 years. It will protect our physically delivered contracts, which have been suffering over the last few years from being exposed as the only major player without a digital contract delivery system;
- Cash Settled platform will allow the franchise to extend from the current 3 grain products offering and enable listing and trading of a number of desired price reference contracts, as simpler cash settled products when appropriate (e.g. when physical delivery is not a key or desired pricing mechanism);
- monitor and capture opportunity to build traction and liquidity in our new contracts: Euronext launched the PRE futures contract in June 2019: this Paris Real Estate, cash settled future, is the first futures contract on Paris Real Estate prices (exclusively transacted prices registered by the "Notaires"). We continue to work on building up liquidity and interest in this initiative.

- monitoring of opportunities for non-organic growth, blockchain applications linked to EIM, etc.: with the recent acquisitions in Norway, the commodities franchise is becoming a much stronger and more diverse actor globally, building on the historic Agricultural footprint to soon offer salmon futures and new ideas in Power.

Derivatives Trading Members

Trading members in Euronext's derivative markets are either dealers, brokers or both. Their activities range from retail broking, investment banking, dealing, algorithmic and high frequency trading to international physical trading. The Group's client base comprises 156 direct trading members (of which 85 are both cash and derivatives and 79 are commodities trading members) as of 31 December 2019 and is significantly diversified both in terms of types of clients and geographic coverage. Trading members can also become market makers or liquidity providers, which is crucial to the good functioning of the price formation mechanism for derivative instruments. In such cases, the parties enter into an agreement with Euronext, specifying their obligations in terms of displayed liquidity and spreads. Market makers and liquidity providers are able to place several orders at the same time through the use of mass quotes, allowing these trading members to send buy and sell orders for many contract months using only one message, leading to optimal efficiency in updating Euronext's full range of derivatives prices in a timely manner.

Derivatives Average Daily Volume by Geographic Origin



The average daily volume on Euronext's derivatives markets for the last twelve months ended 31 December 2019 reached 596,374 contracts representing a total open interest exceeding 15.2 million contracts at the end of December 2019.

The table below shows the proportion of Euronext's customer base by geographic origin (location of worldwide headquarters) using derivatives listed on its markets for the last twelve months ended 31 December 2019.

FX Trading

In 2019, FastMatch (Euronext FX since April rebranding) – Euronext's Electronic Communication Network (ECN) in the spot Foreign Exchange (FX) since its acquisition in August 2017 – continued to grow its business successfully, and outperformed its peers despite extremely challenging market conditions (historical low FX volatility), as a result of continued growth in client acquisition and focus on effective liquidity management for existing clients. Euronext FX also expanded geographically, with the launch of the first ever FX matching engine in Singapore, adding to the platform's global capabilities – which already operates in New York, London and Tokyo. In 2020, and in addition to further development of its market data offering, Euronext FX will diversify its product line by launching derivatives, in order to generate additional revenue, enhance product breadth and increase client footprint.

1.3.4.2 Cash, Derivatives and Spot FX Markets – Recent Developments

Cash Trading

Advanced Pricing Strategy

During 2019, Euronext continued to optimize and adjust its pricing strategy on several key components of the tariff structure. The flagship liquidity provision program (Supplemental Liquidity Program) has been substantially revamped both from a pricing and requirements perspective. In addition to that, a new fee structure has been implemented for the connections used to access Euronext's cash trading systems

Fixed Income Trading

A new pilot scheme (Liquidity Distributor) has been designed for specific members to publish marked up/aggregated liquidity of Euronext order book on their trading systems and distribution networks in order to increase matching opportunities on Euronext markets; this scheme was green-lighted by Euronext's College of regulators and will be implemented with a pilot member in Q1'20. Another initiative is the inclusion of selected Dublin-listed bonds in Euronext order book with a target implementation in Q1'20. In 2019, other initiatives aiming at supporting the development of e-trading workflows (widening of trading thresholds, migration of instruments from the auction to continuous segment, tightening of Liquidity Providers' obligations) were successfully implemented. In the post-MiFID II environment, Fixed Income Regulated Markets remain active despite the low interest rate environment and the restart of the ECB QE in Q4'19.

Derivatives Trading

On the financial derivatives markets, Euronext continued to reposition and expand its franchise. New products launched in 2019 included:

- Ten Individual Equity Options including two Spotlight Options and six Options on German underlying;
- Three Single Stock Dividend Futures and one Single Stock Future.

In June 2019, the minimum size of Large-in-Scale pre-trade thresholds have been adjusted on French Individual Equity Options.

During June and July 2019, the matching algorithm of the central order book has been changed from Price-Time algorithm to Pro-Rata algorithm on all Individual Equity Options.

During second half of 2019, the semi-annual maturities and additional monthly maturities have been introduced on 52 contracts of Single Stock Dividend Futures and Single Stock Futures respectively.

In November, with Optiq go-live, a new Market Making scheme has been rolled out with the aim to leverage on the technology upgrade and establish a harmonized, fair, flexible and transparent market making framework across Euronext Derivatives markets.

Euronext is pursuing the expansion of its historic MATIF commodity derivatives strategy along three axes:

1. focus on the core for European agricultural markets with the introduction of EIM, Euronext's more secure, trade finance enabling warehouse receipt delivery system, new delivery points in corn and wheat and new liquidity provider/market-making programmes;
2. innovation and diversification with cash settled and Paris real estate;
3. enhanced client centric approach.

With the acquisition of the Oslo stock exchange in 2019, the commodities franchise will include Salmon futures (Fish Pool) and the integration onto Euronext's Optiq trading platform is scheduled Q4 2020/Q1 2021. Leveraging on Euronext MATIF's extensive network of intermediaries and GCMs, as well as financial users and liquidity providers, Euronext Fish Pool has strong potential for growth.

Finally, with the closing of the Nord Pool deal occurring in January 2020, Euronext commodities is diversifying away from the Agri historic roots (including now fisheries/seafood) and as a key player in the power and electricity markets. The Group also sees strong potential for "futurization" of the contract on the Optiq platform and CCP.

Optiq®

After the migration of Cash Markets to strategic proprietary trading platform Optiq® in June 2018, Euronext Derivatives Markets successfully migrated to Optiq® in November 2019. Optiq is a new enhanced, multi-market trading platform, providing customers with maximum flexibility, simplified and harmonized messaging as well as high performance and stability. This new platform leverage on the latest technology to provide our members with high reliability as well as enhanced throughput and more predictable latency.

1.3.5 ADVANCED DATA SERVICES ¹

1.3.5.1 Market Data – Products and Services

Euronext's market data portfolio provides a wide range of data products to the global investment community, including pre- and post-trade market prices, indices composition, and reference data spanning its Cash and Derivatives markets in Amsterdam, Brussels, Dublin, Lisbon, London, Oslo and Paris. The data is used by traders and investors to make buy or sell decisions with confidence, and by issuers to create new tradable products such as ETF's. Euronext's market data clients range from the largest investment banks in the world to individual investors trading from their front room.

Euronext's market data business consists of two product and service categories:

Real-Time Market Data

Euronext's main data offering involves the distribution of real-time market data. This data includes price, trade and order book data on all instruments traded on the Company's cash and derivatives markets, as well as information about Euronext's indices and trade and transaction reports submitted via the APA and ARM services. The data is marketed through different information products which are packaged according to the type of instrument, the depth of the information, and the type of customer.

Euronext continues to invest in its trading and information platforms to ensure both execution and data services are of the highest quality and value, as exemplify by the migration of the equity derivatives market onto Optiq in 2019. Additionally, Euronext cloud based datalake and new analytics platform went live on September 30, with real time streaming from Optiq.

The data is disseminated primarily via data vendors but also directly to financial institutions and other service providers in the financial sector. Over 400 vendors currently disseminate Euronext market data to approximately 122,000 screens in over 110 countries. During 2019 Euronext continued to see an increase in the use of Euronext's data in automated trading applications, and a corresponding decrease in the number of users viewing data on traditional trading screens.

Retail clients have access to data from Euronext's markets through the new Live.Markets section of the website Euronext.com and the market data app, which now has over 48,000 registered users. A new version of the app will launch in 2020. In accordance with MiFID II, Euronext now makes delayed post trade data available via Euronext.com for download free of charge.

Historical and Reference Data

In addition to real-time market data, Euronext also provides daily summary, historical and analytical data services, as well as reference and corporate action data services.

In 2018 Euronext launched an e-commerce platform that allows retail investors to buy data on-line directly from Euronext and will launch further products via the platform in 2020 aimed at both professional and retail investors.

Euronext has expanded in bonds and funds data, in bonds through the acquisition of Dublin, on funds Euronext acquired a funds data provider in July, OPCVM360, now renamed Euronext Funds360.

Euronext Funds360 is a new generation data provider, specialising in funds (open-end investment funds, mutual funds, real estate funds, ETFs, etc.). Euronext Funds360 offers a series of fund data solutions and is used by an increasing number of major players in the asset management, insurance, fintech and financial media industries.

1.3.5.2 Advanced Data – Products and Services

¹ Previously reported as Market Data & Indices.

In 2019 Euronext launched Market Flow which shows a daily breakdown of trading flows on the cash orderbook. The new analytic products are based on Euronext proprietary data, anonymized and aggregated. These high value high price products have attracted strong interest and several major clients are already contracted, diversifying the client base.

Euronext has new diverse sources of data to extract value from including, Oslo, Dublin, Euronext FX, and Commcise. Euronext has already co-designed a strong product pipeline with clients, to expand the current offering into new asset classes. Euronext will continue to invest in advanced data products and reinforce its quant team.

Also in 2019 Euronext, in association with QuantInsight and Trendrating, launched alternative data products that enable Fund Managers to satisfy risk management and alpha generation requirements. Euronext will continue to explore in 2020 new opportunities in this space.

1.3.5.3 Indices – Products and Services

Euronext owns and operates a leading benchmark and strategy index franchise that measures different segments of the Euronext and other global markets, including AEX®, BEL 20®, CAC 40®, PSI 20®, OBX® and ISEQ® Indices. The Company also creates new proprietary indices generating added value for its market participants or to provide measurement tools for all types of investment categories regardless of listing venue. Euronext offers a fully customisable index service which includes index calculation across equities, commodities and currencies, five days a week, with two end-of-day runs reflecting market close in Europe, Asia and the Americas. Many of Euronext's indices are licensed as the basis for ETPs (including ETFs) and structured products. On April 17th 2019, Euronext was registered by ESMA as Benchmark Administrators under the new EU Benchmark Regulation (BMR). This compliance with the provisions of the Benchmark Regulation confirms the quality of Euronext's governance and control principles and rules, today acknowledged by key European regulators: the AFM in the Netherlands, AMF in France, CMVM in Portugal, FSMA in Belgium and CBI in Ireland.

Over the past three years, Euronext has become a leader in indices for structured products and reinforced its Blue-Chip Index franchise by

- Developing custom solutions for structured products issuers, adapted to investors and banks needs
- Strengthening blue-chip indices franchise through increased transparency, industrialization, and convergence
- Positioning Euronext as an ESG open architecture platform, onboarding leading ESG data providers and thought leaders in the climate change assessment
- Sharing risk with product issuers by revenue sharing agreement in case of “success only”
- Improving drastically time to market for index creation through industrialization

As a result, Euronext index business:

- Maintained a strong revenue growth in 2019 while diversifying its business model and source of revenues;
- Built global commercial relationship and is now used by the majority of the world's top financial institutions;

As a stock exchange committed to sustainability, Euronext is now well positioned to benefit from the increased integration of factor and ESG criteria into the investment process and will continue to extend over 2019 its ESG index offering thanks to its partners expertise, Vigeo Eiris, CDP, Carbone 4, ISS-Oekom and Gresb B.V.:

- In 2019, more than 175 structured products linked to Euronext ESG indices were launched
- In France the first 5 ESG indices having the largest structured products sales volume are all Euronext Indices with a combined 2019 Sales Volume of €1,944 million¹.

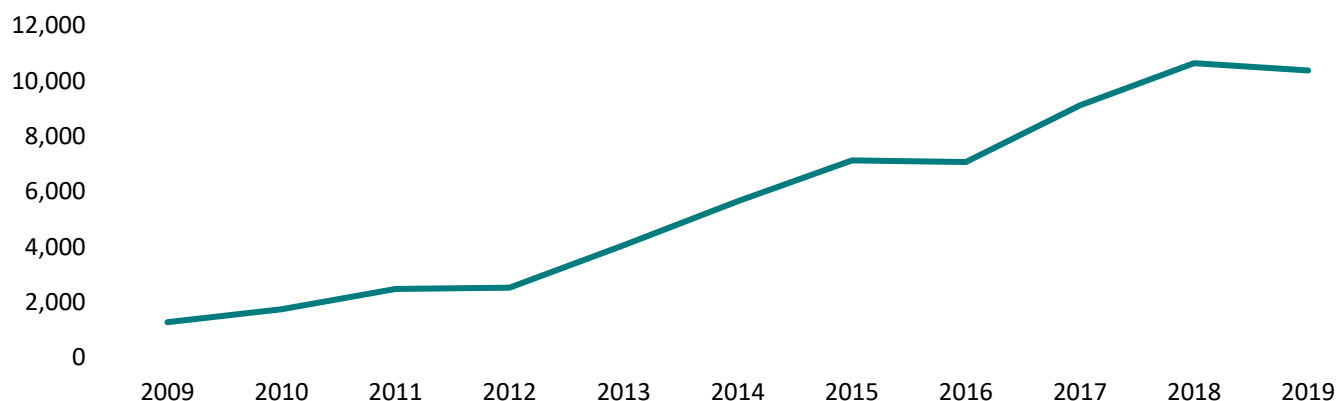
Underlying Index	Sales Volume 2019 (€m)*
Euronext Climate Objective 50 Euro EW Dec 5%	689
Euronext Euro 50 ESG EW Dec 50 Points	441
Euronext Eurozone ESG Leaders 40 EW Dec 5%	439
SBF Top 50 ESG EW Dec 50 Points	230
Euronext France Energy Transition Leader 40 EW Dec 5 %	145

- The Assets Under Management of the leading European ESG ETF, the BNP Paribas Easy Low Carbon 100 Europe ETF linked to the Low Carbon 100 Europe Index, increased by 76% from €434 million to € 763 million. In 2019 the ETF also received the Febelfin sustainability label.

As of 31 December 2019, there were over 10,380 Euronext Traded Products (ETPs) linked to Euronext indices listed on the Company's market. This is a slightly below (-2.5%) the all-time record of 2018.

ETP PRODUCTS ON EURONEXT INDICES LISTED ON EURONEXT

¹ SRP data, listed products only, figures based on external thirdparty data

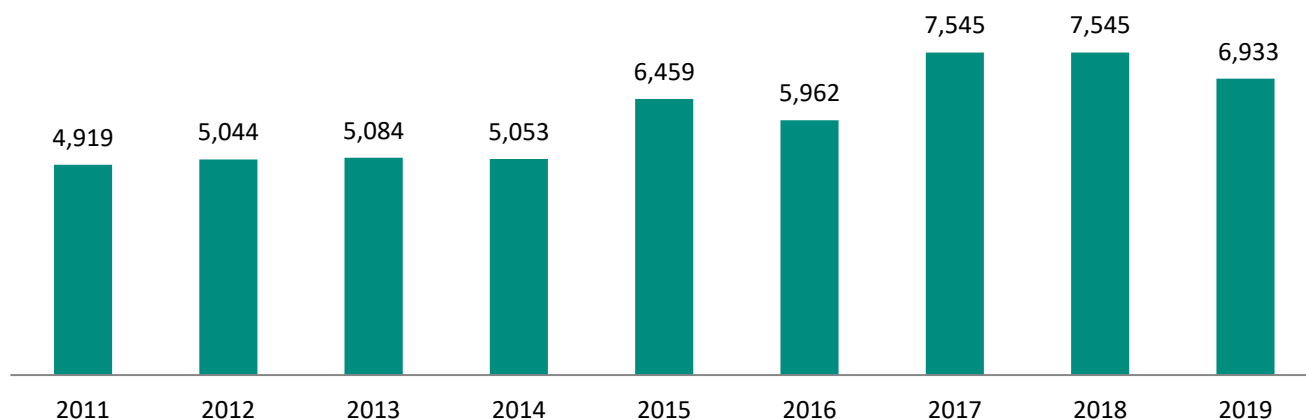


END OF YEAR RECORD FOR ETPS ON THE AEX® TO 3,303 (UP 13.6%);

Year	ETPs linked to AEX listed on Euronext									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Nr. of Products	579	884	823	977	1,369	2,158	1,748	2,816	2,907	3,303

Exchange traded funds (ETFs) linked to Euronext indices decreased to €6.9 billion in Assets Under Management (AUM) at the end of 2019.

ETF AUM (IN MILLIONS) ON EURONEXT INDICES



Figures based on external third-party data, past figures might have been restated

Building on its strengths and capabilities, driven by client discussion and needs, Euronext is increasing investments in the index franchise, in teams, technology, and partnerships, with 5 key directions for growth

- **Expand beyond Europe** to provide world indices for European and Global Clients,
- **Accelerate development of ESG based indices.** This will be done through continuous expansion of ESG partnerships bridging innovative **science based companies to investors**, at the forefront of sustainable finance,
- **Leverage on technology** to further accelerate index creation capacity,
- **Expand products suite on the most successful indices**
Leverage our extended federal model, to replicate locally our strength, client proximity, time to market, technology, ESG partners

1.3.6 POST TRADE

Euronext post-trade business is a combination of partnerships with, and minority stakes in, global market infrastructures (Euroclear, LCH SA), and 100% ownership of local market infrastructures (VPS, Interbolsa).

The Group owns 11,1% of LCH S.A. and has a 10-year agreement with LCH S.A. for the provision of clearing services on Euronext derivatives markets

Euronext also owns c.5% of Euroclear, that provides custody and settlement services on several Euronext markets.

Finally, Euronext owns 100% and operates two Central Securities Depositories: Interbolsa, established in Portugal, and VPS, established in Norway, acquired in 2019 as part of the Oslo Børs VPS transaction.

1.3.6.1 Post Trade – Products and Services

Clearing

Euronext does not operate its own Central Counterparty (CCP) and relies on strong partnership and contractual arrangements with external providers for the clearing of trades executed on its markets:

- trades executed on Euronext derivatives markets are cleared by LCH S.A. according to a specific clearing agreement (the Derivatives Clearing Agreement);
- trades executed on Euronext cash markets are cleared by LCH S.A. as the default CCP, according to a separate clearing agreement (the Cash Clearing Agreement), and by EuroCCP as an alternative option;
- trades executed on Euronext Dublin are cleared by EuroCCP;
- trades executed on the London Recognized Investment Exchange are cleared by LCH S.A (extension of the single order book) and by EuroCCP if trades are related to ETFs or the “Block facility”
- trades executed on Oslo Børs cash markets are cleared by a set of 3 interoperable CCPs: EuroCCP, SIX x-clear and LCH Ltd.

LCH S.A.

The partnership between Euronext and LCH S.A. relies on three pillars: i) Euronext owns 11,1% of LCH SA, has the right to appoint one Director at LCH S.A board, ii) Euronext and LCH S.A have signed a 10-year agreement for the clearing of derivatives (the Derivatives Clearing Agreement) and iii) Euronext and LCH S.A have a clearing agreement for cash markets (the Cash Clearing Agreement).

LCH SA is a EU27 based multi-asset classes CCP covering Listed and OTC derivatives, Commodities, CDS, Cash equities and ETFs as well as Repo Fixed income market. Thanks to their position across those market segments, LCH SA have a large pool of collateral posted by clearing members enabling them to be extremely resilient to stressed market conditions requiring short term liquidity as defined by ESMA through the CCP stress tests framework. Under the Derivatives Clearing Agreement, renewed in 2017, Euronext benefits from a significant revenue sharing with LCH S.A., at approximately the same level of EBITDA¹ as the previous agreement. Euronext therefore receives clearing fee revenues based on the number of financial and commodities derivatives trades cleared through LCH S.A. The Derivatives Clearing Agreement features solid governance rights as well as pre-emption rights for Euronext, in the case of a sale of LCH S.A.

Custody & Settlement

Euronext operates and fully owns two CSDs, Interbolsa (Portugal) and VPS (Norway).

Both CSDs play a central role in the Portuguese and Norwegian securities markets by providing issuance, custody and settlement services across multiple asset classes (equities, fixed income, funds) to issuers or their agents, financial institutions (custodians, broker-dealers, etc.) and other market infrastructures (CCPs, etc.).

Beyond these core services, Interbolsa and VPS also provide their customers with a range of value-added services (tax reporting, information and data, etc.). Together, Interbolsa and VPS serve 1 600+ issuers of securities (equity, debt, funds, structured products, etc.), with 175+ directly connected participants and almost 1 trillion EUR of assets under custody.

Interbolsa

Interbolsa is a wholly-owned subsidiary of Euronext, established in Portugal. It provides issuance, custody and settlement services for c. 350 billion EUR of securities. Interbolsa is authorized as a CSD under Regulation (EU) n°909/2014 (CSDR) and is the operator a designated securities settlement system under Directive 98/26/EC.

Interbolsa is also the national numbering agency in charge of the assignment of ISIN, CFI and FISN codes according to the ISIN, CFI and FISN codification rules in force (namely to all Portuguese-issued equities and for debt instruments registered or deposited in Interbolsa's systems), nationwide disclosure of assigned ISIN, CFI and FISN codes and intermediating between national entities, other national numbering agencies and ANNA Service Bureau.

VPS

VPS is a wholly-owned subsidiary of Euronext, established in Norway. It provides issuance, custody and settlement services for c. 580 billion EUR of securities.

VPS is in the process of submitting an application for a CSD licence under Regulation (EU) n°909/2014 (CSDR), following entry into force of the Norwegian legal act implementing CSDR in Norway.

1.3.6.2 Post Trade – Recent Developments

Clearing

In 2016, Euronext acquired 20% of EuroCCP with the aim of offering customers more choice for the clearing of their trades executed on Euronext cash markets, in line with the EU policy to favour competition in clearing services (in particular through open access provisions enshrined in MiFIR).

In December 2019, Euronext entered into a binding agreement to sell its 20% minority stake in EuroCCP to Cboe Global Markets, alongside the other current EuroCCP shareholders. The transaction is expected to close in H1 2020, subject to receipt of required regulatory clearances and the arrangement of a supporting liquidity facility at the EuroCCP clearing entity level.

Custody & Settlement

Integration of VPS

¹As defined in Chapter 5 and defined as EBITDA, in section 7.1.1

VPS integration into the Group, following the acquisition of 100% of OB VPS by Euronext, has very significantly increased the size of Euronext custody & settlement business, from c. 350 billion EUR of assets under custody to almost 1 trillion EUR of assets under custody.

TARGET2-Securities

Interbolsa settlement activity relies on Target2-Securities (T2S), the settlement platform operated by the European Central Bank.

After its smooth and successful migration T2S 1 in March 2016 (integrated in the second migration wave), Interbolsa has been actively working to improve operational processes and implement new software releases, which has allowed to increase the efficiency of the day-to-day operations with T2S.

In June 2019, Interbolsa implemented the Release 3.0 of T2S - the main annual release – which included some structural adaptations:

- updating of the ISO messages used to accommodate changes that took place between 2013 and 2017;
- enrichment of information in debit and credit notification messages or account statements to make the reconciliation process more efficient;
- introduction of an optional parameter that allows to define a minimum amount per self-balancing transaction.

In November 2019, Interbolsa implemented the Release 3.2, which included:

- new partial release functionality to increase settlement efficiency;
- extend of daily windows for partial settlement;
- availability of new fields in messages, cash and securities, useful for processing corporate events and reconciliations; and
- the possibility of the T2S to allow treatment of aggregated messages in files.

CSD links

CSD links allow participants of a given CSD (referred to as Investor CSD) to facilitate the access to securities issued in another CSD (referred to as Issuer CSD).

Both Interbolsa and VPS are involved in links between CSDs, either as Issuer CSD or as Investor CSD:

- Interbolsa has established Investor CSD links with Monte Titoli, Iberclear, Euroclear France, Euroclear Nederland and NBB-SSS (through Euroclear France) allowing its customers to access debt securities issued in one of these CSDs from Interbolsa accounts;
- In 2019, Interbolsa also opened an account with Clearstream Banking Frankfurt (CBF) in view of establishing an Investor CSD link with CBF in 2020.
- VPS has indirect links with Euroclear Bank and Clearstream Banking Luxembourg, operated through financial intermediaries and allowing companies established abroad to list and issue their securities in the Norwegian market.
- In March 2019, Iberclear became a participant of Interbolsa as Investor CSD.

By establishing links with other Issuer CSD through either VPS or Interbolsa, Euronext allows investors and their intermediaries (custodians, etc.) to access securities initially issued in other markets through their domestic Euronext CSD.

By accepting link requests from other Investor CSDs in VPS or Interbolsa, Euronext allows issuers to maximize their distribution reach (as investors ultimately connected to these Investor CSDs gain easier access to securities issued in VPS or Interbolsa).

Tables providing the list of links of VPS & Interbolsa as Investors CSDs of other CSDs and of other CSDs having an access to VPS & Interbolsa acting as Issuer CSDs.

VPS & Interbolsa as Issuer CSDs

Countries	CSDs	VPS	Interbolsa
Belgium	Euroclear Belgium		
France	Euroclear France		
Germany	Clearstream Banking Frankfurt		
Luxembourg	Clearstream Banking Luxembourg	X	
Switzerland	SIX SIS AG	X	
Italy	Monte Titoli		
Spain	Iberclear		X
Belgium ICSD	Euroclear Bank	X	X

VPS & Interbolsa as Investor CSDs

Countries	CSDs	VPS	Interbolsa
Belgium	NBB		X Asset classes : Fixed income

¹ T2S provides integrated and harmonised cross-border settlement of transactions in central bank money.

France	Euroclear France		X Asset classes : Fixed income
Germany	Clearstream Banking Frankfurt		X on going - target to be operational in 2020
Italy	Monte Titoly		X Asset classes : Fixed income
Spain	Iberclear		X Asset classes : Fixed income
Canada	Canadian Depository for securities	X Asset classes : Equities, Fixed Income & ETFs	
UK	Crest/ Euroclear UK & Irland	X Asset classes : Equities, Fixed Income & ETFs	
Malta	Malta Stock Exchange	X Asset classes : Equities, Fixed Income & ETFs	
Chile	Deposito Central de Valores	X Asset classes : Equities, Fixed Income & ETFs	
US	DTCC	X Asset classes : Equities, Fixed Income & ETFs	
Finland	Euroclear Finland	X Asset classes : Equities, Fixed Income & ETFs	
France	Euroclear France	X Asset classes : Equities, Fixed Income & ETFs	
Sweden	Euroclear Sweden	X Asset classes : Equities, Fixed Income & ETFs	
Denmark	VP Securities	X Asset classes : Equities, Fixed Income & ETFs	
Belgium ICSD	Euroclear Bank	X Asset classes : Equities, Fixed Income & ETFs	

Central Securities Depositories Regulation (CSDR)

Regulation (EU) n° 909/2014 (CSDR) is now fully in force. The main purpose of the CSDR is to harmonize the settlement of financial instruments in Europe and to provide a set of common organisational and conduct requirements for CSDs.

Interbolsa has received its CSD licence under CSDR on 12 July 2018 by the Portuguese markets supervisor (CMVM - Comissão do Mercado de Valores Mobiliários) and has been among the first European CSDs to reach that achievement.

Entry into force of the Central Securities Depositories Act in Norway

The Norwegian legal act implementing CSDR (The New Central Securities Depositories Act) in Norway enters into force on 1st January 2020. Accordingly, VPS will apply for a CSD authorisation under CSDR in 2020.

The Norwegian Ministry of Finance adopted transitional provisions in 2019 clarifying that VPS' current authorization will remain in force and that the current Securities Register Act will continue to apply to VPS' business and to account operators, settlement participants and holders of nominee account in VPS until the authorisation process is completed.

VPS has an ongoing project to implement the new rules and file for authorization in close cooperation with VPS' Market Advisory Group, Client Reference groups and the Norwegian FSA.

1.3.7 EURONEXT TECHNOLOGY SOLUTIONS¹ & OTHER

1.3.7.1 Euronext Technology Solutions & Other – Products and Services

Euronext Technology Solutions & other comprises of Euronext's commercial technology solutions and services business. Euronext offers custom solutions and cost-effective managed services to exchanges and venue operators who require complex, functional capabilities and low latency processing across multiple-asset classes surrounded by exchange grade business services used to operating within highly regulated environments

The technologies & other business benefits from the technology developments made by Euronext for its own markets and, in return, contributes recurring revenue that is noncyclic and not trading related. Operating as a technology vendor also gives Euronext an opportunity to benchmark both its technology and support services against other vendors and ensure that it maintains its position at the forefront of the industry.

The solutions and services offered use Optiq® and other applications developed by Euronext or licensed from third-parties. Optiq® entered production with Euronext in mid-2018 with the Derivative markets successfully migrated in late 2019 and has already been licensed to five

¹ Previously reported as Market Solutions.

other venue operators, either as a deployed solution or under an Optiq® as a Service arrangement. This take-up by the industry demonstrates the attractiveness of the reliability, flexibility and cost of ownership benefits that Optiq® provides and reflects the insights that Euronext, as a leading market operator itself, can apply in the design of a new trading technology.

Euronext continues to provide software support and maintenance services for the legacy trading platforms, Euronext UTP and NSC®. Euronext has a perpetual, royalty-free license from ICE to use, modify and sub-license Euronext UTP and NSC® (see section 5.2 “*Material contracts and related party transactions*”).

At the end of 2019, two Exchange clients remained on Euronext UTP and both have been offered options for migrating to Optiq® ahead of termination of Euronext UTP maintenance. Support for the previous generation trading platform, NSC®, will cease in 2020 once all clients using NSC® have been migrated to Optiq®. This will further simplify Euronext’s technology operation and reduce expenses.

Optiq® enables the technologies business to be more competitive by offering solutions that are faster, more resilient and cheaper to operate. It has been designed for high-volume markets and so will meet the throughput and resilience needs of most global exchanges. As a result, Euronext Technology Solutions priorities for the future Optiq® roadmap will include integrating new functions and asset classes to increase the flexibility, configurability and extensibility offered to clients.

Most technology solutions provided to clients include software for reference data management, price calculation and market control functions. The high level of commonality between exchange operations around the world means that many of these solutions can be delivered to clients with little or no client-specific customisation. In some cases, client requirements can be met by simple configuration changes and in others, only minor software modifications are required. Whichever approach is taken, the rights to new platform capabilities remain with Euronext and are incorporated into the core product for the benefit of all users (including Euronext itself). This mutually beneficial, user-community approach means that Euronext can maintain an industry leading platform with lower expenses than would otherwise be the case.

Where Euronext does not offer commercial in-house software for a function required by a client, third-party software can easily be integrated with Optiq®. This approach is used for the MAR surveillance service offered to MTF operators which provides monitoring of compliance with the Market Abuse Regulation as a remotely delivered service. This service enables clients to outsource their MAR monitoring operations and take advantage of the investments in staff and processes made by Euronext for its own markets.

Optiq® will facilitate the development of more such services, specifically those performing analytic and regulatory processing of the large volumes of trading data generated by electronic exchanges. Demand for these applications is expected to grow as the scope and rigour of regulatory monitoring requirements increase.

Historically, revenue from the Euronext Technology Solutions & other business came from software license and maintenance fees. However, Euronext’s ability to configure its technology for a wide range of market models means that the same Optiq® software can be offered in the form of a managed service. Optiq® as a Service enables exchanges and venue operators to take advantage of fully-hosted trading and clearing platforms without investing in data centre or network infrastructure. With banks and financial intermediaries increasingly seeing migration to cloud and software-as-a-service as solutions to the competing pressures of cost-reduction and regulatory complexity, Euronext’s experience as a service provider is receiving renewed interest. Euronext’s MiFID II compliant MTF and SI services build on Euronext’s own software, processes and infrastructure and offer clients an effective way to reduce costs without increasing regulatory risk. At the end of 2019, Euronext had four managed services in production for European venue operators.

The technologies & other business also receives revenue for network connectivity and server colocation under a revenue sharing agreement with ICE. This agreement enables Euronext to benefit from service sales to clients who connect to its markets *via* the ICE Global Network IGN® or who take colocation space in the ICE data centers that house Euronext’s trading platforms. For more information on the IGN® and colocation see section 5.2 “*Material contracts and related party transactions*”.

By combining our services, software, infrastructure, and technology developed for our internal markets alongside an extensive community of members, ISV’s and data vendors who connect to our systems, Euronext is able to offer a compelling solution to exchanges and venue operators globally.

1.3.7.2 Euronext Technology Solutions & Other – Recent Developments

The development of a technology centre in Porto has provided a basis to facilitate quick and cost-effective delivery of customized solutions to technology clients. The successful launch of Optiq across Euronext’s Cash and Derivatives markets has coincided with renewed interest from established exchange groups as well as new venues in utilizing the technology. The hosted model is seen as an attractive model for new trading venues who are looking to outsource both technology and services so they can reduce their cost of ownership and focus on business development

1.4 Regulation

1.4.1 OVERVIEW

Euronext is an organisation that provides exchange listing, trading, post-trade and related services in Europe. The Company operates exchanges in seven European countries (Belgium, France, Ireland, the Netherlands, Norway, Portugal and the United Kingdom). Each of the European exchanges and/or its respective operator holds an exchange licence granted by the relevant national exchange regulatory authority and operates under its supervision. Each market operator is subject to national laws and regulations and other regulatory requirements imposed by exchange authorities, central banks and finance ministries as appropriate.

The seven national regulatory authorities coordinate their regulation and supervision of the regulated markets operated by the Euronext group through the “Euronext College of Regulators”, acting pursuant to memoranda of understanding which Euronext has committed to respect.

The Company also operates two Central Securities Depositories (“CSDs”), in Portugal and in Norway. The Portuguese CSD (Interbolsa) holds a license under the European Union Central Securities Depository Regulation (Regulation (EU) 909/2014, “CSDR”) granted by its national competent authority (Comissão do Mercado de Valores Mobiliários, “CMVM”) and operates under its supervision. The Norwegian CSD (VPS) is applying to also obtain the CSDR authorisation from its national competent authority (NFSA – Finanstilsynet).

1.4.2 EUROPEAN REGULATION

The regulatory framework in which Euronext operates is substantially influenced and governed by European directives and regulations in the financial services area, many of which have been adopted pursuant to the Financial Services Action Plan, which was adopted by the European Union in 1999 to create a single market for financial services. This has enabled and increased the degree of harmonisation of the regulatory regime for financial services, public offers, listing and trading, amongst other activities.

Markets and Trading

There are currently two key pieces of European legislation that govern the fair and orderly operation of markets and trading: the MiFID II/MiFIR and the MAR/MAD II frameworks (both defined as below).

The MiFID II/MiFIR framework includes the Markets in Financial Instruments Directive (Directive 2014/65/EU, “MiFID II”) and the Markets in Financial Instruments Regulation (Regulation (EU) No 648/2012, “MiFIR”) and has been applicable since 3 January 2018. The objective is to make European financial markets more transparent and to strengthen investor protection.

The MAR/MAD II framework includes the Market Abuse Regulation (Regulation (EU) No 596/2014, “MAR”) and the Directive on criminal sanctions for market abuse (Directive 2014/57/EU “MAD II”) and has been applicable since 3 July 2016. The objective is to guarantee the integrity of European financial markets and increase investor confidence. The concept of market abuse typically consists of insider dealing, unlawful disclosure of inside information, and market manipulation.

Clearing and Settlement

EMIR

The European Union Market Infrastructure Regulation (Regulation (EU) No 648/2012, “EMIR”) is primarily focused on the regulation of CCPs and includes the obligation for standardised OTC derivative contracts to be cleared through a CCP. EMIR came into effect on 16 August 2012.

CSDR

CSDR sets out uniform requirements for the settlement of financial instruments and rules on the organisation and conduct of CSDs in order to ensure secure, efficient and timely settlement of transactions. Interbolsa obtained authorisation under CSDR on 12 July 2018 and Verdipapirsentralen ASA will apply for authorisation by June 2020.

Euronext, through Interbolsa, has also participated in the ECB’s TARGET 2 Securities (T2S) platform, since March 2016. T2S brings substantial benefits to the European post-trading industry by providing a single pan-European platform for securities settlement in central bank money.

Listing

The rules regarding public offerings of financial instruments and prospectuses, as well as on-going disclosure requirements for listed companies, are set out in the Prospectus Regulation (Regulation (EU) 2017/1129) and the Transparency Directive (Directive 2004/109/EC as most recently amended by Directive 2013/50/EU), as implemented in the countries in which Euronext operates.

Companies seeking to list their securities on Euronext’s regulated markets must prepare a listing prospectus in accordance with the requirements of the Prospectus Regulation, comply with the requirements of Euronext Rulebook I, the harmonised rulebook for the Euronext Market Subsidiaries, and any additional local listing requirements in Rulebook II. Following admission, they must comply with the on-going disclosure requirements set forth by the competent authority of their home Member State.

The objective of the Transparency Directive is to harmonise the transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market in the EU.

Indices

Euronext as an indices administrator has to comply with the Benchmark Regulation (Regulation (EU) 2016/1011, “BMR”) which has been applicable since 1 January 2018.

Euronext Amsterdam, Euronext Brussels, Euronext Dublin, Euronext Lisbon and Euronext Paris are registered by ESMA as benchmark administrators under BMR. Euronext Oslo is in the process of obtaining such registration.

The Operation of Regulated Markets and MTFs

MiFID II/MiFIR, MAR/MAD II, ESMA standards and the Euronext Rulebooks all provide minimum requirements for the monitoring of trading and enforcement of rules by Euronext as the operator of regulated markets and MTFs. In particular, market operators are required to meet, inter alia, all the requirements set out in MiFID II/MiFIR (and reinforced in MAR/MAD) including the obligation to ensure that the markets they operate allow financial instruments to trade “in a fair, orderly and efficient manner”.

To this end, Euronext has set up a framework to organise market monitoring by which it:

- monitors trading in order to identify breaches of the rules, disorderly trading conditions or conduct that may involve market abuse;
- reports breaches of rules or of legal obligations relating to market integrity to the competent authority.

Market surveillance and monitoring are implemented through a two-step process consisting of real-time market surveillance and post-trade (i.e., “next day”) analysis of executed trades. Euronext ensures member compliance with its rules by conducting on-site investigations and inspections.

Group-Wide Supervision and Regulation

The national regulators of Euronext’s markets are parties to a memorandum of understanding most recently amended and restated in December 2019 that established a “Euronext College of Regulators” and provides a framework to coordinate their supervision and regulation of the business and of the markets operated by Euronext. The Company commits itself to the memorandum of understanding, to the extent that any obligations arising from the memorandum of understanding apply to the Company or its subsidiaries.

These regulatory authorities have identified certain areas of common interest and have adopted a coordinated approach to the exercise of their respective national rules, regulations and supervisory practices regarding listing requirements, prospectus disclosure requirements, ongoing obligations of listed companies, takeover bid rules and disclosure of large shareholdings.

National Regulation

Euronext’s market operators each hold licences for operating regulated markets. Some market operators also operate a number of markets that do not fall within the European Union definition of “regulated markets” or MTFs. Each market operator is subject to national laws and regulations pursuant to its market operator status.

The Netherlands

Both Euronext N.V. and Euronext Amsterdam have an exchange licence from the Dutch authorities to operate regulated markets. This means that they are subject to the regulation and supervision of the Dutch Minister of Finance and the *Autoriteit Financiële Markten* (“AFM”). Since the creation of Euronext in 2000, the Dutch regulators have taken the view that the direct parent company of Euronext Amsterdam, as controlling shareholder, has to be seen as co-market operator and, accordingly, also requires an exchange licence. Pursuant to section 5:26 paragraph 1 of the Dutch Financial Supervision Act it is prohibited in the Netherlands to operate or to manage a regulated market without a licence granted by the Dutch Minister of Finance.

The Dutch Minister of Finance may, at any time, amend or revoke the licence if necessary to ensure the proper functioning of the markets or the protection of investors. The licence may also be revoked for non-compliance with applicable rules.

Belgium

Euronext Brussels is governed by the Belgian Law of 21 November 2017 on the market infrastructures for financial instruments and transposing MiFID II. Accordingly to the Law, Euronext Brussels is responsible for matters such as the organisation of the markets and the admission, suspension and exclusion of members and has been appointed by law as the “competent authority” for listing matters within the meaning of the Listing Directive (Directive 2001/34/EC). Euronext Brussels is subject to the supervision of the Financial Services and Markets Authority (FSMA), an independent public authority which strives to ensure the honest and equitable treatment of financial consumers and the integrity of the financial markets.

Portugal

As a market operator, Euronext Lisbon is governed by Portuguese Decree of Law No. 357-C/2007 of 31 October 2007 which, along with the Portuguese Securities Code and regulations of the *Comissão do Mercado de Valores Mobiliários* (“CMVM”), governs the regime applicable to regulated markets and MTFs, market operators and other companies with related activities in Portugal. The creation of regulated market operators requires the prior authorisation in the form of a decree-law from the Portuguese Minister of Finance, following consultation with the CMVM.

As a CSD, Interbolsa is governed by the CSDR and the Portuguese CSD Legal Framework, approved by Law 35/2018 of 20 July which, along with the Portuguese Securities Code, the regulations of the CMVM and Interbolsa self-regulation. France

France

As a market operator, Euronext Paris manages the Euronext regulated markets in France. In accordance with Article L.421-10 of the French Monetary and Financial Code, Euronext Paris adopts rules for each of these markets to ensure fair and orderly trading and efficient order execution. The requirements for market access and admission of financial instruments to trading are also covered by these rules, which are approved by the *Autorité des Marchés Financiers* (“AMF”) and published on the market operator’s website.

Euronext Paris markets are subject to the provisions of Article L.421-4 *et seq.* of the French Monetary and Financial Code, which authorises the French Minister of Economy to confer and revoke regulated market status upon proposal of the AMF, which has to consult with the *Autorité de Contrôle Prudentiel et de Résolution* (“ACPR”).

United Kingdom

Euronext London has been granted recognition by the *Financial Conduct Authority* (“FCA”) to operate as a United Kingdom recognised investment exchange (“RIE”), pursuant to section 290 of the Financial Services and Markets Act 2000 (the “UK FSMA”). As such, Euronext London has certain self-regulatory responsibilities for its markets. In order to retain its status as an RIE, Euronext London is required to meet various legislative and regulatory requirements and failure to comply with these requirements could subject it to significant penalties, including de-recognition.

The regulatory framework applicable to Euronext London is supplemented by a series of legislative provisions regulating the conduct of participants. Importantly, the UK FSMA contains provisions making it an offense for any person to engage in certain market behaviour and prohibits market abuse through the misuse of information, the giving of false or misleading impressions or the creation of market distortions. Breaches of those provisions give rise to the risk of sanctions, including financial penalties.

On 30 March 2020 Euronext has filed an application for the revocation of its RIE licence, subject to approval from the FCA. Under the applicable rules this implies that Euronext will have to cease all regulated activities in the UK as per 30 June 2020. Euronext will ensure an orderly wind down of its limited regulated activities in close consultation with the FCA.

Republic of Ireland

The Irish Stock Exchange Plc trading as Euronext Dublin is authorized by the Central Bank of Ireland ("CBI") as a market operator pursuant to Article 56 (2) of the European Union (Markets in Financial Instruments) Regulation 2017 (S.I. 375/2017). As a market operator, Euronext Dublin operates one regulated market and three multi-lateral trading facilities and adopts rules for each of these markets to ensure fair and orderly trading and efficient order execution.

In addition, Euronext Dublin has been appointed as the competent authority for listing by the department of Business, Enterprise and Innovation pursuant to the European Communities (Admission to Listing and Miscellaneous Provisions) Regulations 2007, as amended.

The CBI is responsible for the regulation and supervision of regulated markets and market operators authorised in Ireland. Euronext Dublin is required to meet various legislative and regulatory requirements and failure to comply with these requirements could subject it to enforcement action by the CBI including significant penalties and/or revocation of its authorisation as a market operator.

Norway

Oslo Børs has a license as a regulated market from the Norwegian Ministry of Finance pursuant to section 11-1 of the Norwegian Securities Trading Act and operates two such regulated markets. In addition, Oslo Børs operates one multilateral trading facility pursuant to section 9-8 of the Norwegian Securities Trading Act. Oslo Børs adopts rules for each of these markets to ensure fair and orderly trading and efficient order execution.

In addition, Oslo Børs has been appointed as take-over authority pursuant to section 6-4 of the Norwegian Securities Trading Act. Oslo Børs has also delegated authority to supervise compliance with and to sanction violations of the issuers' obligation to disclose inside information pursuant to sections 5-2 and 5-3 of the Norwegian Securities Trading Act, cf. section 17-1 of the Norwegian Securities Trading Regulation.

The Norwegian Financial Supervisory Authority is responsible for the regulation and supervision of regulated markets and multilateral trading facilities licensed in Norway.

Stichting

In connection with obtaining regulatory approval of the acquisition of Euronext by the NYSE group, Inc. in 2007, NYSE Euronext implemented certain special arrangements which included a standby structure involving a Dutch foundation (*stichting*). Following the acquisition of NYSE Euronext by ICE and the Demerger, the Company became a party to these arrangements, which include a Further Amended and Restated Governance and Option Agreement (the "GOA"), to which ICE, the *stichting* and Euronext are parties. The *stichting* has been incorporated to mitigate the effects of any potential change in U.S. law that could have extraterritorial effects on the regulated markets operated by the Euronext Market Subsidiaries as a result of a U.S. shareholder holding a controlling interest in the Company. The board members of the *stichting* are independent from Euronext. Pursuant to the GOA, while the Company has U.S. shareholders with a controlling interest in the Company, the *stichting* is empowered to take actions to mitigate the adverse effects of any potential change in U.S. law that have certain extraterritorial effects on the regulated markets operated by the Euronext Market Subsidiaries. If there is no such controlling U.S. shareholder, the *stichting* becomes dormant and unable to exercise such powers. If a new U.S. shareholder were to gain control of the Company, the *stichting* would be automatically revived.

Up until 20 June 2014, the *stichting* was active through ICE's shareholding. Since the IPO, ICE sold its shareholding, and there has been no controlling American shareholder. At the Euronext College of Regulators' request, the *Stichting* has become dormant.

1.4.3 OWNERSHIP LIMITATIONS AND ADDITIONAL NOTIFICATION REQUIREMENTS

The rules set forth below apply to an acquisition of a direct or indirect interest in Euronext's market operators. These rules are in addition to shareholder reporting rules applicable to listed companies generally set out above.

Under Dutch law, a declaration of no-objection of the Dutch Minister of Finance is required for any holding, acquisition or increase of a Qualifying Participation (defined as direct or indirect participation of at least 10% of the issued capital of the relevant entity or the power to exercise at least 10% of the voting rights) in an operator or holder of a regulated market in the Netherlands which has been granted an Exchange License to operate such market pursuant to section 5:26 of the Dutch Financial Supervision Act. The Dutch Minister of Finance has delegated its powers to grant a declaration of no-objection under section 5:32d of the Dutch Financial Supervision Act to the AFM, except in cases where the acquisition of the Qualifying Participation involves a fundamental change to the shareholding structure of the relevant licensed operator or holder of a regulated market in the Netherlands. Euronext N.V. controls Euronext Amsterdam, which is the licensed holder and operator of a regulated market in the Netherlands, and has obtained a declaration of no-objection under section 5:32d referred to above. Therefore, any acquisition or holding increase of a direct or indirect interest in the Company that results in an indirect Qualifying Participation in Euronext Amsterdam, will trigger the requirement to obtain a declaration of no-objection of the AFM or, in case of a fundamental change in the shareholding structure, the Dutch Minister of Finance. Such declaration should be granted unless such holding, the acquisition or increase: (1) could or would lead to a formal or actual control structure that is lacking in transparency and would therefore constitute an impediment to the adequate supervision of the compliance by the market operator with the rules applicable to the operator of a regulated market; (2) could or would lead to an influence on the regulated market operator or effect on the exploited or managed regulated

market that forms a threat to the interests which the Dutch Financial Supervision Act seeks to protect; or (3) could jeopardise the healthy and prudent operation of the regulated market concerned. Non-compliance with the requirement to obtain a declaration of no-objection is an economic offense and may lead to criminal prosecution. In addition, if a person acquires or increases a Qualifying Participation without having obtained a declaration of no-objection, it will be obliged to cancel the transaction within a period to be set by the Dutch Minister of Finance or the AFM unless the person cures the offense and obtains a declaration of no-objection. The Dutch Minister of Finance or the AFM may request the District Court in Amsterdam to annul any resolutions that have been passed in a General Meeting of shareholders in which such person exercised its voting rights, if such resolution would not have been passed or would have been passed differently if such person would not have exercised its voting rights. The District Court will not annul the resolution if the relevant person obtains a declaration of no-objection prior to the decision of the court.

Under French law, any person or group of persons acting in concert who acquires or increases, directly or indirectly, a holding in Euronext Paris shares or voting rights in excess of 10%, 20%, 33 1/3%, 50% or 66 2/3% is required to inform Euronext Paris, which in turn must notify the AMF and make the information public. Any person acquiring direct or indirect control of a market operator must obtain the prior approval of the Minister of Economy upon proposal of the AMF. Further, Euronext Paris shall promptly notify the AMF prior to any changes to the identity and the details of the holding of any existing shareholder or shareholders, alone or in concert, who is in a position to exercise, directly or indirectly, significant influence (10% or more of the share capital or voting right) over the management of Euronext Paris and the proposed change can proceed as long as Euronext Paris does not receive any objection from the AMF within the period of time provided by the AMF General Regulation.

Under Belgian law, any person who intends to acquire securities in a Belgian market operator and who would, as a result of such acquisition, hold directly or indirectly 10% or more of the share capital or of the voting rights in that market operator, must provide prior notice to the FSMA. The same obligation applies each time such person intends to increase its ownership by an additional 5%.

Under Portuguese law, a shareholder who intends to acquire, directly or indirectly, a dominant holding (broadly defined as 50% or more of the share capital or voting rights) or a dominant influence (broadly defined as the majority of voting rights or the possibility to appoint or dismiss the majority of the members of the managing or supervisory bodies) in a Portuguese market operator must obtain the prior authorisation of the Portuguese ministry of finance (with prior advice of the CMVM). In addition, all entities envisaging (i) acquiring or disposing of a (direct or indirect) qualifying holding (10% or more of the share capital or voting rights or otherwise establishing a significant influence) or increasing a qualifying holding at the level of 10%, 20%, 33 1/3% and 50% or more of the shares capital or voting rights in a market undertaking in Portugal or (ii) otherwise establishing a control relationship with a market subsidiary in Portugal, must notify the CMVM of the acquisition or disposal as soon as a decision has been taken to proceed within four business days following the relevant transaction and seek a prior declaration of non-objection. The disposal/reduction of the aforementioned qualifying holdings (considering each threshold above) or change in the control relationship is also required to be notified to the CMVM.

Under Irish law, prior notification to the Central Bank of Ireland of a proposed acquisition of, or increase in, a direct or indirect qualifying holding (10% or more of the capital or of the voting rights or which makes it possible to exercise a significant influence over the management of that undertaking) of Euronext Dublin is required.

Under Norwegian law, an acquisition resulting in the acquirer having a significant holding in a market operator for an official stock exchange, or in the stock exchange itself, requires authorization from the Norwegian Ministry of Finance. Significant holding means any direct or indirect holding representing at least 10% of the share capital or the voting rights, or which otherwise makes it possible to exercise substantial influence over the management of the undertaking. Shares held or acquired by related parties shall be deemed equivalent to the acquirer's own shares. The acquisition of a right to become holder of shares shall be deemed equivalent to the holding of shares for the purpose of the first to third sentence where this must be considered a beneficial shareholding. Any acquisition increasing the holding such as to directly or indirectly exceed 20%, 30% or 50% of the share capital or voting rights of a stock exchange requires authorization from the Norwegian Ministry of Finance.

2 RISK MANAGEMENT & CONTROL STRUCTURE

Euronext analyzes and monitors risks whose occurrence could have a material impact on the Group's business. The table of the Group's principal risks categorizes these risks, the most material risks taking into account the impact and the probability of their occurrence.

Hierarchy of Risk Factors

Strategic Risks	Global Economy and Regional Economy
	Regulatory Evolution and Enhanced Regulatory Scrutiny
	Competition
	Transformation
Operational Risks	Cyber Security
	Technology
	Change and Integration Management
	Clearing Settlement and Custodial Risk
	Employees
	Health and Safety
Compliance Risks	Ownership and Intellectual Property
	Potential Litigation and Other Liabilities
Financial Risks	<ul style="list-style-type: none"> Market Risk Capital Risk Liquidity Risk Credit Risk

None of the above mentioned risks had a significant impact on the Company over the course of the past fiscal year. Note that the summary table is not an exhaustive inventory of the of the risks and control processes. Internal control actions are integrated into the concerned departments operations. The risk considerations related to Environmental, Social and Governance (ESG) are presented in Chapter 3 of this Universal Registration Document.

2.1 Risk Factors

Strategic

Global and Regional Economy

Risk Identification and Description	Potential Impacts on the Group
<p>Operations and performance depend on global and local market and economic trends. Several macro-economic factors including concerns around market correction and sluggish threaten the economic growth generate risks regarding economic activity. The impact of these risks is considered as increasing in international institutions economic outlook. In particular in Europe, the uncertainties stemming from Brexit as well as the emerging Covid-19 virus epidemic that affects global demand and disrupts global production and supply chains may discourage investment.</p> <p>2020 growth projections have been reviewed downward and are lower than 2019's projections given that risks threatening the global</p>	<ul style="list-style-type: none"> GDP Growth slowdown is reflected in trading volume and may impact revenue and growth target of the Group. A weaker local economy may become a competitive disadvantage with respect to global competitors given that Euronext activity is mostly concentrated in western Europe. Currently the market sentiment has led to high volatility and volumes on the market positively impacting Euronext's trading revenues. However, the consequences of unprecedented actions to protect public health as offset by the monetary and fiscal policy measures taken by governments and central

economy have remain stable or became more pronounced. Amongst those, the ongoing trade tension between the United States and China impacts international trade, and the inverted US yield curve could be pointing to heightened risks of a recession. More locally, the uncertainties regarding the UK-EU trade relationship impact investors' confidence in the area. The emerging Covid-19 situation is causing high market uncertainty which has led to high volumes in the first quarter of 2020. However, if the situation continues to deteriorate, the impact of the pandemic on the markets could be detrimental. While the current focus remains on the Covid-19 situation, Covid-19, Brexit and trade tensions may have a negative impact on the global and regional economies in which Euronext operates. Ultimately these factors potentially affect Euronext, through reduced volumes and/or reduced listing activity as well as lower opportunities for growth.

banks makes the severity of the economic impact of the Covid-19 pandemic very uncertain. The Covid-19 pandemic may push the global economy into recession in the longer term, trading revenues may suffer from loss of volume. The uncertainty may also impact other business lines, notably the Listing business, which may see a decrease in IPOs.

Risk Control & Mitigation

Euronext considers international institutions' economic outlooks to assess the level of this risk. With a consensus of about 3.2% global real GDP growth, and +1.3% in the Euro area for 2019 at the date of publication of this document, the risk of an adverse impact of global and regional economy trends is very low but not insignificant.

This risk is partially mitigated by Euronext's strategy of diversification, geographically and in terms of area of activity.

Euronext has put in to place a wide range of measures to secure its market operations. Please refer to the operational risk section Health and Safety

Regulatory Evolution and Enhanced Regulatory Scrutiny

Risk Identification and Description

Euronext's business in Europe is subject to extensive regulation at the European level and by national regulators in the relevant European jurisdictions where the Group has operations: Belgium, France, Ireland, the Netherlands, Norway, Portugal and the United Kingdom. In addition, the Company has a presence in the United States and Singapore.

Regulatory scrutiny following the financial crisis continue to generate risks and opportunities.

MiFID II / MiFIR

The regulatory regime within Europe has been amended and extended. The revised European Union Markets in Financial Instruments Directive (MiFID II / MiFIR) has been effective since 3 January 2018. Compliance with this new regime by all market actors is changing the competitive landscape and may, therefore, have an adverse effect on the Company's business. The main sources of risk and their possible consequences are closely monitored and may impact ENX's market share or directly its revenue.

Potential Impacts on the Group

- As the Group seeks to grow its product base or the jurisdictions in which it operates, it could become subject to oversight by additional regulatory bodies which may expand the regulatory and compliance requirements.
- Additional regulatory evolutions may affect Euronext activity and/or revenue if designed adversely.
- Decisions by any of Euronext's regulators to impose measures which may impact the competitive situation and possible strategy of the Group.
- New supervisory fees are expected from ESMA by 2022 for its new direct supervision powers on data reporting providers. In addition, potential changes in the fee structure of Euronext's supervisory competent authorities may occur following the implementation of the new EU regulatory framework in the European securities markets generally.
- Delay or denials of regulatory approval requested by Euronext to, inter alia, further its strategy, leverage business opportunities and change its governance – all potentially impacting Euronext's competitive position.
- Potential fines if Euronext breaches regulations, impacting results as well as Euronext's reputation.
- Reduction of Euronext's bandwidth to perform business related projects and agility due to operational implementation.
- Any review of the pricing of market data on a reasonable commercial basis which may impact a significant stream of revenue for Euronext depending on how requirements are defined.
- The tick size regime, initially favoring the growth of trading via systematic internalisers, is expected to be amended in the first half of 2020 to the benefit of exchanges by re-establishing a level playing field.
- The open access provisions seek to increase competition by allowing competitors to improve their value offer or to create derivatives on benchmarks historically used exclusively by Euronext. Additional resource devoted to increased regulatory reporting requirements may impact cost and compliance.

EU Financial Transaction Tax

Ongoing discussions on the potential for an EU Financial Transaction Tax (covering 10 Member States) may have a negative impact on Euronext's trading volumes

IT and Cyber Security Standards

Increased regulatory and policymaking focus on cyber security and data protection issues at European and national levels requires Euronext alignment with all applicable laws and regulations. Regulations have different scope and impact in terms of Euronext group processes and stakeholders.

Directive on security of Network and Information Systems ('NIS Directive') is an European directive with specific processes per country in terms of processes, reporting and controls that seeks to safeguard IT and computer systems.

Loi de programmation militaire ('LPM') is a French law where specific controls are mandated.

Regulation of Emerging Technology

Increased regulatory and policymaking focus on the development of Fintech services and products at European and national levels.

Other regulatory frameworks / initiatives

Recent regulations, including the General Data Protection Regulation (GDPR), Market Abuse Regulation (MAR) Central Securities Depository Regulation (CSDR) and Benchmark Regulation (BMR) require significant effort to implement, impacting operational capacity as well as increasing risk of non-compliance.

Brexit

The decision of the United Kingdom to withdraw from the European Union (Brexit) should have, at a regulatory level, wide-ranging implications for European financial markets whose full impact will only become clear once the negotiations between the European Union and the United Kingdom regarding withdrawal have clarified the general nature of the post-Brexit relationship (including the extent to which UK-based firms have access to the single market in financial services). While the risk of a "no deal" scenario has diminished, it still remains a possible outcome should negotiations on the longer-term framework fail to reach agreement. The level of uncertainty is still too high to positively affirm that the Brexit will not affect ease of access to trading between the UK and the EU, consequently impacting Euronext's business, we continue to maintain our "no-deal" mitigation plan.

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- Any agreement on the EU10 FTT could have an impact on revenues in certain countries.
- While we support such initiatives, current and future legislation will likely impact the Group's operational and compliance models and as such may increase cost.
- While Fintech services and products should be encouraged and a regulatory framework developed to ensure this, there may be a risk of unlevel playing field competition between similar products and services.

- The Group's operational processes have been adapted across all of its departments to ensure compliance with the GDPR, including a clear governance structure around data management and the use of personal data.
- The Group has engaged in discussions in some of its jurisdictions where regulatory initiatives are being developed and is monitoring initiatives at the European level
- The implementation of BMR required effort to implement, impacting operational capacity as well as increasing risk of non-compliance. The increased oversight of the registered benchmarks requires additional resource to maintain.

Brexit

- Access of UK-based members to Euronext's markets
- Risk that the attractiveness of our markets with high-levels of dual-listings could be negatively impacted as a result of limitations on EU broker access to all significant liquidity pools (due to the Share Trading Obligation)
- Access of Euronext Dublin to UK-based CREST settlement system
- Access of UK-based clearing members to EU clearing houses
- Use of Euronext's benchmarks by UK supervised entities

Risk Control & Mitigation

Euronext actively monitors all relevant European and national legislative and regulatory policy developments and engages in regular discussions with public authorities' to ensure that it is able to provide input and respond to developments. Alongside this the Group operates comprehensive systems and controls to mitigate compliance risk.

The appropriateness of Euronext processes and policies are continuously assessed and improved in relation to the business activities, organisation and resources of the company as well as market conditions, under which the activities of Euronext are performed to avoid breaches of legal, statutory, regulatory or contractual obligations related to information security requirements and to ensure that information security is implemented and operated in accordance with the global best practices.

Brexit

Euronext maintains a Brexit group which has established a mitigation plan for the various scenarios and continues to monitor developments. As part of this approach, Euronext liaises with clients (including trading firms and issuers) in terms of impact and any

proposed actions, and there is engagement with European and national policy-makers and regulators on developing an outcome that minimizes the impact on our markets as much as possible.

Regarding the migration of Irish securities to a new settlement system in the EU, there is a dedicated project in progress to deliver this by 29 Mar 2021, and temporary equivalence has been secured from the Commission and ESMA to continue to use the CREST settlement system in the UK in the interim.

Competition

Risk Identification and Description

Market Fragmentation

Concerning the trading activity, fragmentation of markets and increased competition, MiFID II opened the path for new forms of competition, specific examples being Systematic Internalisers and new trading models. The principle consequence of MIFID 2 has been the reshuffling of equity landscape of OTC and grey markets.

Index derivatives may come under some competitive pressure as Open Access to Benchmarks comes in to force in January 2020. Open Access allows any exchange to buy an index license and trade products based on index on its markets.

Listing Business

In the listing segment, Euronext is facing competition from other exchanges developing initiatives to capture primary listing of issuers based in Euronext's home markets.

Beyond these incumbent competitors, an ever increasing number of private companies favour private equity funding, notably given the lesser regulatory burden. In recent years, record low-interest rates have amplified leveraged funding in private equity, allowing for higher valuations outside of capital markets. More recent innovative funding solutions also include Initial Coin Offerings (ICO).

Potential Impacts on the Group

Market Fragmentation

Global competition among trading markets and other execution venues remains intense. Given that the Company's current and prospective competitors are numerous and include both traditional and non-traditional trading venues: multilateral trading facilities ("MTFs") and a wide range of over-the-counter ("OTC") services provided by market makers, banks, brokers and internalization other financial market participants amongst whom some are allowed to offer better pricing than exchanges. Further, some of these competitors are among Euronext's largest customers or are owned by its customers.

Systematic Internalisers have not disrupted the regulated market as significantly as had initially anticipated however remain closely monitored for any possible shifts in the environment. Open Access to benchmarks may result in more fierce competition in the index business.

The success of the Group's business depends on its ability to attract and maintain order flow, both in absolute terms and relative to other market centres. If Euronext fails to compete successfully, the loss of order flow would deteriorate liquidity and market quality, and may endanger Euronext's attractiveness and impact its financial results.

Listing Business

As a result of the growing appeal of private equity and the intensifying competition among exchanges, a number of potential issuers may not join Euronext. This ultimately has a negative impact on Listing admission fees and future trading fees

Risk Control & Mitigation

Market Fragmentation

Innovation in the sector and movements in the competitive landscape are closely monitored and actions are taken to protect market share and develop new offerings to attract additional flow. Further, Euronext is focused on delivering the highest quality liquidity management to ensure its position as the deepest pool of liquidity. Euronext actively seeks the diversification of its business through the acquisition of non-volume-based businesses, reducing the Group's overall exposure to this risk. The Group has several initiatives and projects in order to offer superior products and services to clients and issuers alike.

Listing Business

While Euronext is subject to competition from our peers in our local markets Euronext competes with peers on their home markets - in particular in respect of global companies and SMEs in the technology sector as well as in the corporate services market, where Euronext provides support to newly listed and existing companies. Furthering Euronext's geographical reach in Europe, the Company has established a sales presence in several European locations building proximity and intimacy with private companies in Europe this has translated into increased new listing flow from non-Euronext markets.

Euronext actively seeks to identify unlisted companies that require additional financing to meet their ambitions, to encourage them to view financial markets as a source of financing, a governance and transmission tool, a way to enhance their visibility and a mean of raising their profile with investors. As a result, Euronext maintains targeted pre-IPO programmes (TechShare, FamilyShare and IPOready) to help CEOs familiarise themselves with capital markets.

Transformation

Risk Identification and Description

The Company is exposed to transformation risks (risk of loss or failure resulting from change/transformation) given the current levels of change and alignment activity taking place across the Company.

Technology

Euronext operates in a business environment that continues to experience significant and rapid technological change. To remain competitive, the Company must continue to transform in order to enhance and improve the functionality, capacity, accessibility and reliability of its technology. The company is ambitious in its drive for constant innovation and technological transformation in order to maintain its place in the exchange landscape.

Strategic Acquisitions

Euronext is undergoing companywide transformation programs, such as the integration of new acquisitions, including Euronext Oslo and VPS. If these programs are not completed, or do not operate as intended, identified synergies may not be delivered and the marketplace may be questioned.

The Company has entered and may continue to enter into business combination transactions. The market for acquisition targets and strategic alliances is highly competitive.

Potential Impacts on the Group

Technology is changing rapidly and given the time to market to develop and implementation changes, Euronext may be impacted if technology is no longer relevant.

Pursuing strategic transactions requires substantial time and attention of the management team, which could prevent them from successfully overseeing other initiatives. Similarly, if acquisitions ambitions are publicly disclosed but not closed, this may impact our reputation and our strategic growth plan.

Completing and recognising benefits of potential transactions takes time and can impact the Company's business, and financial results.

In relation to the expansion of the Group's business, Euronext invests time in developing new products, improving current product offerings or increase its presence in other markets. If these product offerings are not successful, a potential market opportunity may be missed and Euronext may not be able to offset the cost of such initiatives, which may have a material impact on the Company's financial results.

Risk Control & Mitigation

Euronext mitigates its exposure to transformation risk through the close monitoring of transformation programs including set up of governance bodies to organize implement and follow the integration of recently acquired entities.

With the growth of the Group size, there has also been an increase in its capacity, competence and experience in integrating new companies into the group and deliver synergies.

Euronext continuously seeks to find, acquire, and innovate products and services that either enhance current performance and capacity or drive Group evolution and growth.

Euronext's strategy 2022, Let's Grow Together supports the transformation effort.

Operational Risks

Cyber Security

Risk Identification and Description

The Group Strategy and strategic plan to grow and secure transmission of business confidential information over public and other networks is a critical element of Euronext's operations.

As a result of its expansion, the Group is more exposed in the digital world, accumulates, stores and uses more business data which is protected by business contracts and regulated by various law, including data protection, in the countries in which it operates.

The Group may be vulnerable to exfiltration, unauthorized access and other security incidents including:

- Third parties, including cloud computing services, to whom Euronext provides information and may not be diligent in safeguarding it.
- As the volume of cyber-attacks are increasing in general and, consequently, within the financial sector, the Group systems may experience security incidents from hacking groups or advanced persistent threats - the last one most effective and disruptive as they are cyber-attacks sponsored by organized crime or states with malicious intentions.
- Open source software used by Euronext within its software solutions. As the source code of open source components is available to the public, hackers may take advantage from publicly available code to find unknown or undisclosed vulnerabilities.
- Persons who circumvent deployed security measures could wrongfully access the Group's or its customers information, or cause interruptions or malfunctions in the Company's operations.
- Data protection regulations increases the risks associated with regulatory non-compliance.

Potential Impacts on the Group

The impacts of a successful cybersecurity attack would depend on the nature of the attack:

- Security breaches, leakage, loss or theft of sensitive, personal, strategic or confidential data, also impacting data protection laws, and other related security incidents could cause Euronext to incur reputational damage, regulatory sanctions, litigation and/or have an impact on its financial results.
- Successful cybersecurity attack on IT systems affecting confidentiality, availability or integrity of information.
- System failures due to vulnerabilities exploitation.

While the Group is committed to investment in maintaining and safeguarding IT systems, with a particular attention in external growing threats (such as cybercriminals), any malfunctions, significant disruption, loss or disclosure of sensitive data could disrupt the normal course of business and have financial, operational or reputational consequences leading to a security incident and proper response.

Risk Control & Mitigation

Euronext Group has a specific cybersecurity strategy, roadmap and an established governance model supported with dedicated resources. The roadmap and strategy are under scrutiny of internal audits, external auditors and a college of regulators from all countries where Euronext operates regulated markets.

Euronext follows and implements best security practices aligned and certified with the recognized global standards (e.g. ISO9001, ISO 27001, NIST cybersecurity strategy of Identify, Protect, Detect, Respond and Recover) to address global data protection regulations and ensure a high level of cybersecurity maturity. Additionally, Euronext has a dedicated cybersecurity insurance for the group.

The security of infrastructure, websites and networks is assured at a Group level: 1. infrastructure monitoring and management performed constantly; 2. continuous IT assessments and security audits (internal, external and third-party) are performed to assess whether the level of security is adequate; 3. Awareness campaigns are conducted as are tests on the resilience of the cybersecurity response in case a cyberattack; 4. Involvement of cybersecurity architects on the early phases of new projects.

Technology

Risk Identification and Description

Technology is a key component of Euronext's business strategy, and is crucial to the Company's success. Euronext's business depends on the performance and stability of complex computer and communications systems. Heavy use of Euronext's platforms and order routing systems during peak trading times or at times of unusual market volatility could cause its systems to operate slowly or even to fail for periods of time. These events or other events could cause unanticipated disruptions in service to exchange members and clients, slower response times or delays in trade executions and related impacts.

The Group finalized the transformation of its Technology organisation through its launch of Optiq® derivatives, bringing leading technology to ensure high capacity and reliability. Euronext's success will depend, in part, on this continued innovation

Potential Impacts on the Group

Exploiting technology and the ability to expand system capacity and performance to handle increased demand or any increased regulatory requirements is critical to Euronext's success. If the Group's technology is not properly managed or the resources supporting the changes are not properly allocated, Euronext may lose market share or volumes, which could have an effect on business and financial results. In case that service failure occurs there may be significant financial losses, litigation as well as reputation damage.

While Euronext actively manages its relationships with its key strategic technology suppliers to ensure continual service, a disruption of these services would negatively impact the Company's operations and reputation depending on the severity of the disruption may have consequential impact on the Group.

and investment in its trading systems and related ability to respond to customer demands, understand and react to emerging industry standards and practices on a cost-effective and timely basis, as well as in other technologies including leveraging cloud hosting for support and future services.

Third Party Dependencies

Euronext depends on the services of InterContinental Exchange, ("ICE") for the provision of network and colocation and data centre services. Equinix provides the Company with its back up network and data centre service. Euronext depends on Amazon Web Services (AWS) for selected post-trade cloud services.

Risk Control & Mitigation

The performance and availability of the Group's systems are reviewed continuously and monitored to prevent problems when possible and responding, in a timely and efficient manner, when problems do occur. Euronext continuously invests in the development of its technology in order to maintain and ensure best in class service and capacity.

The Group seeks to identify, manage and mitigate risks associated with third party technology risks by partnering with reputable technology and services providers, via audits of the technology, backups and business continuity arrangements its partners.

Change and Integration Management

Risk Identification and Description

The Group's Change agenda is ambitious. It is driven by internally determined programs, including technology transformation such as the recent completion of Optiq and other internal IT programs aimed at delivering efficiencies and higher performance. External drivers of change and integration include the changing business and regulatory landscape as well as the Group's ambitious inorganic growth strategy.

The Company has actively arbitrated in favor of transformation and steady growth and as a result has taken on operational debt that is being continuously addressed. As a result, the incoming flow of acquisitions and integration, project developments, and regulatory obligations challenge available resources, thus the level of operational debt may not decrease as quickly as expected, which may put growth opportunities and strategy at risk.

Potential Impacts on the Group

The large volume of significant internal programs and recent acquisitions, including the acquisition of Oslo Børs, VPS, in progress simultaneously, with related impacts, that, if not delivered or delivered as originally designed or with delays, may have an adverse impact on the business, culture, reputation and financial condition of the Company, including an increased cost base without a proportionate increase in revenues.

In addition, the large volume of initiatives, projects and acquisitions exacerbate the need for effective change and integration management where delays in one project may extend beyond the project in question and affect the availability of resources impacting other projects further down the line.

Risk Control & Mitigation

Euronext mitigates the risks related to change and integration management by ensuring an effective project management team that closely tracks, monitors and implements projects that are in the pipeline or close to completion. The Project Management team works closely with and helps to ensure a Group-wide alignment of strategic and financial objectives. The Risk Management team actively follows projects, ensuring that the risks are understood, monitored and escalated when necessary.

Governance and managing board oversight is determined by scale, complexing and level of impact of the change, ensuring budget and resource management, risks, issues and dependencies.

Clearing, Settlement and Custodial Risk

Risk Identification and Description

The Group relies on key external third parties for post-trade services including clearing and settlement and other services.

In particular, Euronext under its clearing service agreements with LCH S.A., the Paris based clearing house of LCH group Ltd, which is majority owned by LSEG. Euronext relies on LCH SA to provide Central Counter Party (CCP) services for trades executed on the Company's cash and derivatives markets and to manage related CCP functions, such as risk, novation and multilateral netting.

Potential Impacts on the Group

To the extent that any of the third parties on which Euronext relies experiences difficulties, materially changes its business relationship with the Company or is unable for any reason to perform its obligations, any such event could have a material adverse effect on the business, reputation, results of operations, financial condition and cash flows of Euronext.

In addition, Euronext relies on EuroCCP to provide CCP services for trades executed on the Company's cash markets and to manage related CCP functions for Euronext Dublin and as an alternative CCP for the other cash markets under the User Choice Model.

For the Oslo cash markets, Euronext Oslo relies on 3 interoperable CCPs : LCH Ltd, EuroCCP & Six X Clear, while the Oslo Derivatives markets, Euronext Oslo relies on Six X Clear.

The Group also relies on the services of Euroclear group ("Euroclear") for the settlement of cash market trades other than in Portugal.

Risk Control & Mitigation

Euronext has contracts with each of its post-trade providers that establish clear governance and service quality. Specifically, with respect to LCH SA a long-term contract has been signed between two entities, in addition to which Euronext holds 11.1% stake in LCH SA as well as a seat on the board of directors all of which help ensure a stable durable relationship. Euronext holds approximately 5% of Euroclear as well as membership on the board of directors ensuring that Euronext's is involved decision making at Euroclear.

Employees

Risk Identification and Description

Euronext is dependent on the experience and industry knowledge of management and other key staff to operate its business operations and execute its strategies.

Euronext recognises there is a shortage in the employment market for true specialists in a number of areas, such as in the information technology field and the field of operation of markets and particular product niches. In these areas, the Company competes for staff with a large number of other enterprises.

Potential Impacts on the Group

The Company's success depends in part upon its ability to continue to attract, develop and retain key staff members in a number of disciplines.

A loss of, or an inability to attract senior management or other key staff could have a material adverse effect on the business, results of operations, financial condition and cash flows.

Risk Control & Mitigation

To mitigate risk Euronext has established a Talent Acquisition and Talent Development policy in accordance with the strategic plan priorities. Shared processes and tools (HRIS) have been deployed across locations to consolidate a common framework on talent acquisition, assessment of skills and performance, training, compensation, and career mobilities.

To prevent the skills' shortage - specifically in the information technology field - Euronext partners with engineering and IT schools to co-develop projects and improve its visibility as an attractive employer. Euronext has also developed an "Early Career" programme to recruit and train students and recent graduates on the latest technologies and critical skills.

Euronext developed dedicated leadership programmes for the development of the managers and leaders of the organization. A Group training plan is rolled out to favor access to training on the core strategic skills to all employees through monthly sharing sessions and weeks dedicated to learning opened to all staff.

Moreover, Euronext carries out initiatives to favor the quality of life at work through its Wellnext programme with actions related to sport, nutrition and work-life balance and reinforces its ESG commitment internally and externally.

Health and Safety

Risk Identification and Description

The Company depends on secure premises to protect its staff and physical assets, as well as robust safeguards ensuring IT operations remain uninterrupted

Given the symbolic nature of the stock exchange, the Group may be subject to a direct or indirect target of protest and extremist organisations that employ means to achieve their social or political objectives. The Group is also subject to threats such as natural disasters and public health emergencies.

Potential Impacts on the Group

In the event of an attack or a threat of an attack as well as natural disasters or public health emergencies, the Group may experience a significant delay in resuming normal business operations which may negatively impact the reputation. In addition, the closing of the market would translate into a revenue loss.

According to the severity of the threat or incident may disrupt business operations, including markets disruption, harm staff and damage physical assets,

Covid-19

The Covid-19 epidemic is a risk that may impact the health of the Group employees and those of our business partners and subsequently the ability to run critical business operations.

Covid-19

The number of confirmed cases of COVID-19 is increasing. If the pandemic continues and results impact the health of employees, the Group may not have the human resource to manage the business.

Risk Control & Mitigation

Euronext has rigorous physical security arrangements in place in order to ensure the physical security of its staff and premises. The Group is supported by and liaise with local governments and police in its jurisdictions. The Group also monitors any potential security threats in its locations.

Euronext has robust Business Continuity Management arrangements in place in order to minimize the impact of disruptive events should they occur. These arrangements are reviewed and tested on a regular and ongoing basis and include staff testing and awareness, crisis management planning and testing as well as disaster recovery planning.

Covid-19

Euronext has a comprehensive Business Continuity program with related plans for all its locations and across the company, which are regularly tested, including work from home. A pandemic plan is part of this program, has been leveraged in the current COVID-19 situation, and additional measures have been added such as rotating teams for all staff members to reinforce separation of teams, to limit contamination, reinforced cleaning in all locations and currently curtailed travel and events.

Compliance Risk

Ownership and Intellectual Property

Risk Identification and Description

Euronext owns or licenses rights to a number of trademarks, service marks, trade names, copyrights, free or open source software and databases that are used in its business. There is a risk that this IP could be misappropriated by third parties. There is also a risk that during its business activities, Euronext could inadvertently infringe third party IP rights.

Potential Impacts on the Group

In the event that any of IP which Euronext owns is misappropriated by third parties, the value of that IP may be diminished in value as an asset, while some licencing or product revenues relating to this may also be diminished. Further, legal costs may be incurred and management time expended in order to protect and enforce those IP rights.

In the event that Euronext inadvertently infringes a third party's IP rights, management time may be expended in order to investigate such matters. Legal and/or other costs may also be incurred in seeking to resolve the matter.

Risk Control & Mitigation

Euronext takes measures to prevent infringement of its own IP rights, in addition to measures to ensure that it conducts its business activities in a manner which avoid inadvertently breach any third party-owned IP rights.

Euronext relies on a combination of trademark laws, copyright laws, trade secret protection, database laws, confidentiality agreements and other contractual arrangements with its affiliates, customers, strategic investors and others in order to protect its own IP rights. These contractual arrangements clarify and assert ownership of these rights and also require employees to maintain trade secrets and technical secrets.

In order to ensure that Euronext does not infringe on any third-party IP rights, it has process and procedures in place supported by the compliance team, including staff training and awareness. Furthermore, Euronext conducts internal reviews of the use of the third-party intellectual property in order to sure compliance and uphold its contractual commitments.

Potential litigation and Other Liabilities

Risk Identification and Description

Euronext operates in a highly regulated environment so many aspects of Euronext's business involve potential litigation risks. Other liability risks may arise under laws and regulations relating to insurance, tax, employee behavior, anti-money laundering, financial sanctions, foreign asset controls, data privacy and foreign corrupt practices areas. These risks include potential liability from disputes over terms of a securities trade or from claims that a system or operational failure or delay caused monetary losses to a customer, as well as potential liability from claims that the Group facilitated an unauthorised transaction or that it provided materially false or misleading statements in connection with a transaction. These risks also include potential liability from disputes as regard non-compliance by the Group to its data privacy obligations as controller or processor of personal data.

Potential Impacts on the Group

Euronext could be exposed to fines or sanctions from relevant regulators, and this may also result in significant reputational damage to Euronext. In addition, Euronext could incur significant legal expenses in defending claims, even those without merit. Any adverse resolution of any lawsuit or claim against the Group may require it to pay substantial damages or impose restrictions on how it conducts its business, any of which could have an effect on both the business and financial results, and the reputation of the Group.

Risk Control & Mitigation

In order to ensure that Euronext remains in compliance has taken a range of proactive preventative measures. Legal functions have been established at various locations to ensure coverage of all business lines and to ensure that local laws are respected. The legal department provides support to throughout all stages of various business projects, from embryonic stage to final delivery. With respect to vendors, the legal department has sought to put in place appropriate agreements (and where possible, uses model agreements) in order to adequately protect Euronext's position in relation to potential litigious matters.

In order to avoid litigation legal risks are identified, tracked and reported upon by leveraging the Euronext Group risk management framework. In addition, conduct risk is chiefly managed by way of Euronext imposing a wide range of policies and procedures on employees and enforcing these through regular training and monitoring, while an employee Code of Business Conduct sets out the principles of behaviour required of all Company employees and this is provided to all new joiners.

Risk Identification and Description

Market Risk

The Group is exposed to interest rate risk on both fixed-rate and floating rate financial assets and liabilities, including the fixed-rate bonds and the Revolving Credit Facility. The Group is exposed to foreign currency risk arising from the translation of assets and liabilities of subsidiaries with functional currencies other than the Euro.

Capital Risk

The Risk that the Group and its regulated entities do not comply with the regulatory requirements, including capital requirements, imposed by local regulation.

Liquidity Risk

The Group would be exposed to a liquidity risk in the case where its short-term liabilities become, at any date, higher than its cash, cash equivalents, short-term financial investments and available bank facilities and in the case where the Group is not able to refinance this liquidity deficit, for example, through new banking lines.

Credit Risk

The Group is exposed to credit risk in the event of a counterparty's default. The Group's exposure to credit risk arises from its operating activities (primarily trade receivables) and from its financing activities, including the investment of cash equivalents and short-term financial investments.

Potential Impacts on the Group

Market Risk

Unfavorable movements in interest rate could negatively impact the net financial income of the Group by increasing the cost of borrowing or refinancing, or reducing interest income. Fluctuations in non-Euro currencies particularly with respect to the NOK, USD and GBP may impact the income generated and the (regulatory) equity in these currencies when translated in EUR in the Consolidated Financial Statements.

Capital Risk

In the event that the Group or its regulated subsidiaries do not have sufficient regulatory capital, they may incur fines, which may negatively impact the Euronext brand and its reputation.

Liquidity Risk

In the event that the company fails to maintain a level of liquidity sufficient to cover its short term obligations, it will increase its default risk and potentially damage its creditworthiness and subsequently its reputation.

Credit Risk

The Group is exposed to credit risk from its operating activities (primarily trade receivables), from its financing activities, from the investment of its cash and cash equivalents and short-term financial investments and from derivatives contracted for hedging purposes.

Risk Control & Mitigation

Market Risk

Following the issuance of the fixed-rate bond (in 2018), the Group entered in a swap strategy to hedge the interest rate risk related to the bond. Following the issuance of the second bond (with 10Y maturity) in 2019 the Group has an exposure to interest rate risk. This interest rate risk is, however, deemed to be low as the Group is unlikely to refinance this bond at the early stage of its lifetime.

Most operating revenue and expenses in the various subsidiaries of the Group are denominated in the functional currency of each relevant subsidiary. The Group may use derivatives instruments designated as hedge of net investment or foreign denominated debt to manage its net Investment exposures. The decision to hedge the exposure is considered on a case by case basis since the Group is generally exposed to major, well established and liquid currencies. The Group would, by the same token, hedge transaction risk arising from cash flows paid or received in a currency different from the functional currency of the group contracting entity on a case by case basis.

Capital Risk

The Group has a policy that provides a framework to ensure that it maintains the required capital levels. In addition, each of the Group's subsidiaries that is an operator of a regulated market and subsidiaries that are investment firms are subject to regulatory capital requirements relating to their general financial soundness, which include certain minimum capital requirements. The Group ensures that each regulated subsidiary maintains sufficient level of capital and liquid assets in order to comply with the capital requirements.

Liquidity Risk

The Group's policy is to ensure that cash, cash equivalents and available bank facilities allow the Group to repay its financial liabilities at all maturities, even disregarding incoming cash flows generated by operational activities, excluding the related party loans granted by the Group's subsidiaries to its Parent.

Cash, cash equivalents and short-term financial investments are managed as a global treasury portfolio invested in non-speculative financial instruments, readily convertible to cash, such as bank balances, money market funds, overnight deposits, term deposits and other money market instruments, thus ensuring a very high level of liquidity available at any time.

Credit Risk

The Group limits its exposure to credit risk by rigorously selecting the counterparties with which it executes agreements. Most customers of the Group are leading financial institutions that are highly rated. Investments of cash and cash equivalents in bank current accounts and money market instruments, such as short-term fixed and floating rate interest deposits, are governed by rules aimed at reducing credit risk: maturity of deposits strictly depends on credit ratings, counterparties' credit ratings are permanently monitored and individual counterparty limits are reviewed on a regular basis. In addition to the intrinsic creditworthiness of counterparties, the Group's policies also prescribe the diversification of counterparties (banks, financial institutions, funds) so as to avoid a concentration of risk. Derivatives are negotiated with leading high-grade banks.

For further details on financial Risks Please refer to the Notes to the financial statements in particular Note 37 of this Universal Registration Document.

2.2 Control Structure

Risk Approach and Internal Control Objectives

Euronext is dedicated to building a pan-European market infrastructure and powering capital markets to finance the real economy, while delivering value to shareholders. In order to execute our ambitions Euronext is committed to preserving a balance between achieving our strategic ambitions and ensuring operational excellence. In order to achieve our ambitions and preserve favorable conditions for the Company to fulfill its mandate Euronext has adopted the Enterprise Risk Management (ERM) framework.

Enterprise Risk Management framework is designed and operated to identify potential events that may affect the Company, assess risk to be within the defined guidelines, manage the risk through control mechanisms, and monitor the risk to understand the evolution. Euronext embeds the risk management philosophy into the Company culture, in order to make risk and opportunity management a regular and everyday process for employees. The Supervisory Board and Managing Board regard ERM as a key management process to steer Euronext and enable management to effectively deal with risks and opportunities.

ERM Framework

The objectives and principles for the ERM process are set forth in the Company's ERM Policy. The ERM process is based on best practices regarding the Internal Control and Enterprise risk management, including the Committee of Sponsoring Organisations of the Treadway Commission ("COSO") initiative. It uses a bottom-up and top-down process to enable better management and transparency of risks and opportunities. At the top, the Supervisory Board and Managing Board discuss major risks and opportunities, related risk responses and opportunity capture as well as the status of the ERM process, including significant changes and planned improvements. The design of the ERM process seeks to ensure compliance with applicable laws and regulations with respect to internal control and risk management addressing both subjects in parallel.

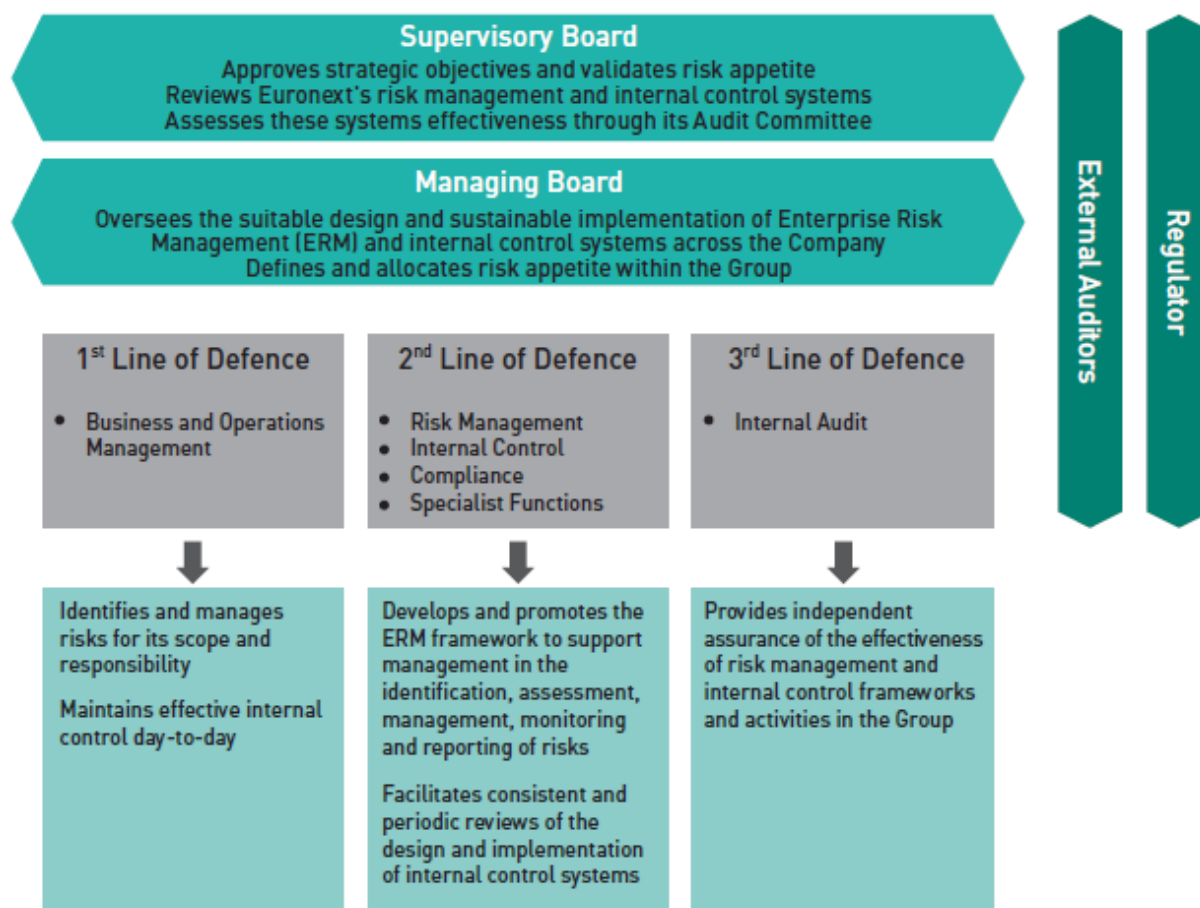
ERM Framework Governance

The ERM framework and governance is designed to allow the Managing Board and the Supervisory Board, as part of Euronext's business model¹, to identify and assess the Company's principal risks to enable strong decision making with regards to the execution of the stated strategy. Reporting is made and consolidated on a regular basis to support this process. The ERM also enables the Supervisory Board and Managing Board to maintain and attest to the effectiveness of the systems of internal control and risk management as set out in the Dutch Corporate Governance Code.

Governance Structure and related responsibilities for ERM process are as follows:

- the Supervisory Board, through the Audit Committee, supervises the effectiveness of the ERM system, including management actions to mitigate the risks inherent in the Group's business activities;
- the Group's Chief Executive Officer ("CEO"), backed by the Managing Board and supported by the Chief Financial Officer ("CFO") and the Chief Risk Officer ("CRO"), is responsible for an effective ERM system;
- the Group's CRO has primary responsibility for the ERM strategy, priorities, process design, culture development and related tools; the risk management organisation is structured cross-division, networked with risk owners on different organisation levels and drives a proactive risk management culture;
- the Group's CFO has primary responsibility for the controls over financial reporting and regulatory capital requirements;
- the senior management of the Company assume responsibility for the operation and monitoring of the ERM system in their respective areas of responsibility, including appropriate responses to reduce probability and impact of risk exposures and increase probability and impact of opportunities.

¹ For more information on Euronext activities see section 1.3.1 "Business Overview".



Euronext's internal risk management and control is a process executed by the Managing Board, management and other employee stakeholders. It is designed to provide reasonable assurance regarding the achieving of objectives in the following categories:

- effectiveness and efficiency of operations;
- reliability of financial and non-financial information;
- compliance with laws, regulations and internal policies;
- safeguarding of assets, and identification and management of liabilities; and
- strategic and business objectives.

No major failings were identified over the course of 2019 in the Risk and Internal Control Program. Euronext's first and second lines of defense perform their roles in risk assessments and reporting on risk management and control systems. The concluding results are reported in Group Risk Profile and discussed regularly at Managing Board meetings and with the Supervisory Board via the Audit Committee. Internal Audit, as the third line of defense, evaluates the design and effectiveness of Euronext's governance, as well as its risk management and control systems. Audit reports are discussed with risk and process owners. The Head of Internal Audit attends Managing Board meetings on a regular to discuss its findings and recommendations. In 2019, the evaluation of the adequacy of Euronext's internal risk management and control systems were discussed with the Audit Committee and Supervisory Board.

2.1.1 SECOND LINE OF DEFENCE

2.1.1.1 Risk Management

Risk Appetite is the level and nature of risk the business is willing to accept in achieving its strategic objectives. Risk appetite sets the basis for the requirements for monitoring and reporting on risk. Overall risk appetite is recommended by the Managing Board to the Supervisory Board as part of setting and implementing strategic and operational objectives.

Risk appetite is considered at an operational level and strategic level with quantitative and qualitative components. These components are used during the assessment process to develop the residual risks and support what is escalated to the Managing Board and Supervisory Board.

Overview Table of Principal Risk Categories and Corresponding Risk Appetite:

Strategic Risks	Operational Risks & Compliance Risks	Financial Risks
Risks related to business activities	Risks related to the day-to-day operations	

Risk appetite is defined the level and nature of risk the business is willing to accept in achieving its strategic objectives.

Euronext's overall risk appetite is defined by the Managing Board and approved by the Supervisory Board as part of setting and implementing strategic and operational objectives.

Euronext is willing to take risks in pursuit of its strategic objectives	Euronext has a low appetite for risks that may impact its core business; Euronext has a low appetite with respect to compliance risk.	Euronext is willing to take some financial risk, however aligned with the long term nature of the business and maintaining its investment grade profile and capital requirements.
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**For material risks related to the above categories please refer to the previous section of this Chapter.*

Risk Identification involves the identification of threats to the Company as well as causes of loss and potential disruptions. Risks are composed of the following categories:

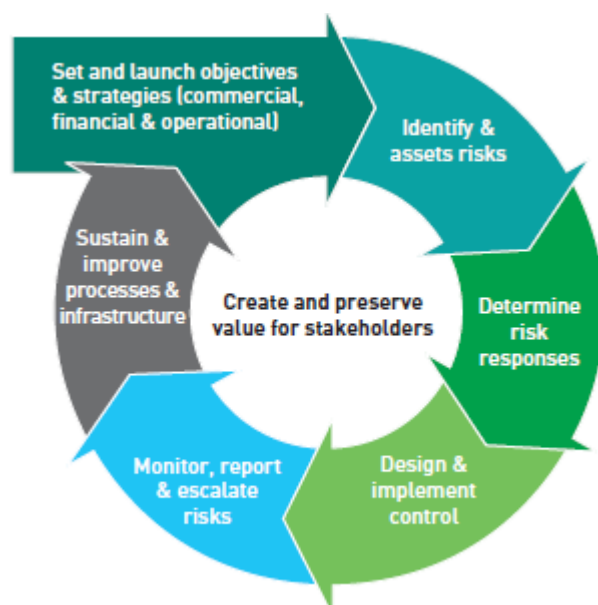
- **Strategic:** the effect of uncertainty on Euronext's strategic and business aims and objectives; risk of missed opportunities due to the method of execution decisions, inadequate resource allocation or failure to respond to changes in business development.
- **Operational:** the risk of loss or inefficiency resulting from inadequate or failed internal processes, people and systems, or from external events; key programmes or projects are not delivered effectively.
- **Compliance:** the risk of legal or regulatory sanctions, material financial loss, or loss of reputation which Euronext Could suffer as a result of its failure to comply with laws. risk of loss an organization faces when it fails to act in accordance with industry laws and regulations, internal policies or prescribed best practices.
- **Financial:** the risk of loss inherent in financing method which may impair the ability to provide adequate return; that cash flow will not be adequate to meet financial obligations.

An emphasis is put on operational risk due to the importance of operations and initiatives for Euronext.

Risk Assessment is made in the possible event of an incident or a potential risk development. It aims to assess the risk qualitatively and quantitatively where possible, using supporting information, such as performance indicators. This assessment, defining the residual risk level , takes into account mitigation measures currently in place such as business continuity measures or insurance policies. The overall Risk Assessment phase is carried out by the risk management team ("RMT") in conjunction with Risk Coordinators ("RCs") based on data and information produced by and collected from the relevant areas *via* the periodic and *ad hoc* reporting or upon request of the RMT as necessary. Assessments are discussed with the business areas. Mitigations for each risk will be identified, evaluated, and the residual risk will be assessed and reported.

Risk Management determines and implements the most appropriate treatment to the identified risks. It encompasses the following: avoidance, reduction, transfer and acceptance. Organizational units and employees perform risk management and implement mitigating actions as required by the risk appetite and escalation process. As noted, risks may remain after such management process is applied (see Risks section).

Risk Reporting – The Supervisory and Managing Boards and a Business Risk Group (BRG), made up of Senior Managers, are informed in a timely and consistent manner about material risks, whether existing or potential, and about related risk management measures in order to take appropriate action. Reports are issued to the above mentioned groups of the Company on a regular basis. *Ad hoc* reports may be issued when a new risk or the development of an existing risk warrants escalation to the relevant Committees of the Company.



Business Continuity Management - A component of efficient risk management is understanding that the identification of each risk that may be faced is an insurmountable task, therefore business continuity arrangements are necessary in order to respond to unforeseen events as quickly as possible, in the event of any disruption to our working environment. Effective Business Continuity Management and Disaster Recovery are vital in protecting and underpinning the reputation, efficiency, resilience and competitiveness of the Company, as well as the

Company's stakeholders. Business Continuity at Euronext is supported by the Business Continuity Steering Group and consists of representatives from the Company's major departments. Its role is to approve the Business Continuity & Disaster Recovery and Crisis Management policies and procedures and to provide guidance to the BCM team in the development of its function. The Business Continuity framework and its implementation at Euronext is based on internationally recognized business continuity principles including those developed by the Disaster Recovery Institute International (DRII), the International Organization for Standardization (ISO) and the Business Continuity Institute (BCI). Our Crisis Management framework includes escalation and communications rules, guidelines for action, and clearly defined roles and responsibilities.

In 2019, in addition to regular training, testing and exercises, work was undertaken to help improve, mature and embed Business Continuity at Euronext. In 2019 we saw maturing of the BCM program at Euronext through new and clear BCM reporting mechanisms and more maturing crisis management trainings.

Program Development – Euronext continues to drive improvements to its risk management process and the quality of risk information generation, while at the same time maintaining a simple and practical approach. The roadmap for 2018-19 for the ERM evolution included 3 key elements:

- embedding culture of risk management: Risk appetite discussions with the first line, key risk indicator discussions, ongoing training at various levels of the organization;
- involvement in key initiatives related to Optiq® technology platform, MiFID II compliance, Data Governance/GDPR and Agility for Growth initiatives;
- reporting/operation: ongoing risk appetite evolution, enhanced management reporting, impactful scenario analysis, risk tool implementation, further alignment of risk management and internal control approach for addressing risk and identifying controls.

The 2020-21 roadmap will continue with the topics above and will additionally focus on risk tool implementation, training program maturity and ongoing integration of new acquisitions.

Euronext seeks to continuously evaluate and improve the operating effectiveness of the ERM process.

2.1.1.2 Internal Control

Euronext has established a strong framework of internal control across its business areas and functions. This framework is based on ethical principles, established procedures and training of the key personnel who are responsible for implementing and overseeing it.

The internal control function as a second line of defence, aims at ensuring, in a permanent manner that identified risks are mitigated by controls, that controls are effective, documented and reported and that internal procedures exist and are updated on a regular basis.

2.1.1.3 Corporate Compliance – Code of Conduct and Ethics

Euronext is strongly committed to conducting its business with integrity, excellence and responsibility and to adhering to high standards of ethical conduct. Euronext's culture promotes accountability and responsibility and an open culture of dialogue and is bolstered by the corporate compliance department. The role of Corporate Compliance is to establish and maintain a first class compliance culture within the Company and to ensure that Euronext's business approach is in line with the highest ethical standards.

The Compliance department supports Euronext and its employees in complying with applicable laws and regulations and promotes ethical standards in accordance with good Corporate Governance. The Compliance department raises awareness among employees by articulating the responsibilities of the Company and its employees through policies and training and the monitoring of those policies and by providing a path for communication for employees. Compliance with applicable rules and principles and ethics is key to Euronext's success and it is the obligation of every employee to support this effort.

Euronext's Code of Conduct and Ethics sets and reaffirms Euronext's high standards of ethical conduct and reinforces its business ethics, policies and procedures. Compliance with the Code is required of all board members (Managing Board, Supervisory Board and any other board) and all employees including consultants, contractors and temporary employees. The Code of Business Conduct and Ethics, which is supplemented by nine corporate compliance policies, governs without exception all business activities of the Company. The Code of Business Conduct and Ethics is available on the Euronext website. The availability of the Code of Business Conduct and Ethics as well as the compliance policies at all times, in local languages on the Company intranet, in addition to general training and awareness sessions and communication targeting all Company employees as well as targeted training for employees in sensitive roles that require additional awareness and training determine the effectiveness of the Code. The Code of Business Conduct and Ethics is also supported by an external confidential reporting system that enables employees to report, in an anonymized manner should they choose, alleged breaches of a general, operational and financial nature. Relevant policy and procedures ensure that reporters in good faith are free to do so without fear of retaliation in accordance with the laws in the countries where Euronext operates. The Company protects anyone who reports an alleged breach of laws or company policies in good faith and ensures that they shall in no way be put at a disadvantage by the Company as a result of the report.

Guidelines and procedures are defined notably to ensure that anti-money laundering and sanctions, bribery and fraud and conflicts of interest concerns are managed and that business is always conducted in a fair manner. The Code of Business Conduct is linked to other internal compliance policies covering money laundering and sanctions, gifts meals and entertaining and prevention of bribery, persona trading and the prevention of fraud are maintained by the compliance department (for a complete list of internal compliance policies please refer to section 3.7 of this Universal Registration Document). Staff training and awareness sessions are conducted regularly in all company locations to promote compliance and ethics standards.

Finally, given the dual positions of Euronext as a market operator and a listed issuer on the Euronext markets, the Compliance department has imposed strict personal dealing rules and a conflicts of interest procedure to ensure that neither the staff nor the Company itself could take undue benefits from this situation.

Compliance processes are established as follows:



More information on Euronext's commitment to Ethics are provided in Chapter 3 of this Universal Registration Document

2.1.1.4 Chief Risk and Compliance Officer

The Chief Risk and Compliance Officer is appointed by the Managing Board, reports to the Chief Executive Officer and has a line of communication to the Audit Committee of the Supervisory Board. This reporting ensures the necessary independence of the Compliance department activities. Compliance Officers are located in countries where Euronext conducts its activities and are supported as necessary by local legal staff in order to benefit from the local expertise and knowledge of the local business and environment.

2.1.2 INTERNAL AUDIT – THIRD LINE OF DEFENSE

As a third line of defense, Internal Audit has no operational responsibilities over the entities/processes it reviews. The objectivity and organisational independence of the internal audit function is achieved through the Head of Internal Audit not performing operational management functions and reporting directly to the Chairman of the Audit Committee. He also has a dotted reporting line to the CEO.

Validated by the Audit Committee at least annually, the internal audit plan is developed based on prioritization of the audit universe using a risk-based methodology, including input of senior management.

For each audit, a formal report is issued and circulated. This includes recommendations for corrective actions with an implementation plan and the comments of the auditees. Implementation of accepted corrective actions is systematically followed up, documented and reported to the Audit Committee.

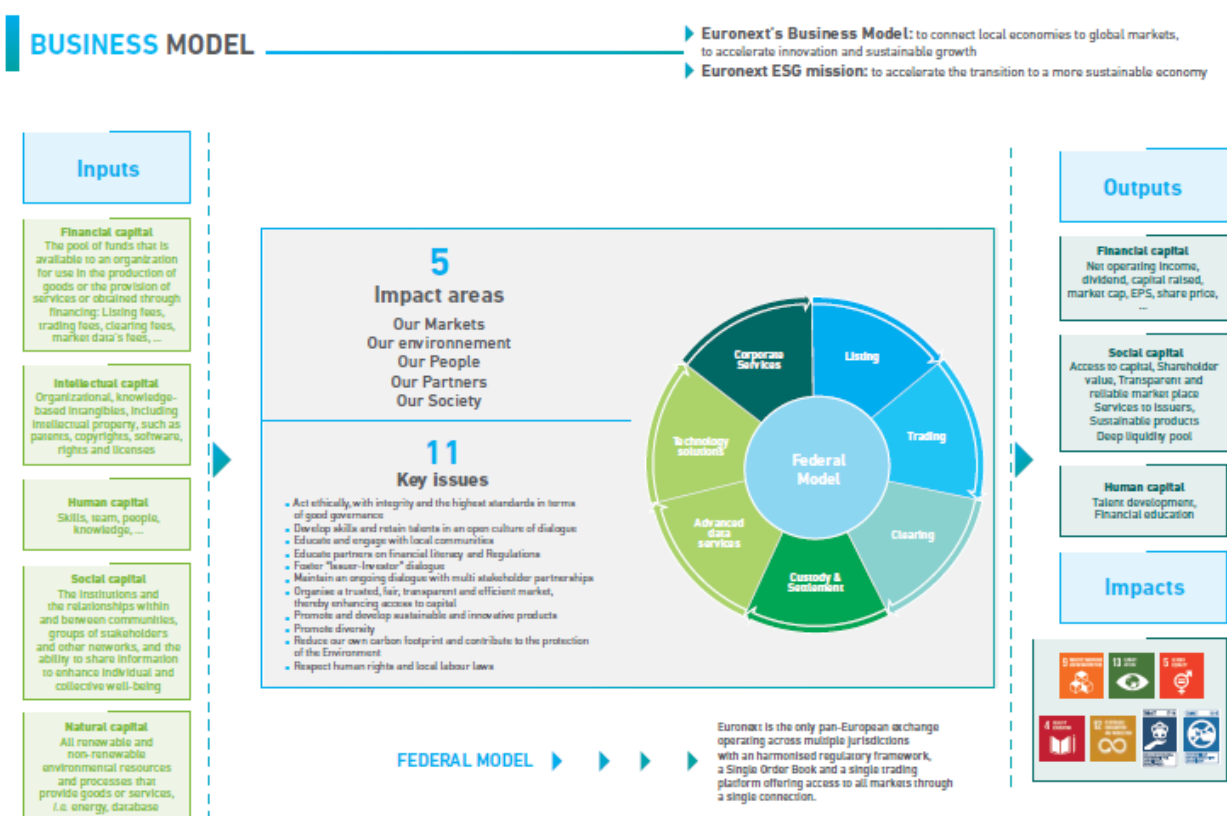
3 EURONEXT, A SUSTAINABLE EXCHANGE

3.1 VALUE CREATION BY EURONEXT

Euronext is a pan-European exchange group offering a diverse range of products and services and combining transparent and efficient equity, fixed income securities and derivatives markets in Amsterdam, Brussels, Dublin, Lisbon, London, Oslo and Paris. Euronext's businesses comprise listing, cash trading, derivatives trading, FX trading, investor services, advanced data services, post-trade and technologies and other corporate services.

The purpose of every company is to create sustainable value for shareholders and stakeholders. Euronext Value creation model has been developed according to the IRCC Framework. It shows how the company uses the resources, capabilities and expertise at its disposal to create value. The model transforms the different capital inputs into value outputs and impacts that over the short, medium and long-term create value for the company, our stakeholders and the society at large.

The Euronext's inputs are financial, intellectual, human, social and natural. With those inputs Euronext brings value for its different stakeholders by connecting local economies to global markets, accelerating innovation and sustainable growth and accelerating the transition to a more sustainable economy. Euronext gives companies access to capital through IPO, through increase of capital or through the debt route. It allows investors to get returns either by way of capital appreciation (growth) or timely income (dividends). It facilitates not only domestic investments but also bring in foreign money which is used for further development and growth. It also promotes an environment that encourages collaborative work, learning and innovation for all its employees.



Competitive environment

On the corporate listing side, competition between exchanges for domestic issuers is rare. When a domestic issuer lists on another exchange, it tends to be on a sector specific market rather than on another European stock exchange, in particular in respect of global companies and SMEs in the technology sector. As part of its Agility for Growth strategy, Euronext strives to attract issuers from new markets: Germany, Switzerland, Italy and Spain and therefore will face the competition of local market operators. Euronext has offices in four European cities outside its core markets – in Munich (Germany), in Milan (Italy), in Madrid (Spain) and in Zurich (Switzerland) – to assist Tech companies in developing their business on a greater scale through capital markets. Euronext has welcomed 16 companies from those countries in 2019 on its markets, with a combined market capitalization of close to €1 billion. More than 40% of the 132 TechShare participants were issued from those countries..

While competition in the cash trading market is relatively mature, in recent years Euronext has faced increased pressure on pricing and market share in equity options trading, in particular from new entrants to the market that have fee structures that are significantly lower than the Company's fee structure and a reduced cost structure aligned with their narrower service offering. However, Euronext remained the largest liquidity pool in Europe, with a market share on its cash equity markets above 60%.

The competition for proprietary real-time market data is still limited as trading participants prefer to receive and use market data from the home exchange rather than using substitute pricing. However, Euronext is experiencing an increasing pressure, both from a regulatory (MiFID II) and competitive perspective (alternative trading platforms, including MTFs such as CBOE who focus on the most liquid blue chip stocks). Nevertheless, Euronext believes that diversity in a wide range of stocks is Euronext's strength in this increasingly competitive environment and will help Euronext retain its position as preferred data source.

In less time critical areas such as reference data – and particularly corporate actions and historical data – participants want a consolidated European feed from a single source. Euronext is not the only source of corporate actions or historical data so there is more competition in these areas.

As for market operator technology, the market for financial information technology is intensely competitive and characterised by rapidly changing technology and new entrants. Euronext has built the next generation trading platform, Optiq®, and is well positioned to benefit from its state-of-the art stability and latency.

For more information on the competition, see section 1.1.3. "Business Environment"

Long term value for all our stakeholders

Euronext ESG mission and ambition

The world is facing significant challenges in ensuring a sustainable future for our people and our planet. Many national and international initiatives are addressing these challenges. Every organisation will have to play its own role in the transition to a sustainable society, depending on its impact and its opportunities.

The finance sector can be an important contributor to the global sustainability agenda and can promote sustainable finance, by incorporating environmental, social and governance (ESG) factors into investment decision-making, and by supporting the allocation of capital to sustainable initiatives.

Euronext has a special position in the financial ecosystem. It serves the real economy by bringing together buyers and sellers in high integrity trading venues that are transparent, efficient and reliable. In this key role Euronext has a responsibility vis-à-vis the whole finance community to contribute to the financial stability and the sustainable agenda in the countries in which it operates (see Euronext's value creation model on the integration presentation). As a key market infrastructure, at the heart of the financial ecosystem, Euronext will support the acceleration of the transition towards sustainable growth and finance, notably by capitalizing on Oslo Børs VPS's expertise and the Group's franchise in green bonds and ESG indices.

In 2019, Euronext has decided to make sustainable finance a key pillar of its strategy "Lets' grow together" with a strong commitment to participate to the SDG's (see below). For more details on the strategy, please refer to section 1.2

The Euronext ESG ambition is to finance local and global real economy in its transition towards a sustainable society by

- Driving investment in innovative, sustainable products and services through secure and transparent markets, in continuous collaboration with the financial community,
- Inspiring and promoting sustainable tangible practices within the company and towards our communities, by respecting and developing our people and by supporting our ecosystem.

This dual ambition is fully aligned with the Action Plan on Financing Sustainable Growth launched by the European Commission in 2018 and with the Green deal presented by the European Commission in December 2019.

Stakeholder expectations and Materiality analysis

As a first step towards the creation of a Euronext ESG strategy, Euronext launched, beginning of 2019, a pan-European stakeholder consultation process to identify the ESG related issues that its stakeholders believe should be its main areas of attention and effort. Euronext has had the feedback from a wide selection of its stakeholders, especially investors, analysts and issuers, providing valuable insights.

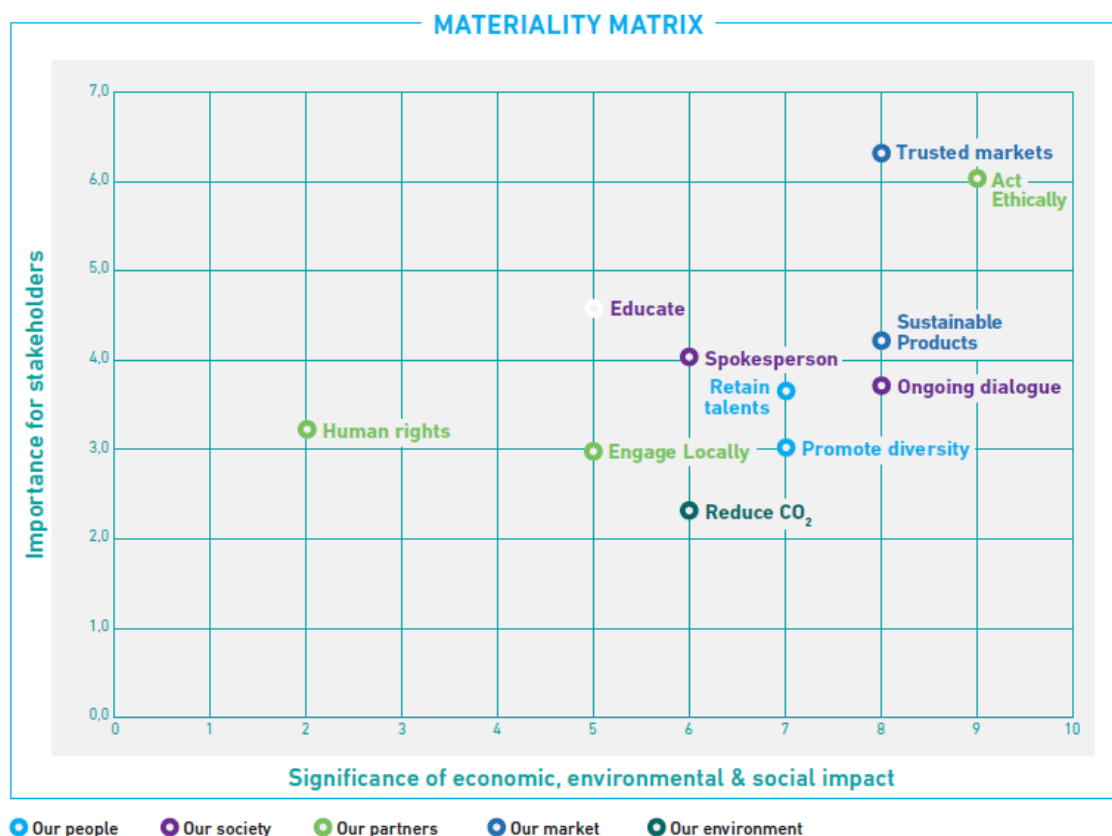
On the basis of the results Euronext has performed a materiality analysis, defining the key issues where Euronext can have the most impact on the economy, society and environment, and that most influence the decision-making of its stakeholders. Euronext's stakeholders recognise that Euronext plays a role in ESG from different angles: Euronext as a representative of the capital market ecosystem, Euronext as a business providing relevant products and as a corporate actor. In each of these roles, Euronext has different responsibilities. On the basis of the feedback received from the stakeholders Euronext has identified 11 key issues, that were grouped them into 5 material impact areas, consistent with the Euronext dual ESG ambition.

In 2019, Euronext has decided to make sustainable finance a key pillar of its strategy with a strong commitment to participate to the SDG's (see below).

KEY ISSUES	MATERIAL IMPACT AREA	DUAL AMBITION
<ul style="list-style-type: none"> ▪ Be the spokesperson of the sector and foster "Issuer-Investor" dialogue ▪ Maintain an ongoing dialogue with multi-stakeholder partnerships ▪ Educate our partners on financial literacy and regulations 	Our Partners	Driving investment in innovative, sustainable products and services

<ul style="list-style-type: none"> Organise a trusted, fair, transparent and efficient market, thereby enhancing access to capital Promote and develop sustainable and innovative products with environmental (green and blue) or social added value 	Our Markets	through secure and transparent markets, in continuous collaboration with the financial community
<ul style="list-style-type: none"> Reduce our own carbon footprint and contribute to the protection of the environment 	Our Environment	Inspiring and promoting sustainable tangible practices within the company and towards our communities, by respecting and developing our people and by supporting our ecosystem.
<ul style="list-style-type: none"> Develop skills and retain talents in an open culture of dialogue Promote diversity Respect human rights and local labour laws 	Our People	
<ul style="list-style-type: none"> Act ethically, with integrity and the highest standards in terms of good governance Educate and engage with our local Community 	Our Society	

At the end of the year 2019, the internal and external stakeholders were invited to prioritise the 11 key issues – labelled under the 5 material impact areas – and the results can be found in the chart below with a double materiality perspective; in terms of their influence on the company's stakeholders and the significance for Euronext's ESG impact.



ESG Governance

The General Counsel, part of the Group's extended Managing Board, is in charge of coordinating ESG at the Group level, making sure that all relevant departments integrate the ESG objectives into their missions. The General Counsel ensures that ESG initiatives, impacts and challenges are high on the agenda of the Group's Managing Board and Supervisory Board, and that the company reports on ESG related topics in a transparent way. The Managing Board and the Supervisory Board have fully endorsed ESG as part of the Euronext strategy going forward.

A ESG Task Force has been created to support the General Counsel. The Task Force currently consists of global champions of the impact areas set out in paragraph 3 below, which are in their turn supported by local ESG representatives. The Task Force works in close cooperation with the business to develop new initiatives aligned with the Group Strategic Plan, and with the communication and investor relations teams.

Moreover, since the introduction of the new Strategic Plan "Let's grow together 2020", all ESG initiatives are captured by the Strategic Plan Transformation Office, which monitors the progress of the whole strategic plan of the group, reports regularly on these progresses to the Managing Board and the Supervisory Board and, in this context, has regular update meetings with the General Counsel and the ESG Task Force. All significant new ESG related projects are submitted for approval to the Managing Board. The most recent examples are the Green Bond Offering, the company wide Carbon Footprint analysis and the launch of the ESG reporting Guidelines. For more information on the role of the Supervisory Board and the Managing Board, please refer to sections 4.2.2 and 4.2.3 of this Universal Registration Document

Transparency and reporting

Creating transparency by businesses on their diversity and sustainability efforts is vital in order to identify sustainability risks, and to enable us to manage change towards a sustainable global economy by combining long-term profitability with social justice and environmental protection. In this context, disclosure of non-financial information helps the measuring, monitoring and managing of undertakings' performance and their impact on society.

Also, shareholders and other stakeholders are more and more interested in diversity and non-financial information in order to have a meaningful, comprehensive understanding of a company's development, performance, position and impact of its activity. They thoroughly analyze this information in their investment-decision process. In this context, disclosure of non-financial information helps increasing investor and consumer trust.

European Directive

The European Parliament acknowledged the importance of this transparency, and, in this context, the European Directive 2014/95/UE dated 22 October 2014 imposes to public-interest entities which are large undertakings with more than 500 employees to publish non-financial information including information on environmental, social and employee matters, diversity, respect for human rights and on anti-corruption and bribery matters.

This chapter describes the sustainability vision of Euronext, and how Euronext fulfils the requirements of the Directive, which has been fully implemented in The Netherlands by a Decree dated 29 August 2017 on disclosure of non-financial information ("Besluit inhoud bestuursverslag").

A 2019 reference table with the European directive may be found on the Euronext website.

GRI Standards

Moreover Euronext decided to follow the standards developed by the Global Reporting Initiative (GRI). This report has been prepared in accordance with the GRI (core option).

The GRI Standards are the most widely used global standards for sustainability reporting. They feature a modular, interrelated structure, and represent the global best practice for reporting on a range of economic, environmental and social impacts. They consist of a set of 36 interrelated standards, and are designed for flexibility to meet a range of sustainability reporting needs. A GRI Index may be found on Euronext website.

Transparency Benchmark

In addition Euronext, as a Dutch listed company, has closely followed the criteria of the Transparency Benchmark 2019, initiated by the Dutch Minister of Economic Affairs and Climate.

TCFD Guidelines

The Task Force established by the Financial Stability Board ("FSB"), developed voluntary recommendations on climate-related information that companies and organisations should disclose to help investors, lenders, and others make sound financial decisions. Structured around four thematic areas – Governance, Strategy, Risk Management and Metrics & Targets – the TCFD Recommendations provide a framework for companies to respond to the increasing demand for transparency on climate-related risks and opportunities from investors. Euronext has endorsed these recommendations and is working on further implementation in its reporting.

Sustainable development Goals

As an Official Partner of the Sustainable Stock Exchange Initiative (SSE)¹, Euronext firmly commits to the UN's "2030 Agenda for Sustainable Development" and thereby to the 17 Sustainable Development Goals (SDGs), which were adopted in September 2015. The Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030. They define global sustainable development priorities and aspirations for 2030 and seek to mobilize global efforts around a common set of goals and targets. The SDGs call for worldwide action among governments, business and civil society to end poverty and create a life of dignity and opportunity for all, within the boundaries of the planet. They explicitly call on all businesses to apply their creativity and innovation to solve sustainable development challenges. The SDGs have been agreed by all governments, yet their success relies heavily on action and collaboration by all actors.

In order to make our ESG approach more transparent and to put it into a global context, we have defined where the 5 Euronext ESG impact areas set out in paragraph 3 connect with the globally agreed SDG's. To this effect we have selected the SDG's that are most relevant per impact area. We believe that out of the 17 global goals, Euronext contributes to the 7 following SDG's²:



3.2 EURONEXT'S FIVE ESG IMPACT AREAS AND THE SUSTAINABLE DEVELOPMENT GOALS

¹ "SDG's - What do they mean for stock exchanges?", Sustainable Stock Exchanges - <https://sseinitiative.org/ourwork/sdgs/>

² Euronext decides to add SDG's 4.4 and 16.5 to the ones chosen by SSE: Gender Equality (Goal 5) Sustainability Information (Goal 12) Climate Change (Goal 13) Global Partnerships (Goal 17).

Euronext has identified 11 ESG key issues, that were grouped them into 5 material impact areas, consistent with the Euronext dual ESG ambition and those impact areas will also serve as the format of this chapter. We have indicated how we believe in each of these impact areas, we contribute to the identified SDG's.

3.2.1 Our markets

Key Issues: <ul style="list-style-type: none"> Organise a trusted, fair, transparent and efficient market, thereby enhancing access to capital Promote and develop sustainable and innovative products with environmental (green and blue) or social added value 		
	<p>Take urgent action to combat climate change and its impacts.</p> <p>Target 13.3: Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning</p>	
	<p>As a stock exchange, Euronext can play a leading role in creating climate resilient markets by offering related financial products as well as by encouraging or requiring climate disclosure in this area.</p>	
		<p>Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p> <p>Target 9.3: Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets</p> <p>As a stock exchange Euronext can contribute to the increase of access of small-scale industrial and other enterprises, to financial services</p>

3.2.1.1 Trusted, Fair and Orderly Markets

As an operator of regulated markets, Euronext's mission is to bring together buyers and sellers in venues that are transparent, efficient and reliable.

To this end, Euronext:

- adopts rules for each of its markets to ensure fair and orderly trading and efficient order execution;
- sets up a framework to organise market monitoring by which it monitors trading in order to identify breaches of the rules, disorderly trading conditions or conduct that may involve market abuse;
- reports breaches of rules or of legal obligations relating to market integrity to the competent authority. Market surveillance and monitoring are implemented through a two-step process consisting of real-time market surveillance and post-trade (*i.e.*, "next day") analysis of executed trades. Euronext ensures member compliance with its rules by conducting on-site investigations and inspections;
- invests in technology aiming at improve its monitoring.

Euronext's team has a mission to bring innovation and agility to the markets. Since Euronext's IPO in June 2014, Euronext has focused on researching and developing new products together with its client community. These new products are now beginning to come to market and Euronext is excited about expanding its capabilities and making its business work better for Euronext's customers.

Part of Euronext's role in maintaining trusted, fair and orderly markets includes ensuring the security of those markets. The growth in the digitalization of the finance industry over the last years has revolutionized the sector. This transformation means that an increasing number of financial services are becoming available to more and more people at an ever increasing pace. Euronext has grown and continues to thrive with these changes *via* increased storage and processing power enabling us to grow in complexity and size. With increased size and access comes potential liabilities, however Euronext through Infosec Management and Cybersecurity governance has security controls in place in order to protect our markets from unwanted activity.

Euronext management has a strong commitment to upholding the security of our markets. Management oversees the information security/cybersecurity strategy and review process as well as annual plans, ensuring that the program stays current with the evolving environment and to avoid and treat potential negative impacts to Euronext. For further information of cybersecurity risks please refer to the risk chapter of this Universal Registration Document.

3.2.1.2 Promote and develop sustainable and innovative products with environmental (green and blue) or social added value

Euronext has developed sustainable products and services with environmental added value. In addition it has put a strong focus on reducing its own footprint. In this chapter we describe the various initiatives through which we show our commitment to the transition to a sustainable society.

Euronext continues to grow the range of its ESG products that are offered on our exchanges. Euronext started its first ESG product offering over a decade ago with the Low Carbon 100 Europe Index and has continued to increase the number of ESG indices as well as diversify the ESG product offering to socially responsible ETFs, Green Bonds, and specific commodity futures. Below is a discussion of the wide-range of ESG products offered by Euronext.

A. Sustainable Products

A.1. Sustainable Indices

Euronext ESG Indices are designed to support common approaches to environmental, social and governance (ESG) investing. Euronext

ESG indices are based on a fully transparent and rules-based selection process and measures risk and performance across a variety of Environmental, Social and Governance (ESG) areas.

In 2018; the percentage of ESG Indices versus total indices created was 56% and this figure went up to 82% in 2019, Euronext being the leading index provider of customized ESG indices in Europe in 2019 (based on Sales Volumes)¹

As a stock exchange committed to sustainability, Euronext will continue to extend over 2020 its ESG index offering thanks to its partners expertise: Vigeo Eiris, CDP, Carbone 4,GRESB and ISS-Oekom.

A.1.1. Euronext Vigeo Eiris Family of Indices

Euronext entered into a cooperation agreement with Vigeo Eiris in March 2013. Vigeo Eiris is the leading European expert in the assessment of companies and organisations with regard to their practices and performance on environmental, social and governance ("ESG") issues. Several families of indices have been created in.

a) Euronext Vigeo Eiris Indices

Launched in 2013, this family is composed of seven indices (Euronext Vigeo Eiris World 120, Euronext Vigeo Eiris Europe 120, Euronext Vigeo Eiris Eurozone 120, Euronext Vigeo Eiris US 50, Euronext Vigeo Eiris France 20, Euronext Vigeo Eiris United Kingdom 20 and Euronext Vigeo Eiris Benelux 20), whose components are reviewed and updated twice a year. Euronext Vigeo indices are composed of the highest-ranking listed companies as evaluated by the Vigeo-Eiris agency in term of their performance in corporate responsibility. Companies weights are calculated accordingly to their respective Equitics scores. The weighting of each component at the review date reflects the score of the Company divided by the total sum of the scores of all components.

b) CAC 40 Governance Index

Launched in February 2017, the CAC 40 Governance Index measures the performance of the CAC 40 members weighted according to their respective Vigeo Eiris governance rating. The Corporate Governance structure specifies the distribution of rights and responsibilities among the different participants in the organisation – such as the board, managers, shareholders and other stakeholders – and lays down the rules and procedures for decision making (ECB annual report 2004). According to the Organisation for Economic Co-operation and Development ("OECD"), there are several benefits resulting from a good Corporate Governance. Utilizing its teams' expertise and its unique and well-regarded methodologies, Vigeo Eiris rating provides Euronext with a Corporate Governance score for each stock of the CAC 40 index.

c) Euronext ESG Leaders Family of Indices

Launched over the last 2 years, these indices measure the performance of the top performing companies in the ESG/Energy transition field, with regards to their respective Vigeo Eiris rating.

The first set of indices covers Eurozone/US, Europe, Eurozone and France and the selection is made by taking the most sustainable companies with regard to their practices and performance on environmental, social and governance ("ESG", "SG" or "E") issues:

- Euronext France ESG Leaders 40 EW;
- Euronext Eurozone ESG Leaders 40 EW;
- Euronext Europe Sustainable 100 EW;
- SBF Top 50 ESG EW;
- Euronext Euro 50 ESG EW;
- Euronext Eurozone 100 ESG.
- Euronext Transatlantic ESG Leaders 60 EW
- Euronext Euro 50 Social Governance EW
- Euronext Green Planet E.

The second set of indices covers Eurozone and France. The selection is made by taking the companies with the best Energy Transition Performance scores. The Energy Transition Performance is a forward-looking approach that analyses a company's capacity to adapt their business model and manage sector-specific risks and opportunities related to the transition to a low-carbon economy:

- Euronext France Energy Transition Leaders 40 EW;
- Euronext Eurozone Energy Transition Leaders 50 EW.

A.1.2. Euronext Carbone 4 Family of Indices

a) Low Carbon 100 Europe Index - the First One

In 2008, Euronext was the first exchange to launch a pan-European index focusing on CO2 emissions, designed with the support from a group of international experts and in close collaboration with Non-Governmental Organisations. The index measures the performance of Europe's 100 largest blue chips with the lowest CO2 emissions in their respective sectors or sub-sectors. Today, the index is an underlying for an ETF.

In November 2015, Euronext announced a major change in the methodology used for its Low Carbon 100 Europe Index, revolutionizing the traditional approach to assess companies' CO2 emissions. This new method is based on a more efficient means of measuring the energy performance of businesses. The new version of the index, designed with Carbone 4 and Carbon Disclosure Project ("CDP"), the leading consulting firm specialised in carbon strategy, is based on a more in depth and relevant assessment of each company's carbon footprint.

This identifies, for the first time, businesses making a positive contribution to the transition process-not only through their own day to-day

performance, but also through the products they sell. Selection of the companies will also reflect the emissions avoided because of their innovative approach to products and services.

In June 2018, the Steering Committee approved to change the methodology of the Low Carbon 100 Europe Index to exclude companies with a fossil fuel activity. The companies involved in the following activities will be excluded from the index by the Expert Committee at the reviews:

- companies with fossil fuel reserves;
- companies searching, collecting, treating, refining or transporting coal, oil or gas;
- utilities using fossil fuels to produce electricity.

In June 2019, the Steering Committee approved to change the methodology of the Low Carbon 100 Europe Index in order to keep it a step ahead:

- Maintain a Green pocket at 5% (with a positive trajectory)
- Remove companies involved in fossil fuel activities,
- Creation of a Climate score,
- Inclusion of Social and Governance criteria in the screening (based on Vigeo Eiris scores),
- Removal of the companies at risk with or breaching the principles of the United Nation Global Compact.

Finally, the Steering Committee has approved to exclude as from March 2020, Oil Equipment & Services.

In November 2019, the BNP Paribas Easy Low Carbon 100 Europe ETF tracking the Low Carbon 100 Europe Index received the Febelfin sustainability label.

b) Euronext Climate Europe Indices

Launched in 2016, the Euronext Climate Europe is a free float market cap index designed to be a low carbon Universe. Composed of 200 large companies based on their climate score. It paves the way to many climate friendly innovative variants (high yields, low risk, growth...). These indices are well established with several Structured Products linked to the index.

To perform this best in class approach, Euronext calculates a climate score by combining the scores of two cutting-edge experts, Carbone 4 and the Carbon Disclosure Project ("CDP"). Carbone 4 assesses the Company's impact on climate change and its contribution to reduced Green House Gas ("GHG") emissions, while taking into account induced and avoided emissions and the forward-looking analysis. The CDP performance score assesses the level of action taken on climate change in term of mitigation, adaptation and transparency.

Several indices have been derived over 2017 around this Euronext Climate Euronext Index for investment purpose: The Euronext Climate Orientation Priority index and Euronext Climate Objective 50 EW index and the Euronext Climate Objective 50 Euro EW (2018).

A.1.3. Euronext CDP Family of Indices

Launched in 2018 and 2019, these indices measure the performance of the top performing companies from a broad universe (World, Eurozone or France) in the environmental fields, with regards to their respective CDP rating. CDP gives a score to the companies in the universe based on three different themes, forests, water and climate. The companies that form the index universe are ranked on their environmental score and the highest ranking companies will be selected in the indices.

A similar family of indices that screens the universe on Social and Governance scores was launched in 2019.

A.1.4. Euronext OEKOM Family of Indices

a) Euronext Responsible Investment Indices

Launched in 2018, the Euronext Responsible Investment indices are composed of the best companies in terms of Mirova/ISS-Oekom Sustainability score. The Mirova/ISS-Oekom Sustainability score is based on the qualitative opportunities assessment and risk review score.

b) Euronext Water and Ocean Europe 40 EW

Launched in 2019, the index consists of the 40 best companies from Europe (trading EUR, DKK, SEK or NOK) in term of Water & Ocean performance score, as evaluated by ISS-Oekom.

A.1.5. Euronext Reitsmarket GRESB Index

Launched in 2018, the Euronext Reitsmarket GRESB Global Sustainable Indices are designed to track specific factor trends in listed sustainable real estate securities worldwide through a risk-optimized portfolio of global real estate securities. The Index includes exclusively real estate securities that are part of the Sustainable Investment Universe as determined by GRESB.

List of all the Euronext ESG Indices

Launch Date	Name	Nr of components	Currency
2008	Low Carbon 100 Europe Index	100	EUR
2013	Euronext Vigeo Benelux 20 Index	20	EUR
2013	Euronext Vigeo Euro 120 Index	120	EUR
2013	Euronext Vigeo Europe 120 Index	120	EUR
2013	Euronext Vigeo France 20 Index	20	EUR
2013	Euronext Vigeo UK 20 Index	20	GBX

2016	Euronext Climate Europe	200	EUR
2017	CAC 40 Governance	40	EUR
2017	EN Climate Orientation Priority 50 EW	50	EUR
2017	Euronext Climate Objective 50 EW	50	EUR
2018	Euronext France ESG Leaders 40 EW	40	EUR
2018	Euronext France Energy Transition Leaders 40 EW	40	EUR
2018	Euronext Eurozone ESG Leaders 40 EW	40	EUR
2018	Euronext Eurozone Energy Transition Leaders 50 EW	50	EUR
2018	Euronext Europe Sustainable 100 EW	100	EUR
2018	Euronext France 40 Responsible Investment	40	EUR
2018	CAC Large 60 Responsible Investment SW	60	EUR
2018	Euronext Responsible Investment Euro 50 EW	50	EUR
2018	Euronext CDP Environment France EW	40	EUR
2018	Euronext CDP Environment France Ex Oil & Gas EW	40	EUR
2018	Euronext Reitsmarket GRESB Global Sustainable Index	30	EUR
2018	Euronext Eurozone 100 ESG	100	EUR
2018	Euronext Euro 50 ESG EW	50	EUR
2018	Euronext Climate Objective 50 Euro EW	50	EUR
2018	Euronext BeNe ESG Leaders 20	20	EUR
2018	Euronext Core Europe 30 ESG EW	30	EUR
2018	Euronext Core Europe 100 ESG EW	100	EUR
2018	SBF Top 50 ESG EW	50	EUR
2019	Euronext Euro 50 Social Governance EW	50	EUR
2019	Euronext CDP Environment World EW	40	EUR
2019	Euronext CDP Environment ESG World EW	40	EUR
2019	Euronext CDP Environment Eurozone EW	50	EUR
2019	Euronext CDP Environment ESG Eurozone EW	50	EUR
2019	Euronext CDP Environment ESG France EW	40	EUR
2019	Euronext Transatlantic ESG Leaders 60 EW	60	EUR
2019	Euronext Water and Ocean Europe 40 EW	40	EUR
2019	Euronext® Green Planet E	50	EUR

A.2. ESG ETF Accessible on the Euronext Markets

ESG ETFs that follow companies engaged with ESG friendly initiatives are beginning to gain in popularity.

The sustainable investing theme has quickly gained momentum and assets related to it are growing on Euronext.

18 new ESG ETF were listed on our markets in 2019, with a combined €4.5 billion in assets. Currently, there are 51 ESG-related ETFs with €24.5 billion in assets under management.

List of all the Euronext ESG ETF's

ETF Name	Underlying Index	Total Assets (€m)
AMUNDI INDEX EQUITY GLOBAL LOW CARBON - UCITS ETF	MSCI World Low Carbon Leaders	1 214,8
AMUNDI INDEX EQUITY GLOBAL LOW CARBON - UCITS ETF	MSCI World Low Carbon Leaders	1 214,8
AMUNDI INDEX EURO AGG CORPORATE SRI UCITS ETF DR	Barclays Euro Aggregate Corpor	919,9
AMUNDI INDEX EURO CORPORATE SRI 0-3Y-UCITS ETF DR	BBG Bclys MSCI Eur CRP ESG BB+	196,6
AMUNDI INDEX MSCI EMERGING MARKETS SRI UCITS ETF DR	MSCI EM SRI 5% Capped	122,3
AMUNDI INDEX MSCI EUROPE SRI UCITS ETF DR	MSCI Europe SRI 5% Capped	412,6
AMUNDI INDEX MSCI USA SRI UCITS ETF DR	MSCI USA SRI 5% Capped	144,5

AMUNDI INDEX MSCI WORLD SRI UCITS ETF DR	MSCI World SRI 5% Capped	299,4
AMUNDI INDEX US CORP SRI UCITS ETF DR - USD (C)	BBG Barclays MSCI US Corp SRI	525,8
BNP PARIBAS EASY € CORP BOND SRI FOSSIL FREE 1-3Y UCITS ETF DISTRIBUTION	BBG Barclays MSCI €corpSRI 1-3	263,3
BNP PARIBAS EASY € CORP BOND SRI FOSSIL FREE 3-5Y UCITS ETF DISTRIBUTION	BBG Barclays MSCI €CorpSRI 3-5	63,3
BNP PARIBAS EASY ECPI CIRCULAR ECONOMY LEADERS	ECPI Circular Economy	32,7
BNP PARIBAS EASY EURO CORP BOND SRI FOSSIL FREE	BBG-Barclays MSCI Eur corp SRI	278,0
BNP Paribas Easy MSCI Emerging SRI S-Series 5% Capped	MSCI Emerg SRI S-Series 5%Cap	750,2
BNP PARIBAS EASY MSCI EMU SRI S-SERIES 5% CAPPED UCITS ETF	MSCI EMU SRI S-Series 5% CAPPE	257,0
BNP Paribas Easy MSCI Europe SRI S-Series 5% Capped	MSCI Europe SRI S-Series 5%Cap	764,3
BNP Paribas Easy MSCI Japan SRI S-Series 5% Capped	MSCI Japan SRI S-Series 5%Cap	443,2
BNP Paribas Easy MSCI USA SRI S-Series 5% Capped	MSCI USA SRI S-Series 5%Cap	1 157,1
BNP Paribas Easy MSCI World SRI S-Series 5% Capped	MSCI World SRI S-Series 5%Cap	214,3
BNPPEASY LOW CARBON UCITSETF	Low Carbon Europe NTR	767,3
INDEXIQ FACTORS SUSTAINABLE CORPORATE EURO BOND UCITS ETF	Solactive Candriam EU CORP SRI	64,1
INDEXIQ FACTORS SUSTAINABLE EMU EQUITY UCITS ETF	Solactive Candriam EMU SRI	34,7
INDEXIQ FACTORS SUSTAINABLE EUROPE EQUITY UCITS ETF	Solactive Candriam Europe SRI	178,7
INDEXIQ FACTORS SUSTAINABLE JAPAN EQUITY UCITS ETF	Solactive Candriam Japan SRI	100,1
INDEXIQ FACTORS SUSTAINABLE SOVEREIGN EURO BOND UCITS ETF	Solactive Candriam EU GOV SRI	57,3
iShares \$ High Yield Corp Bond ESG UCITS ETF EUR (Acc)	BBMSCI U CrpHY Sust BB+ SRI Bd	91,4
iShares € High Yield Corp Bond ESG UCITS ETF EUR (Dist)	BBMSCI E CrpHY Sust BB+ SRI Bd	104,2
iShares DwJones Glob Sust Scrn UCITS ETF USD (Acc)	DJ Sustainbty World ex ATGAFAE	248,7
iShares J.P. Morgan ESG EM Bond UCITS ETF USD (Acc)	JP Morgan ESG EMBI Glob Divers	584,2
iShares MSCI EM SRI UCITS ETF USD (Dist)	MSCI Emerging Market SRI Index	579,8
iShares MSCI Europe SRI UCITS ETF USD (Dist)	MSCI Europe SRI Index	1 079,7
iShares MSCI Japan SRI UCITS ETF USD (Dist)	MSCI Japan SRI Index	202,7
iShares MSCI USA SRI UCITS ETF USD (Dist)	MSCI USA SRI Index	1 779,5
Lyxor Global Gender Equality (DR) UCITS ETF - Acc	The Solactive Equileap Global	15,6
Lyxor Green Bond (DR) UCITS ETF - Acc	Solactive Green Bond EUR USD I	180,4
LYXOR MSCI EUROPE ESG LEADERS (DR) UCITS ETF	MSCI Europe ESG Leaders NTR	592,2
Lyxor New Energy UCITS ETF - Dist	World Alternative Energy CW	213,0
LYXOR UCITS ETF PEA WORLD WATER C-EUR	World Water Index CW	9,7
Lyxor World Water UCITS ETF - Dist	World Water Index CW	810,4
SPDR S&P 500 ESG Screened UCITS ETF (Acc)	S&P 500 ESG Exclusions II	11,3
SPDR STOXX EUROPE 600 ESG SCREENED UCITS ETF	STOXX EUROPE 600 ESG SCREENED Index	23,6
UBS (IRL) ETF PLC - MSCI ACWI SOCIALLY RESPONSIBLE UCITS ETF (HEDGED TO EUR) A-ACC	MSCI ACWI SRI 5% Cap	968,4
UBS (IRL) ETF PLC - MSCI UNITED KINGDOM IMI SOCIALLY RESPONSIBLE UCITS ETF (GBP) A-DIS	MSCI UK SRI	343,6
UBS ETF Bloomberg Barclays MSCI Euro Area Liquid Corporates Sustainable UCITS ETF (EUR) A-dis	BarCapMSCI EUR AreaLiqCorpSust	587,8
UBS ETF Bloomberg Barclays MSCI US Liquid Corporates Sustainable UCITS ETF (USD) A-dis	BarCap US Liq Corp Sustainable	496,6
UBS ETF - MSCI EMERGING MARKETS SOCIALLY RESPONSIBLE UCITS ETF (USD) A-DIS	MSCI EM SRI 5% Issuer Capped	710,6
UBS ETF - MSCI JAPAN SOCIALLY RESPONSIBLE UCITS ETF (JPY) A-DIS	MSCI Japan SRI	356,4
UBS ETF - MSCI PACIFIC SOCIALLY RESPONSIBLE UCITS ETF (USD) A-DIS	MSCI Pacific SRI	477,9
UBS ETF - MSCI UBS ETF - MSCI EMU SOCIALLY RESPONSIBLE UCITS ETF (EUR) A-DIS	MSCI EMU SRI 5% Issuer Capped	1 480,2

UBS ETF - MSCI USA SOCIALLY RESPONSIBLE UCITS ETF (USD) A-DIS	MSCI USA SRI	1 183,1
UBS ETF - MSCI WORLD SOCIALLY RESPONSIBLE UCITS ETF (USD) A-DIS	MSCI World SRI	1 782,5
VanEck Vectors Sustainable World Equal Weight UCITS ETF	VanEck Sustainable World Index	340,5

Source : Euronext market data, Bloomberg

Recent academic research has shown that high ESG ratings are correlated with lower cost of capital, market-based outperformance and accounting-based outperformance. Harvard Business School discovered that “high sustainability” firms outperform “low sustainability” firms over the long haul with lower volatility.

A.3. ESG Data Hub

The ESG data hub provides asset managers asset owners and other investors with access to a range of third party ESG data that provides greater insight into the ESG status of companies in which they invest.

Investors are increasingly looking for ESG data on companies to meet commercial and regulatory requirements, but often have trouble identifying and validating credible sources of this data. By providing a single point of access to a range of validated ESG content providers, Euronext can offer a credible one-stop shop to meet investors requirements.

The ESG hub currently has one product live: China A Share Environmental Risk Assessment (ERA).

The China A-Share ERA product provides a qualitative environmental risk analysis on leading Chinese firms, considering local factors and using locally sourced data to create quantitative and objective indicators that allow investors to measure a company's true environmental risk.

- Systematic and objective measurement of geographical and industrial constraints: The supply of natural resources and policy constraints vary depending on geographic location. Using geographical and industrial factors as the basis for methodology allows a more accurate, stable and credible risk analysis.
- Local methodology: Raw data from official public and local government sources, combined with company reports. This reflects the real environmental risk situation of Chinese companies.
- Detailed data on specific resource stresses: Helps investors identify the source of the risk.
- Adjusted for company's environmental management capabilities: The final score integrates the company's performance and its processes for environmental risk resilience.

Further ESG services will be added to the hub over the course of 2020.

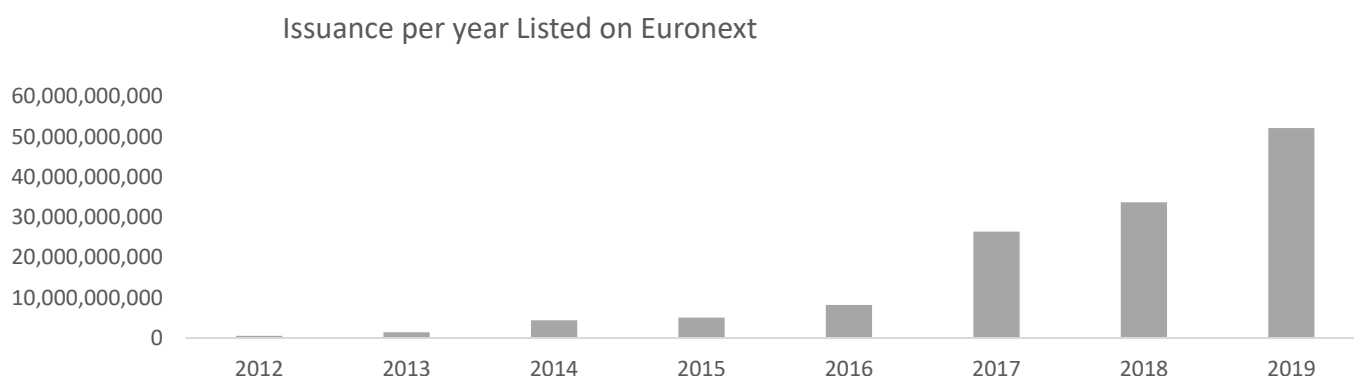
A.4. Euronext Green Bonds: The inaugural Euronext initiative in the ESG fixed income space.

A green bond is a bond whose proceeds are used to fund environment-friendly projects. At COP21 (Paris 2015), institutional investors representing \$11.2tn undertook to work to grow a green bonds market.

The green bond market has seen strong growth, with very healthy issuance increase from 2014 when \$37bn was issued. In 2019, global green bond issuance reached over \$200bn, setting yet another record. Market consensus projects that green bond issuance in 2020 will exceed 2019 issuance levels.

Statistics vary regarding total outstanding global green bond issuance. However, approximately 1/6th of total outstanding green bond issuance is listed on a Euronext market. As illustrated in Fig. 1 below, green bond issuance listed on Euronext increased 54.65% from 2018 (€33.669bn.) to 2019 (€52.073bn.)

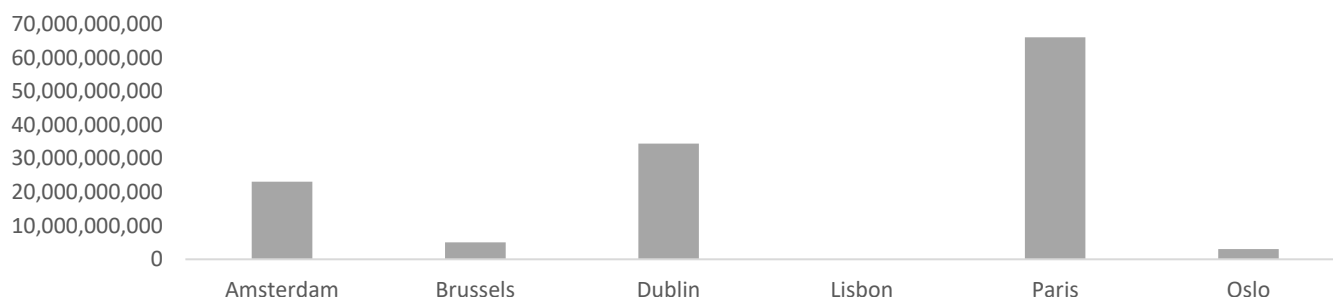
Fig. 1 Growth of green bond issues listing on Euronext.



There are green bonds listed on all Euronext locations with Paris being the leading listing location and both Dublin and Amsterdam also very strong. Oslo is an interesting market with a small total issuance amount but from a large number of issuers (22 of 108 issuers). As of Jan 3rd 2020 there is €131.69bn in green bond issuance listed on a Euronext market: Paris (€66.08bn), Dublin (€34.44bn), Amsterdam (€23.11bn), Brussels (€5.05bn), Oslo (€3.030bn) and Lisbon (€0.05bn).

Fig. 2 Listing per Euronext location

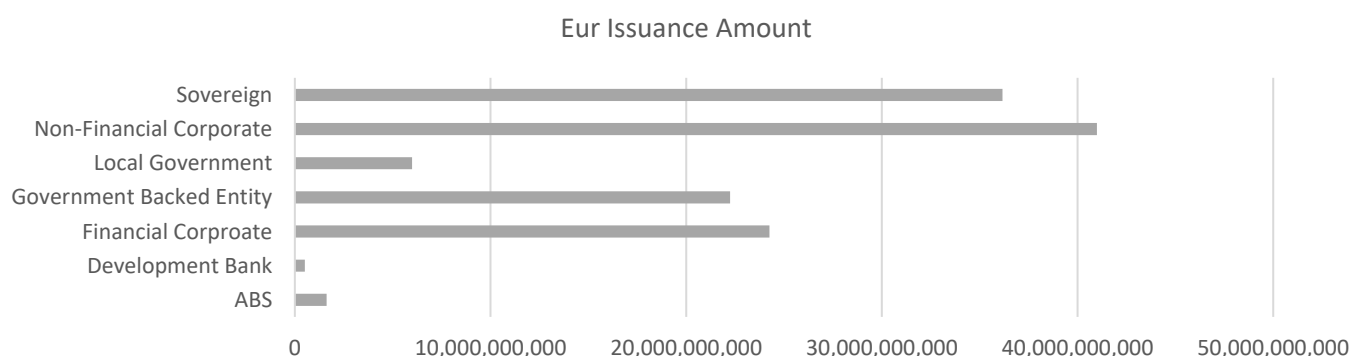
Issuance Amount per Location



Issuer types listed on Euronext include sovereign, non-financial corporate, local government, government backed entity, financial corporate, development bank and ABS issuers. Sovereign issuance accounts for the largest average issuance amount per issuer and includes issues from The Republic of France, The State of the Netherlands, The Kingdom of Belgium and the Republic of Ireland. The Republic of France is Euronext's largest green bond issuer with over €20bn in issuance outstanding listed on Euronext Paris.

Euronext green bond listed financial corporates include ABN, ING, KBC, BPCE, Société Générale and BNP Paribas. Local government issues are predominantly French and include Région des "Hauts de France" and Région "Île de France". Government backed entities are also mostly French and include Agence FSE de Développement, SNCF Réseau, RATP, Société du Grand Paris and EDF. The principle non-financial corporates are mostly energy companies and include ENEL, Tennet and Engie.

Fig. 3 Euronext Green bond listings per Issuer Type



Stock exchanges are playing a vital role in the green bond issuance market by establishing dedicated green bond platforms for issuers to effectively showcase their green credentials as they relate to bond issuance. Including Euronext, there are now 6 European stock exchanges with green bond segments which were established between 2015 and 2019. There are also green bond segments established in Japan, Johannesburg, Mexico, Shanghai and Taipei exchanges. The main competition for Euronext in the green bond space is from the London and Luxembourg stock exchanges.

The key means to attract green bond issuers is to ensure Euronext is ideally positioned to deliver to the trend of issuer demand for increased visibility. On 5 November 2019, Euronext launched Euronext Green Bonds. This is a platform where all eligible and consenting green bond issuers and securities listed in each Euronext jurisdiction are consolidated onto and visible from a specific area of the Euronext website.

This initiative is more concerned with the immediate realization of benefits from a PR and strategic positioning perspective of what the Euronext Group already has accrued in terms of green bond listings. Including Euronext Amsterdam, Belgium, Dublin, Lisbon, Oslo and Paris, there are over 242 securities listed from 108 issuers (Jan. 3rd). Almost 80% (+€100bn.) of Euronext listed green bond issuance is now included on Euronext Green Bonds - confirming again that green issuers are demanding more visibility.

Euronext Green Bonds is designed to speak to issuers across the globe – so not just European issuers. For example, it is predicted that 50% of green bond issuance will originate from China by 2022. There are currently 3 Chinese issuers with green bonds listed in Paris and Dublin. The area provides issuers with the opportunity to increase their 'green visibility' and to showcase their ESG credentials – it creates an engaged community of leading issuers involved in sustainable investments. The area also speaks to investors and acts as a discovery tool in order to locate green bond investments. It effectively reduces "search costs" for investors seeking green investments and should provide investors with confidence through open transparent policies and standards over the green nature of their investments.

Eligible green bonds will be listed on a Euronext market, aligned with recognised industry standards such as ICMA GBPs or CBI Taxonomy, and accompanied by an independent third party review – most commonly a second opinion from an approved verifier. The process of assessment is centralised in Dublin and applicants will complete and submit a Green Bond Declaration Form to debt@euronext.com.

One positive outcome arising from the Euronext Green Bonds initiative is the gathering of relevant green finance contacts within issuer organisations. Euronext contacted all issuers directly and lessened our dependencies on intermediaries. Going forward Euronext will involve intermediaries in the process of getting issuer consent for inclusion of eligible green bonds in the area.

Successful outcomes from a Euronext green bond platform include comprehensive market recognition of Euronext Green Bonds; cessation of leakage of green bond issuers from Euronext home countries to the Luxembourg Stock Exchange; and an increase in market share relative to London and Luxembourg. KPI's for Euronext Green Bonds were established in October 2019. The KPI is a measurement of market share versus or main competitors. The target is an increase in market share from 41.33% to 50% in 3 years following launch of Euronext Green

Bonds – note that this represents a 21% increase in market share over the 3 year period of 2020 – 2023.

October 2019	No. of Green Bonds	Market Share Bonds	No. of Issuers	Market Share Issuers	Weighted Total Market Share
Euronext	207	35.71%	94	47.16%	41.33%
Luxembourg	273	47.16%	72	36.23%	41.59%
London	100	17.85%	33	16.58%	17.11%

The next steps for Euronext Green Bonds include:

- Continue to identify and record all green bonds listed in each Euronext location and follow up with all issuers. Get the intermediaries involved.
- Meet with key influencers Euronext Home Countries, London, Nordics, Mediterranean, China Q1+2 2020. Sponsorship EF and CBI annual events.
- Expand to include Sustainable bonds Q1 2020.
- Explore trading possibilities and index creation Q3 2019 – Q4 2020.
- Ensure criteria for Euronext Green Bonds is also aligned with EU Taxonomy Regulation.
- Make applications for Euronext to participate in relevant industry working groups.

A.5. ESG commodities contribution

The commodity sector is an important contributor to the global ESG agenda and in particular with regard to the sustainability criteria for the realisation of the transition.

Euronext has a special position in the agricultural ecosystem in Europe. It serves the real economy by offering hedging tools to the whole industry and the supply chain to manage better their price risk exposure inherent to the agricultural sector.

Buyers and sellers trading with the Euronext venue have the benefits of high transparency, liquidity, price discovery enabling them to manage price risk and protect margins.

Client consultations and surveys are done on a regular basis, and specific ESG expectations will be surveyed during the course of 2020, the team will ensure that environmental, sustainable and social responsibility issues are included in the consultation and then assessed.

A.5.1. Supporting the Needs of the industry by Creating Specific Commodity Contracts

Euronext is pursuing the expansion of its commodity derivatives strategy by becoming the European specialist content provider of reference on agricultural products and markets. Euronext will provide economic analysis, training and establish price reporting services for European agricultural markets.

Subject to clients demand some specific sustainable products could be listed or existing could be amended to include sustainability criteria.

A.5.2. Wheat, Rapeseed and Corn Contracts

Long-time developed in close cooperation with the agricultural industry for hedging purposes, Rapeseed products (oilseeds and meal) and Corn contract are said to be non-GMO or conventional products as well as the wheat is. The underlying is said to be conventional, which is defined as a product containing no genetically modified organisms, or containing genetically modified organisms whose presence is adventitious or technically unavoidable, in accordance with requirements in force under EU Regulations. It refers and complies with EC Regulation n°1829/2003 of the European Parliament and the Council of the 22 September 2003 on genetically modified food and feed (OJEU 18-10-2003).

A.5.3. Wood Pellets Future

Developed in close cooperation with the biomass committees, the new futures contract ("Residential Wood Pellets Contract") launched in November 2015 has been designed to meet the needs of market professionals looking for portfolio diversification and price-hedging tools against fluctuations in the prices of pellets or closely-related products.

B. Sustainable Services

B.1. Financing a Greener Economy

Euronext has sought over the course of several years to support climate-friendly innovation by financing Cleantech companies. The Cleantech company cluster refers to enterprises that do not only seek to embody resource efficient, environmentally beneficial business practices in the way they carry out their operations, but develop, create and sell products and services that are resource efficient and benefit the environment. Their models range from but are not limited to production, storage and distribution of renewable or low carbon energy sources as well as pollution mitigation, conservation, and restoration.

From 2013, Euronext has devoted dedicated resources to create proximity with innovative companies across its markets, in order to provide stronger education on the benefits of leveraging capital markets to fund growth. Cleantech companies were then identified and as such benefitted from Euronext's full support.

Some of the major initiatives in this respect include:

- TechShare: 42 Cleantech SMEs part of the community learning how to leverage capital markets (of which 19 from the class of 2019);
- European Rising Tech Index: 20% of this increasingly important index is made up Cleantech SMEs;
- Morningstar: the programme fully covers the scope of Cleantech SME issuers (64).

In 2019, Euronext has attracted 5 new Cleantechs companies to its markets, providing them with more than €100 million in equity funding. These deals enriched the Euronext Cleantech's community, adding the largest public offering ever executed on Euronext Growth Paris:

Hoffmann Green Cement Technologies, that raised €72 million for a €236 million market capitalization. In total of 64 Cleantechs companies are listed on Euronext, worth a combined €25 billion, making it the leading Cleantech SME franchise in Europe.

Selected Cleantech' funding deals for 2019 include:

- Hoffmann Green Cement IPO: this French cleantech is a pioneer in decarbonated cement, contributing to the transformation of the construction sector. To fuel its strong R&D, Hoffmann Green Cement chose to leverage capital markets in October 2019 to accelerate its growth. It successfully closed the largest ever public offering on Euronext Growth Paris (€72 million) and was valued €236 million;
- Boostheat IPO: this cleantech focuses its efforts on energy efficiency, building a highly energy efficient boiler in a context where streamlining domestic energy usage is key to combat climate change. The company was able to raise €35 million for a €122 million valuation;
- Scatec Solar's follow-on private placement: After its IPO in 2014 the Norwegian cleantech that develops builds and operate solar power plants across emerging markets grew at an incredible pace, multiplying market capitalization by close to 7 (to reach €1.5 billion) as it leveraged capital markets to fund its fast growth. A recent example of market utilization to finance clean innovation includes Scatec's €133 million private placement in September 2019.

B.2. Corporate Services

Euronext Corporate Services is a fully-owned subsidiary of the Euronext group launched in 2016 with the ambition to help listed companies to make the most effective use of capital markets and support organisations with innovative solutions and tailor-made advisory services in Governance (iBabs), Compliance (InsiderLog), Communication (Company Webcast), Investor Relations (Advisory and IR Solutions).

The Euronext Corporate Services offering assists companies and organisations in reducing their environmental impact. The board portal solution enables a significant reduction of paper consumption through paperless and digital meetings. The webcast and webinar solutions reduce the negative environmental impacts of transportation through remote and digital conferences. In addition, Euronext Corporate Services supports the adoption of best practices in terms of good Corporate Governance as the board portal solution enables a more collaborative, secured, efficient and informed decision-making process within board of directors and executive committees. Finally, Euronext Corporate Services also favors greater transparency and clarity in the way companies and organisations communicate not only externally but also internally.

Euronext Corporate Services offering has been built through a combination of organic developments and acquisitions. Since February 2017, Euronext Corporate Services has acquired 4 companies providing innovative solutions (namely Company Webcast, IR.Manager, iBabs and InsiderLog). developed internally an "Advisory and IR Solutions" practice providing high touch advisory, market intelligence and decision-making analytics for listed companies willing to be more active on capital markets. In 2019, a new "Shareholder Analysis" has been successfully launched to help listed companies better understanding their shareholder structure with tailor made identification, multi-dimensional analysis and follow-up shareholder moves to build a relevant and efficient investor relations strategy.

Euronext Corporate Services offers a unique and comprehensive value proposition articulated around four main pillars that are described in section 1.3.3.2. Euronext Corporate Services already serves more than 2,500 clients in over 15 countries, of which are 600 listed companies.

Euronext Corporate Services is committed to creating offers that help organizations have a sustainable approach to their operations. In particular:

- iBabs, the meeting management solution, enables a significant reduction of paper consumption through paperless and digital meetings. This solution supports the adoption of best practices in terms of good Corporate Governance by enabling a more collaborative, secured, efficient and informed decision-making process within board of directors and executive committees.
- InsiderLog, the solution to automate the management of inside information and insider lists for both issuers and their professional advisors, helps listed companies fulfil conditions to ensure compliance with EU Market Abuse Regulation (MAR).
- Company Webcast, market leaders in webcast and webinar solutions, reduces the negative environmental impacts of transportation through remote and digital conferences, while delivering making sure that companies deliver regular communication to its staff, its investors or the equity research analysts and journalists following its activities."
- Advisory and IR Solutions, reference team in capital market intelligence, supports listed companies to meet ESG requirements in a context of increasing compliance and transparency requirement, growing involvement of shareholders in corporate governance, and pressure from rating agencies on companies. In particular, the "Shareholder Analysis" offer allows issuers having a clearer understanding of the shareholding structure, proactive communication and rationalised targeting of investors.

3.2.2 Our Partners

Key Issues:			
<ul style="list-style-type: none">▪ Be the spokesperson of the sector and foster “Issuer-Investor” dialogue▪ Maintain an ongoing dialogue with multi-stakeholder partnerships▪ Educate our partners on financial literacy and regulations			
<div>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</div> <div></div>	Ensure sustainable consumption and production patterns		<div>17 PARTNERSHIPS FOR THE GOALS</div> <div></div>
	Target 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate		
		Strengthen the means of implementation and revitalize the global partnership for sustainable development	
		Target 17.16: Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and	

<p>sustainability information into their reporting cycle.</p> <p>As a stock exchange, Euronext can play a key role in providing guidance and training for companies and in strengthening listing requirements. By focusing on these actions, exchanges play a vital role in achieving this SDG and in ensuring transparency in their markets.</p>	<p>financial resources, to support the achievement of the sustainable development goals in all countries.</p> <p>As a stock exchange Euronext has always played a key role in bringing stakeholders together, and now more than ever they will be pivotal players in achieving global efforts. By being an Official Partner of SSE, Euronext is already making its mark in this area.</p>
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3.2.2.1 Be the Spokesperson of the Sector and Fostering Issuer-Investor Dialogue

Euronext engages with public authorities and policymakers on regulatory and policy issues that impact the financial sector and its stakeholders.

As a result of the European Commission's Action Plan on Financing Sustainable Growth and the European Green Deal, a number of legislative proposals have been agreed on which aim to incentivize investments in sustainable activities.

The agreements were reached on:

- Sustainable disclosure obligations for institutional investors;
- A Taxonomy defining the sustainability of investments;
- Changes to the Benchmark Regulation to enhance harmonised transparency on EU Climate Transition and EU Paris-aligned Benchmarks.

With ambitious application dates, the focus will now shift towards their implementation and the development of Level 2 legislation to further detail the requirements expected from financial market participants.

Non-Financial Reporting Directive – consultation

The Commission published a set of Climate-related disclosure guidelines in June to complement the Non-Financial Reporting Guidelines. Companies subject to the Non-Financial Reporting Directive (NFRD) are expected to abide by the non-mandatory ESG reporting requirements (in the same manner as all guidelines under NFRD) as of 2020, in the scope of the EU ESG reforms package. The Commission has also published a Consultation in parallel to the publication of its proposed guidelines.

EU Green Bond Standard

A Technical Expert Group was tasked by the Commission to work on recommendations for the development of a voluntary EU Green Bond Standard, with a view to increasing the transparency and comparability of the green bond market, as well as to provide clarity to issuers on the steps to follow for an issuance, in order to scale up sustainable finance investments. These recommendations were published in June 2019 so it is now with the Commission to progress further, with assistance from the TEG on the operational aspects of the proposals.

Advocacy

A central element of Euronext's work involves engagement with all actors within our ecosystems. Alongside customers, be they issuers, investors and intermediaries, Euronext also engages with policymakers and regulators with a view to contribute to the development of the regulatory framework which governs Euronexts' activities. This engagement focuses on both the EU institutions, namely the Commission, Parliament and Member States in Council, as well as all relevant authorities in the Euronext jurisdictions. It is also complemented by engagement of trade associations of which Euronext is a member, notably FESE at European level, as well as *via* various national associations.

3.2.2.2 Maintain an ongoing dialogue with multi-stakeholder partnerships

A central element of Euronext's work involves engagement with all actors within our ecosystems. Alongside customers, be they issuers, investors and intermediaries, Euronext also dedicates considerable time and resources to engaging with policymakers and regulators with a view to shaping positively the regulatory framework which governs our activities. This engagement focuses on both the EU institutions, namely the Commission, Parliament and Member States in Council, as well as all relevant authorities in the Euronext jurisdictions. It is also complemented by engagement of trade associations of which Euronext is a member, notably FESE at European level, as well as *via* various national associations.

Advisory Committees

In this context, since 2014, each subsidiary exchange of the Group has one or more exchange committees ("Advisory Committees") consisting of external stakeholders, to advise and assist the local Managing Board in a non-binding, advisory capacity on new products and market developments. These committees discuss strategic issues at the local level, being the operational and technical issues linked to the business areas (Cash/Derivatives/Listing). It is also expected that Committee participants propose new ideas and be active in raising topics or issues that fall within the scope of the Committee. The Advisory Committees are consulted on issues of major interest to Euronext users (*i.e.* issuers, investors and other interested parties), where products and services might be developed to meet users' needs. Euronext commits to listening to the opinions of each Committee and taking these into account in its decision-making process insofar as possible, in the interests of both the Company and its shareholders.

Clients

Euronext continues to reinforce its business integrity by striving to improve the services it provides, making responsible business decisions, and actively managing the social and environmental impacts of its actions to help individuals, communities, businesses and economies progress and grow.

Euronext is a leading service provider for issuers, investors, intermediaries and technology data vendors. The Product and Sales teams, the Issuer-Client Coverage Group, the Market Supervision team and the Technology department provide competent care in the relationship

management across all of the Group's customers.

Within the Listing department, over 4,500 individual meetings were held with a broad spectrum of listed, non-listed companies and ecosystem members to promote capital markets benefits and accompany entrepreneurs in their development projects. To fulfil its mission, the Listing team capitalises on the local representatives that have been set up in Paris (and in other major French cities), Lisbon, Brussels, Amsterdam, Dublin and Oslo as well as in Munich, Zurich, Madrid and Milan given the recent European expansion.

Pedagogy, education and proximity are core values which underpin the Listing team's strategic deployment. In keeping with this logic, the Listing team seeks to make its issuers aware of social responsibility issues.

Transparency and knowledge sharing are also at the very heart of the Listing team values. Before launching new projects, the team consults with local ecosystem members, acting as the house of collective and inclusive growth.

As the leading EU listing venue with close to 1,500 issuers, we have both the responsibility and the ambition to equip listed companies as expectations on transparency and sustainability rise within the investor community. Euronext is therefore committed to encouraging the incorporation of environmental, social and governance (ESG) factors into investment decision-making.

Such commitment is materialised in ESG Reporting Guidelines developed by Euronext in 2019 and published on January 14th 2020. Beyond alerting our issuers on the increasing importance of ESG, the guidelines were designed to :

- Help listed companies in their interactions with investors and the wider ESG community
- Help them understand how to address ESG issues as a key component of investor relations

Ease access to the main principles to consider when preparing an ESG report

On an annualized basis, Euronext's OCS held over 1,455 client meetings in 2019 and exchanged over 18,000 e-mails and 6,000 calls with clients, covering a vast array of topics, either bilaterally or on a Group level, during which it consulted closely with trading customers to create products and services that meet their needs and requirements. Euronext has been particularly active with regard to new cash equity and ETF's MTFs (Euronext Block and Euronext Access) and the financial derivatives and commodities product launches, in many cases receiving clients' public endorsement for the Company's development plans.

For the fourth consecutive year, a customer satisfaction survey ("NPS")¹ was conducted in 2019 whereby clients provided anonymous feedback on a wide range of topics covering each aspect of the business. Several hundred contacts participated in the yearly exercise, providing valuable insight into client perception of Euronext's strategic initiatives, client relationship management, and product offering. :

The 2019 Net Promoting Score (NPS) results by business lines are the following compared to 2017 and 2018 are the following:

	2019	2018	2017
Issuers	+12	+13	+9
Market Data	+20	+3	+15
Interbolsa	+49	+33	+47
Members	+15	+13	-15

Suppliers and Subcontractors Ethical Supply Chain

Euronext's goal is to drive excellence throughout its organisation and to support and positively influence its supply chain.

Euronext works with suppliers who share its own values. In 2015, it focused on the preparation and assessment of a chart for suppliers, to complete its existing internal procedure. Since 2016, this chart (referred to as "Euronext Supplier code of conduct"), including provisions regarding human rights, diversity and inclusion, and environmental protection, is provided together with requests for proposal to each envisaged supplier.

Additionally, any new vendor selected by Euronext is first screened, to identify any current or previous sanctions, and is compared to the Euronext country black list (directly based on the OECD blacklist of Non Cooperative Countries or Territories ("NCCT") – reviewed on a yearly basis.

In 2019, more than 1000 new suppliers were screened: a few of them led to further investigation but none were rejected. The investigations were due to suppliers having their bank accounts in a "black listed" country. After escalation with Business and Compliance, they were reviewed and accepted.

Additionally, since 2018, all subcontractor agencies in France (accounting for more than 80% of the subcontracting purchasing category at the Group level) have been further screened, based on their Social and Tax reports to authorities.

In the context of Euronext ESG strategy and in complement to the Vendor code of conduct, Procurement is now systematically (i.e. for 100% of the vendors considered) assessing short listed vendors on:

- 1) Environmental criteria's
- 2) Social criteria's
- 3) Human right criteria's

In practice, this means that all vendor questionnaires and RFP's now include an evaluation on the 3 above criteria's – and it is factored in the global rating of the vendors. It is important to note that Euronext's nature of business (IT/Finance) and geographical footprint (Western

¹ The NPS represents the difference between the members who are positive vis-à-vis Euronext and those who are detractors (the neutrals are not taken into account). When the figure is positive it means that the promoters outweigh the detractors (and vice versa).

Europe/USA) mitigates the risks of establishing relationships with vendors violating rules around forced labour or human rights.

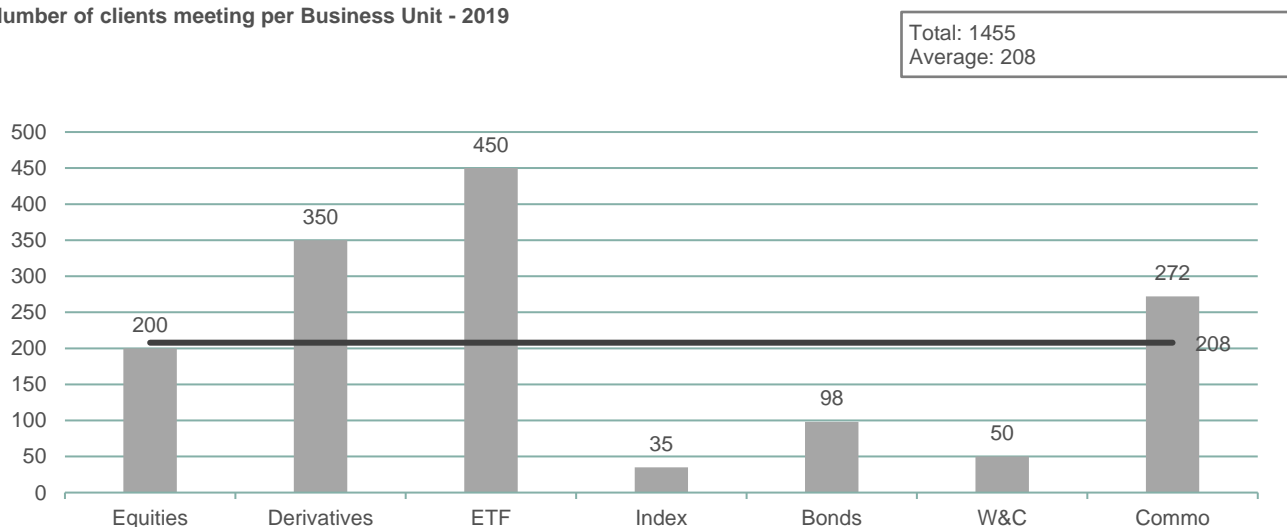
Vendor Screenings	2019	2018	2017
Number of vendors screened	1,000	1,300	900
Numbers of vendors rejected	0	0	0

Other indicators

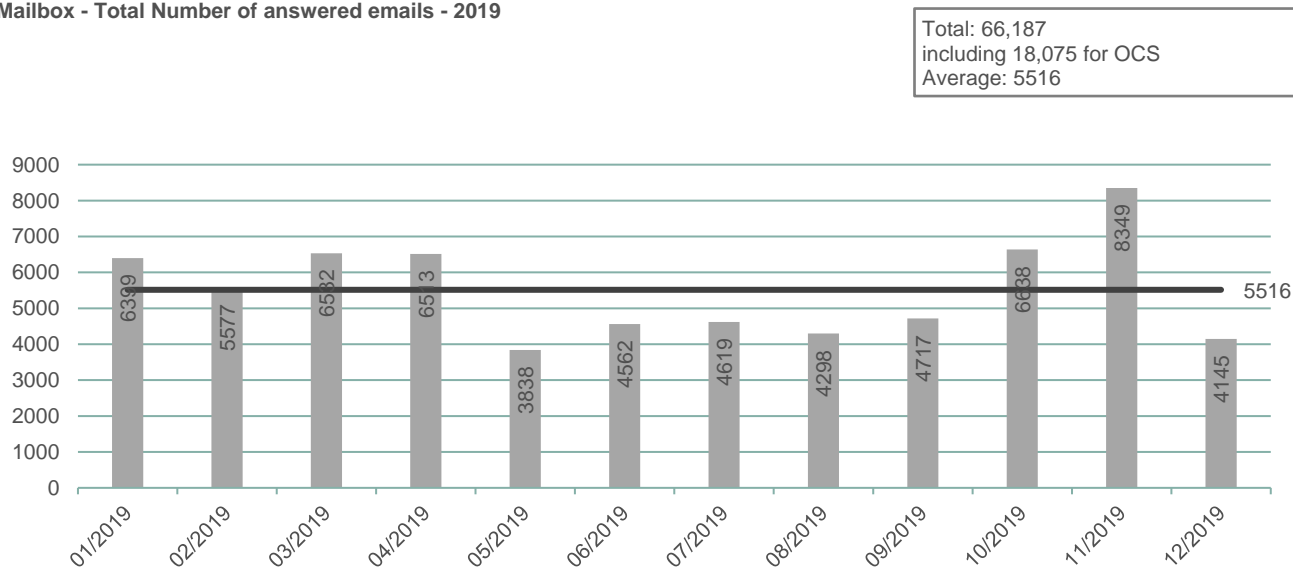
Clients and suppliers	2019	2018	2017	2016
Transactions client meetings	1,455	1,500	1,400	750
Exchange of e-mails with clients (EMS + OCS)	66,000 e-mails			
Including OCS e-mails*	18,000 e-mails	27,000 e-mails	28,000 e-mails	8,500 emails
Calls with clients	20,000 calls	10,000 calls	13,000 calls	12,000 calls
Number of new suppliers screened	1,000	1,300	900	/

* Only since May 2019

Total Number of clients meeting per Business Unit - 2019

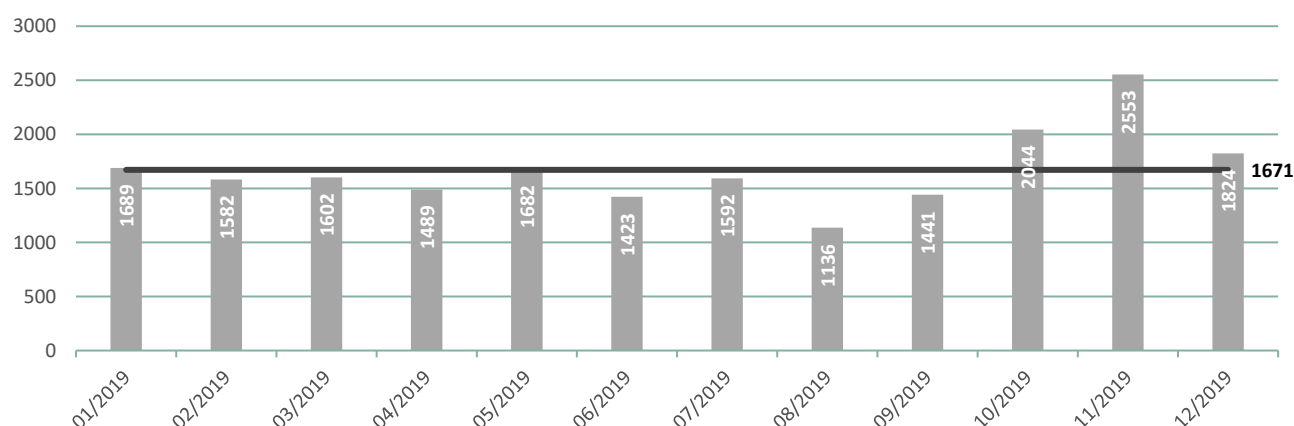


EMS Mailbox - Total Number of answered emails - 2019



EMS Calls - Total Number of calls received via Call Center - 2019

Total: 20,057
including 6,840 for OCS
Average: 1671



Employees

Euronext promotes an environment that encourages collaborative work, learning and innovation allowing each employee to shape his/her future and the future of the Company. As detailed in the below section 3.6 the Company undertakes several initiatives to support and nourish a culture of performance through an ongoing dialogue with its employees. In 2019 it has identified and signed up with an employee survey partner with initial rollout and usage of the tool planned for Dublin and Amsterdam in Q1 2020.

Shareholders, Analysts and Investors

Euronext has an ongoing dialogue with financial analysts, shareholders and investors. The Company focuses on communicating clearly and providing transparent explanations. Euronext has decided to publish full financial results on a quarterly basis. These results are commented on in either physical meetings or conference calls for analysts and investors and are accessible to the general public via webcast found on the Company's website.

In addition, Euronext investor relations team met with more than 300 investors and ESG investors in 2019, notably through conducting roadshows in eight countries (United-Kingdom, France, Germany, Italy, Switzerland, the Netherlands, the United States, Canada) and organizing an investor day, and attended eleven investors conferences. Euronext is willing to continue to engage with its shareholders on a regular basis so as to enhance the knowledge of the Company and the understanding of its strategy.

Prior to the IPO, on 27 May 2014, a group of institutional investors (collectively, the "Reference shareholders", and each a "Reference shareholder") purchased an aggregate percentage of the issued and outstanding Ordinary Shares from ICE, the selling shareholder at the IPO. The Reference shareholders have entered into a reference shareholders' agreement (the "Reference shareholders Agreement") governing the relationship among the Reference shareholders. This agreement expired on 20 June 2017 and was extended for a further period of two years commencing on 21 June 2017. On 17 June 2019, Euronext was informed that the Reference Shareholders had decided to extend an amended version of their Reference Shareholders Agreement for a further period of two years commencing on 20 June 2019. The new Reference Shareholders group from that date comprised of five of the former members and accounted for 23.27% of Euronext share capital. More information on Euronext Reference Shareholders are disclosed in section 6.4.1 of this Universal Registration Document.

At the time of its IPO in 2014, Euronext's dividend policy was established to achieve a dividend pay-out ratio of approximately 50% of net income, upon the approval of the Annual General Meeting, and as long as the Company is in position to pay this dividend while meeting all its various duties and obligations. In May 2017, Euronext decided to complement this policy, for the remainder of its "Agility for Growth" strategic plan with the introduction of a floor to the dividend per share. Starting at the Annual General Meeting in 2017 and until the Annual General Meeting in 2020, Euronext dividend policy is to distribute the highest of 50% of the reported net income and a floor at €1.42 per share, upon the approval of the Annual General Meeting, and as long as the Company is in position to pay this dividend while meeting all its various duties and obligations.

For further information about share capital and shareholder structure or dividend, please refer to Chapter 6 of this Universal Registration Document.

Regulators and Finance industry as a whole

Euronext is an organisation that provides exchange listing, trading, post-trade and related services in Europe. The Company operates exchanges in seven European countries. Each Euronext market operator is subject to national laws and regulations and other regulatory requirements imposed by exchange authorities, central banks and finance ministries as appropriate.

The seven national regulatory authorities coordinate their regulation and supervision of the regulated markets operated by the Group through the "Euronext College of Regulators", acting pursuant to memoranda of understanding which Euronext has committed to respect. These regulatory authorities have identified certain areas of common interest and have adopted a coordinated approach to the exercise of their respective national rules, regulations and supervisory practices regarding listing requirements, prospectus disclosure requirements, on-going obligations of listed companies, takeover bid rules and disclosure of large shareholdings. Representatives of each national authority meet in working groups on a regular basis in order to coordinate their actions in areas of common interest and agree upon measures to promote harmonisation of their respective National Regulation. Euronext representatives are invited on a regular basis to part of those meetings.

For more information on the regulation, see section 1.4. “Regulation” of this Universal Registration Document.

Memberships

FESE

Euronext is a member of the Federation of European Securities Exchanges (FESE), a trade body located in Brussels representing European exchanges and engages in advocacy on behalf of this member community.

United Nations Sustainable Stock Exchange Initiative Membership

Euronext joined the United Nations SSE Initiative in December 2015, which aims to explore how exchanges can work together with investors, regulators, and companies to enhance corporate transparency on Environmental, Social and Corporate Governance (ESG) issues and encourage responsible long-term approaches to investment.

As an Official Partner of the Sustainable Stock Exchange Initiative (SSE), Euronext’s seven market operators have voluntarily committed – through dialogue with investors, companies and regulators – to promote sustainable, long-term investment and improved ESG governance disclosure and performance among the companies listed on their respective exchange. The decision of membership to SSE reflected the commitment of Euronext in these areas.

The Sustainable Stock Exchanges initiative published its Progress report in 2018 on the ranking of the world’s stock exchanges in terms of disclosure of the performance of sustainability indicators. Euronext Paris is ranked number two, Euronext Amsterdam is ranked number three and Euronext Brussels is ranked number twelve. This analysis explored the extent to which the world’s publicly traded companies are disclosing the seven basic metrics: employee turnover, energy, greenhouse gas emissions, injury rate, payroll, water consumption and waste. The next Progress report will be available in the course of 2020.

Task Force on Climate-related Financial Disclosures (“TCFD”)

On 22 March 2018, Euronext endorsed the Task Force on Climate-related Financial Disclosures Recommendations and committed to further support transparency on climate-related risks and opportunities on financial markets.

The Task Force established by the Financial Stability Board (“FSB”), developed voluntary recommendations on climate-related information that companies and organisations should disclose to help investors, lenders, and others make sound financial decisions. Structured around four thematic areas – Governance, Strategy, risk management and Metrics & Targets – the TCFD Recommendations provide a framework for companies to respond to the increasing demand for transparency on climate-related risks and opportunities from investors.

The signing of the recommendations took place during an opening bell ceremony in Brussels, held in presence of Michael Bloomberg (leader of the Task Force), and during which the Belgian State, the National Bank of Belgium and the Belgian Financial Services and Markets Authority (FSMA) also signed up to endorse the TCFD Recommendations. The bell ringing coincided with the “High Level Conference: Financing Sustainable Growth” organized by the European Commission in Brussels.

NGOs

Euronext does not only collaborate with stakeholders with whom it has direct contact, it also strives to be an engaged member of the global financial system, and has become a partner in various global NGOs seeking to improve the global financial ecosystems in terms of ESG issues. Further, Euronext actively responds to questionnaires from interested parties inquiring about our ESG practices and standards in place.

3.2.2.3 Educate our partners on financial literacy and regulations

Euronext Education Programmes

Endorsing a role of strategic financing advisor, Euronext has invested significant efforts in accompanying and educating non-listed companies from various natures, sizes, sectors and countries. The various Euronext education programmes aim at helping private companies exploring whether capital markets are the most appropriate source of funding for their growth, subsequently equipping them with a capital markets usage toolbox.

TechShare, IPOready and FamilyShare were launched, in September 2015, March 2015 and September 2017 respectively. With a common advisory DNA, these programmes have already accompanied more than 450 CEOs of private companies from across Europe (including Belgium, France, Germany, Ireland, Italy, Portugal, Spain, Switzerland and The Netherlands). Most of Euronext educational programmes are pre-funded to democratise access to capital markets education for private.

Financial Literacy

in addition, Euronext promotes the fact that its employees participate as speakers in conferences to explain the role of the financial markets and of Euronext in particular. For more information on the subject, see section “Educate and engage with our local Community”.

3.2.3 Our Environment

Key Issue:

- Reduce our own carbon footprint and contribute to the protection of the environment

13 CLIMATE ACTION



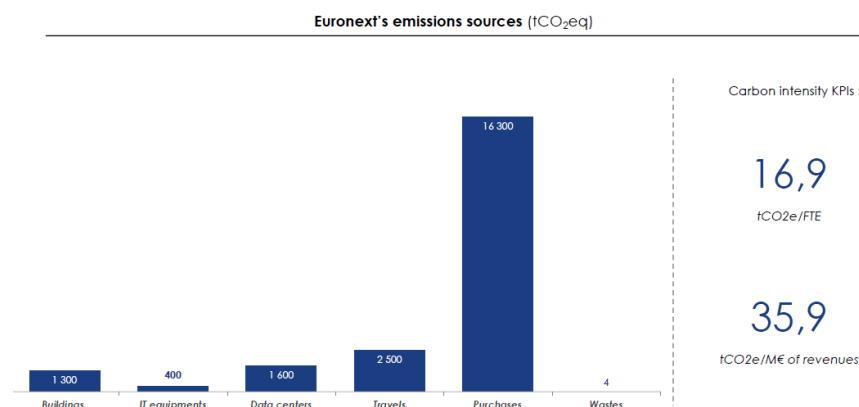
Take urgent action to combat climate change and its impacts

Target 13.2: Integrate climate change measures into national policies, strategies and planning

As a company, Euronext can contribute to the global and national challenges of the climate change.

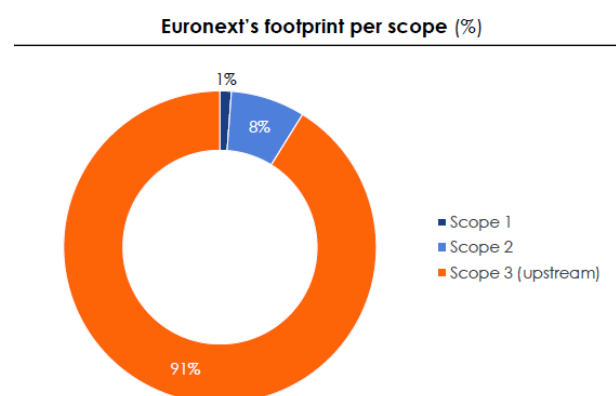
Reduce our own carbon footprint and contribute to the protection of the environment

Conscious of the challenges linked to climate change, to the need to reduce its greenhouse gas emissions and to manage natural resources prudently and sparingly, Euronext has fully integrated environmental issues into its activities and strategy. In this context, Euronext has carried out an analysis of its carbon footprint in 2019¹, as a result of which this report contains significantly more data than our earlier reports. Euronext will focus in the coming years on reducing its carbon footprint, and will define clear targets in the course of 2020. For several years, Euronext has taken care, at group level, to reduce its consumption of paper and water consumption in its offices and data centers as well as reduce its waste to minimize its ecological footprint.



Euronext is committed to continue taking environmental impacts into account when conducting its business. The Euronext's carbon footprint is equivalent to 22.1 ktCO₂eq that may be split as following:

- Scope 1 = 250 tCO₂eq representing 1% of the Euronext global carbon footprint i.e. direct emission from buildings and other assets
- Scope 2 = 1,750 tCO₂eq representing 8% of the Euronext global carbon footprint i.e. electricity consumption
- Scope 3 = 20,100 tCO₂eq representing 91% of the Euronext global carbon footprint Purchases, travels, commuting, ...



Group's primary GHG arise from energy, waste and water in its offices and data centers, from staff travel, and indirectly but mostly from its supply chain (Scope 3). Euronext has a direct grip only on Scope 1 and 2, which represent only 9% of the complete GHG emissions. For scope 3, it needs to initiate a dialogue with its entire value chain (upstream and downstream) to act on the bulk of these emissions.

Buildings

In most of its buildings across the seven locations, the Group rolls out water-saving initiatives such as motion sensors on taps and water saving toilet flushes. Motion detector lighting saves the necessary energy in meeting rooms, storages and sanitary rooms. In 2016, all regular lamps were being replaced by LED and other energy saving lamps. The use of organic products for the cleaning and maintenance of the building is being developed. Euronext aims to send as little waste as possible to the incinerators. The Company separates waste at the source and works with secondary parties who specialise in sorting and recycling waste. In addition, in some buildings, Euronext uses free air (natural air) for its air-conditioning systems when the outside temperature drops below 12°C. Thanks to the Group's building management system, technical installations are automatically switched off during the night and at week-ends. High efficiency boilers provide buildings with the necessary heating during the winter season, and where possible thermal insulation is placed in the form of wall and roof insulation and double-glazed windows.

Paris

Euronext decided it would relocate its Paris office to new premises in the La Défense business center in 2015 for a nine-year lease. The new office Praetorium benefits from the following certifications: HEQ (High environmental quality), BREEAM (sustainable building design and construction) and VHEP (very high energetic performance). More specifically, Praetorium benefits from presence detectors to monitor external blinds, lighting and air conditioning, depending on the climate; it has triple glazed windows to optimise insulation and enable maximum natural heating, and possesses sensors to analyse air quality to ensure employees have access to a clean environment. Finally, the bee hives on the roof (with 70kg of honey produced in 2019 compared to 80kg in 2018 and 95kg in 2017. This weak harvest is explained by the strong heat wave of summer 2019) and the newly created aromatic herbs' square contribute to a more sustainable environment. In 2019, Euronext continues measures to improve electricity – with more economical lighting - and water consumptions - with equipment limiting water consumption.

Amsterdam

A project to gradually replace a significant part of the existing TL light with LED within the Amsterdam building has been started in 2017 and

¹ Based on 2018 figures. The analysis has been done for the 8 countries in which Euronext has the largest part of its activities. Representative offices were not taken into account.

has continued in 2018. Also, the emergency power supply has been replaced by a more advanced and economical version. This new so called “UPS system” is more energy-efficient than its predecessor. Moreover, coffee cups have been replaced by a more environmentally friendly ones which stimulates reuse of the cups and a new concept with official “cradle to cradle” certificate has been installed for the sanitary dispensers (including the fillings). The technical staff is continuously monitoring the building management system in order to optimize the energy consumption. The Amsterdam building is also occupied by 31 tenants whereby the utility costs are shared between the parties in the building.

In 2019, a connection has been made between the two separate main cooling water systems. This connection results in a higher reliability factor of the systems and a huge energy saving at the same time. These installations are used for all datacom rooms and most of the cooling systems in the Amsterdam building. A major roof renovation is under project: Renewal of the transparent Lexan roof panels above the monumental Trading Floor roof, these Lexan panels have a higher insulation value and it works in both ways (in winter it keeps the heat in and the cold outside, in summer it is just the other way around).

Brussels

Euronext Brussels moved its offices in May 2015. The Marquis building, where Euronext Brussels have now its premises, has BREEAM certification (sustainable building design and construction). Euronext accounts for 2.67% of overall gas, electricity and water consumption of the Marquis building (fixed percentage). This means the figures don't represent the actual consumption of Euronext Brussels but just a pro-rata of the total consumption of the building.

Porto

Euronext concluded in 2017 the transfer of IT operations located in Belfast to Porto, to the same premises as Interbolsa, Euronext's Portuguese Central Securities Depository (“CSD”).

Dublin

The Euronext Dublin office was redeveloped in 2019 allowing all Euronext staff to work in one central campus, combining the original Irish Stock Exchange Building with the Armoury of Bank of Ireland. In addition to increasing the capacity to host local forums and events, the new building will preserve all of the heritage, history and tradition of the original Irish Stock Exchange (conserving the original trading floor and Georgian architecture) whilst adding a new dimension with a modern way of working and new technology.

The building has been designed to achieve 'Leed Gold' status which means it will be among the most sustainable buildings in Ireland and will have sustainable practices such as reusing water for planting and irrigation. Space for more than 35 bikes as well as six showers to encourage team members to commute in a sustainable way will be added and everything that was taken out of the ground during construction will be either reused in the building's construction, or recycled

Consumption of Electricity, water, gas and oil

The 2019 results (compared to 2018 and 2017) of consumption of gas, water, electricity, and oil are the following:

Gas (m³)	Amsterdam	Brussels	Dublin	Lisbon & Porto	Paris*	Oslo	London**
2019	118,302	5,525	5,318	55,155	N/A	N/A	N/A
2018	124,295	5,096	7,954	53,614	N/A	/	N/A
2017	123,010	6,636	8,314	42,541	N/A	/	N/A

* There is no use of gas in Paris offices.

** There are no individual gas meters to tenants floors in the Building in London, so no possibility of measuring the gas usage.

Water (m³)	Amsterdam	Brussels	Dublin	Lisbon & Porto	Paris*	Oslo	London**
2019	5,214***	325	N/A	1,765	3,387	1,973	N/A
2018	4,842	337	86	1,169	4,270	/	N/A
2017	4,943	469	301	2,125	2,925.8	/	N/A

* Frozen water in Paris offices (m³) : 203,965 (2019) - 243,188 (2018) – 233,219 (2017)

Cold water in production in Paris offices (m³): 713 (2019) – 860 (2018) – 829 (2017)

** There are no individual water meters to tenants floors in the Building in London, so no possibility of measuring the water usage.

*** The slight increase of water consumption in Amsterdam is due to the fact that the building is completely full with Euronext employees but also with a lot of tenants. So there is no unoccupied office space left.

Electricity (KWh)	Amsterdam	Brussels	Dublin	Lisbon & Porto*	Paris	Oslo	London
2019	3,088,062	117,241	57,390	580,975	1,839,858	3,705,897	68,372
2018	3,330,030	129,465	64,386	451,105	1,881,761	/	518,938
2017	3,533,369	133,277	29,570	465,133	1,915,119	/	433,044

* The increase in consumptions of water and electricity in Portugal are related to the additional floor (8th) Euronext is occupying since the beginning of 2019.

Oil (Diesel L)	Amsterdam	Brussels	Dublin	Lisbon & Porto	Paris	Oslo	London
2019	3,802	N/A	N/A	N/A	N/A	2,545	N/A
2018	4,500	N/A	90	550	N/A	/	N/A
2017	4,500	N/A	90	550	N/A	/	N/A

Recycling

Plans are in place to improve waste and/or hazardous waste management in all Euronext's offices.

Euronext Paris brought full attention to reducing the quantity of waste when moving to the building at La Défense: under a voluntary system, the staff members are asked to take care of making a selective quality sorting, by reducing their own quantity of waste. Individual paper baskets were removed, and 127 waste sorting bins were displayed in the whole building (one-point selective sorting for approximately fifteen occupants).

In Lisbon, the recycling process is managed by the landlord for the whole building where Euronext Lisbon is located. There are no specific information for Euronext Lisbon but 100% of papers, cartridges and batteries are recycled. The cleaning company makes a selective quality sorting of paper, plastic, glass, and common waste that is treated by a specialised company. In 2019, the following measures were taken

- Removal of all single use material in the kitchen and pantry
- Waste sorting bin placed in employees canteen encouraging employees to make sort their wasting
- Meeting rooms using only glass bottle and glass cup, removing all plastic
- Replacement of all of the existing light by LED in the 8th floor (auditorium and meeting room)

In Porto, all water cups have been replaced by a more environmentally friendly ones. In floors with kitchens coffee and water cups were replaced by glass ones and employees are encouraged to used them even were paper ones are available. Waste sorting bin were placed in all floor and staff members are asked to take care of making a selective quality sorting witch is after treated by a specialized company. 540 Kg of coffee capsules have been recycled by contributing to Nespresso Project "Recycle is Food". Ink cartridges and tonners are donated to AMY for recycling helping financing their projects. Porto office participates again in the campaign "Paper for Food" that is an action promoted by the Portuguese Federation of Food Banks, (Federação Portuguesa de Bancos Alimentares) with environmental and solidarity purposes. All paper collected is converted into food products to be distributed by those in need. During 2019, 172 kgs. of paper was delivered to the Food Bank that was converted in 12 thousand euros of food products

In Brussels, the landlord organizes a recycling process with the help of an external supplier specialised in installing selective sorting systems for company waste (paper, cardboard, plastic, glass, cans, drink carton, waste (class II)). The cleaning company uses ecological products and there is a small honey production on the roof of the building. Since 2018, ink cartridges are recycled. Since 2019, aluminum coffee capsules are recycled as well. It was also decided to stop using plastic cups as from 2020.

The 2019 results (compared to 2018 and 2017) of recycling are the following:

Recycled paper (Kg)	Amsterdam	Brussels	Dublin	Lisbon & Porto	Paris*	Oslo	London
2019	11,670	480	/	172	11,507	7,575	44
2018	10,138	520	/	209	11,276	/	/
2017	14,200	1,386	/	239	26,080	/	480

Ink cartridges (Kg)	Amsterdam	Brussels	Dublin	Lisbon & Porto	Paris	Oslo	London
2019	199	4	/	/	350	N/A	/*
2018	58	5.9	/	/	339.23	/	3.5
2017	136	/	/	/	565	/	5

* 74 pieces

Batteries (Kg)	Amsterdam	Brussels	Dublin	Lisbon & Porto	Paris	Oslo	London
2019	25	/	/	/	19	16	/
2018	29	/	/	/	12	/	/
2017	26	/	/	/	15	/	50

Green IT, ongoing actions

Euronext's goal is to continue to reduce hardware and datacentre footprints in the future. Optiq, the new trading system that has been put in place is less hardware consuming than UTP. In 2019, the management of the obsolescence of the systems (GL9,10 versus GL5,6,7), the migration of part of the development environments to the AWS Cloud and the migration of the UTP trading solution derived from Optiq allowed Euronext to reduce its hardware infrastructure by 20%.

A Hardware refresh initiative has also been launched in 2018. The replacement and redesign of the network infrastructure within the primary data center has also made it possible to reduce Euronext's footprint and electricity consumption.

In 2018, Euronext has initiated a project to be able to move its infrastructure in the cloud. At this stage, there are more than 15 services (multi-environment) available on the cloud (Boost, IDS, MTF solutions, Optiq Compilation Setup ..).

3.2.4 Our People

Key Issues:

- Develop skills and retain talents in an open culture of dialogue
- Promote diversity
- Respect human rights and local labour laws

5 GENDER EQUALITY



Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.

Target 5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

As a stock exchange, Euronext may take leadership in the area of diversity namely with the bell ringing ceremonies in support of empowering women in the workplace, marketplace and community.

At Euronext, corporate responsibility is part of our identity. Euronext conducts its business ethically and integrates consideration of the impact of its actions on its employees. Euronext promotes an environment that encourages collaborative work, learning and innovation allowing each employee to shape his/her future and the future of the Company.

This target is on the SSE list because exchanges may take leadership in this area, i.e. with the bell ringing ceremonies in support of empowering women in the workplace, marketplace and community.

Who we are : facts and figures

Euronext staff as at 31 December 2019

Permanent employees	1.086
Including employees from 2019 new acquired entities (Oslo Børs VPS and Euronext Funds 360)	260

The headcount type and its net evolution over the last two years is shown in the graph below:

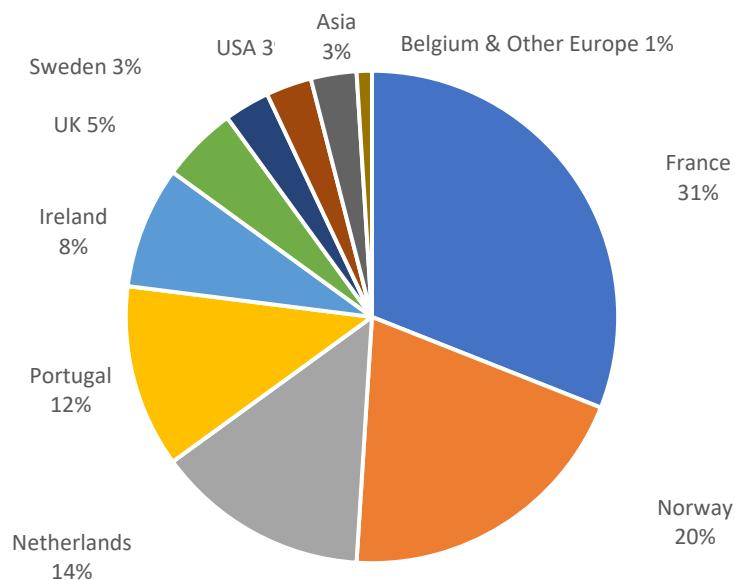


As of 31st December 2019, we have the following breakdown of the 1,086 regular employees (permanent & fixed term):

- Of total regular employees (1,086):
 - 1,069 (98.4%) are permanent employees and 17 (1.6%) are fixed term contract employees;
 - 343 (32%) are female and 743 (68%) are male;
 - 38 (3.5%) employees work part time hours, of which 29 (76%) are female, and 9 (24%) are male; with total FTE of 1,074.7.
- Females represent 58.8% (10) of fixed term and 31.6% (333) of permanent employees, with males representing 41.2% (7) of fixed term and 68.4% (736) of permanent employees. Fixed term contracts are located in the Netherlands (7), France (6), Ireland (3) and Norway (1).

In addition to above regular employees, 86 trainees and apprentices, along with 110 agency workers, V.I.E contracts and contractors were employed. The majority worked with IT (105) and corporate services (22) with the rest spread across the organization.

The percentage of regular employees located in each of the countries where Euronext operates is shown in the graph below:



How we work

Values shape a company's behaviour and define who they are. At Euronext, our values are the principles by which we define ourselves, they are a reflection of us. They are not an abstract wish list, but a foundation that we have chosen to be embedded in the way that we work. Our 5 values are unity, integrity, agility, energy and accountability. They underly all our actions and are the reason why Euronext upholds respecting fundamentals rights.

In addition to our values, in 2019 we launched 6 dimensions of a new Mindset that will complement our values and support the company to successfully achieve our new strategy 'Let's Grow Together 2022'. This Mindset was developed in collaboration with employees and management through company surveys and strategy workshops that involved everyone. The mindset dimensions are:

- Execute with Excellence;
- Collaborate, Challenge & Care for each other;
- Dare to take Risks;
- Empower our People;
- Focus on Clients;
- Adopt a Positive Performance Culture

For each of the mindset dimensions, two Managing Board members have been identified as 'guardians'. The values and mindset dimensions are built into our annual performance review process.

"One Euronext Team" Transformation Program



As part of the Agility for Growth strategic plan released in May 2016, client centricity, entrepreneurship, innovation, talent development and the open federal model of the Company were identified as key drivers for the Euronext teams to deliver this plan.

Euronext's Human Resources policy is continuing to evolve, in accordance with the Agility for Growth strategic plan, while at the same time recognising that candidates and employee's expectations are changing and responding to this.

This evolution is supported by the Euronext values of integrity, accountability, agility, energy and unity. These values guide the actions, style and expertise of all Euronext's activities and are shared and celebrated with employees, customers and partners to ensure success.

In this context and for the fourth year, the Company continued to implement its Human Resources transformation programme called "One Euronext Team" in order to improve the Euronext Human Resources practices, processes and tools over a period of the four year Agility for Growth strategy.

The People roadmap is composed of four main pillars: Engagement, Performance, Talent and Human Resources transformation.

Actions are formulated at group and local level, ensuring cross fertilisation of best initiatives. The Managing Board, local management teams and Human Resources teams monitor progress on a monthly basis.

This transformation program aims at motivate and stimulate current employees and attract new motivated ones.

In addition, a new strategy 'Lets Grow Together 2022' was developed in 2019. This encompassed the following six strategic pillars including an 'Empower our People to Grow, Perform and Innovate' pillar.



The 2020-2022 strategy builds on the success of the 2016-2019 Agility for Growth strategy, and the 'Empower our People to Grow, Perform and Innovate' pillar contains further initiatives under the areas of Engagement, Performance, Talent and HR Transformation.

Human Resources Transformation

In 2019, the Human Resources team continued to launch projects to reinforce Euronext's Human Resources organisation, tools and processes.

The Human Resources team is organised around countries, functions (Cash Equities and Derivatives, Global Sales, Debts & Funds Listings and ETF's, Listings, Information Technology, Operations, Central Functions) and specialist skills. The objective of this organisation is to continue to support the federal model of Euronext, whilst reinforcing the implementation of the Euronext strategy.

Key transformation resulted in a new and harmonized time management system deployed for all entities in Europe, completed with a global payroll system renewed in all locations.

2019 saw the completion of the integration of Euronext Dublin (formally the Irish Stock Exchange) into the Euronext Group, fully aligned in all relevant group systems, policies and processes; and also the completion of phase 1 of the integration of Oslo Børs VPS entities, which will continue into 2020 and 2021.

3.2.4.1 Develop skills and retain talents in an open culture of dialogue

Euronext promotes an environment that encourages collaborative work, learning and innovation allowing each employee to shape their future and the future of the Company.

Euronext runs internal educational and information programmes including frequent "lunch & learn" sessions, in order to develop expertise in each of the key functions. 43 Lunch & Learn sessions were held in the Group in 2018, to which all employees were invited.

A dedicated budget is also set and spent for external vendor training purposes across Euronext locations.

In 2018, Euronext teams deployed the Career framework in the Information Technology department. Twelve Career Framework roles have been identified to represent the main roles within the Information Technology family. The Career Framework provides a clear map of the professional roles available within Euronext. The other role families will be deployed in 2019.

Engagement

The Senior Leadership team, composed of 67 Senior Managers, is responsible for implementing the company strategy and sharing progress, challenges and performance with other members of the teams. The Company has also continued in 2019 to deliver regular town halls (all staff meetings) and encourage team meetings in each country and function, in order to foster a culture of transparency in communication.

At the end of 2019, Euronext conducted its fourth client satisfaction survey, the results of which will be available in 2020. Conducted in parallel, an employee survey allowed the Company to ascertain the evolving internal perception and understanding of client centricity at Euronext. Under Euronext's new Strategy, the survey's action plans will be delivered under the Enhance Client Connectivity Strategic Pillar. Selected employees across the countries and functions are identified as Client Centricity Champions, supported by group coordinators to follow the action plan implementation.

In 2019, Euronext continued to reinforce opportunities for employees to express, share and develop new ideas the design thinking workshops run in the Paris office, followed by design thinking workshops with Dublin, Stockholm and Paris fund teams.

As detailed in the Social Dialogue section above, a group wide survey open to all employees was launched to enable staff provide their input to help Euronext's Managing Board shape the new strategic plan as well as its implementation. It is the first time such an opportunity has been offered to employees to openly participate in this crucial moment of the Company and it reflects the value Euronext management places on collective employee engagement. The results were shared with all staff and local workshops were held to build on the survey outcome and help develop the final strategic plan 'Let's Grow Together 2022' as well as the six dimensions of a new mindset identified as key to supporting the delivery of the new strategic plan: Execute with Excellence; Collaborate, Challenge & Care; Dare to Take Risks; Focus on Clients; Empower People; and Adopt a Positive Performance Culture.

Performance

This aspect aims at strengthening Euronext's performance culture by equipping Euronext's managers with the tools to develop and motivate their teams, and to recognise the contributions of each employee within each team.

Since 2016, Euronext has worked to promote the culture of continuous feedback, encouraging managers and employees to discuss on a regular basis.

The annual review process, which brings key formalized steps to this ongoing feedback culture, was deployed starting in November with the self-appraisal period, followed between December 2019 and January 2020 with an annual review meeting and new objectives set for 2020, in line with Euronext's new 'Let's Grow Together 2022' strategy.

Dedicated sessions on continuous feedback were rolled-out in all locations giving employees and managers the opportunity to experiment concrete feedback techniques. It is facilitated by professional external coaches.

The Human Resources team is monitoring indicators to ensure a written track record of key performance discussions are entered in the HR system:

	2019	2018
Number of employees with an annual performance and career development discussion / form completed	95%	98%
Number of employees with objectives forms completed	96,4%	95%
Number of female / male with annual performance and career development discussion / review completed	94% / 96%	

Euronext also aims to ensure competitive and fair compensation, fostering new initiatives, growth and sustainable performance. The Company provides a competitive base salary in line with market standards and short-term incentives to reward performance.

The Company also uses a long-term incentive (LTI) plan, in the form of performance shares reward. The LTI plan for 2019 is a discretionary performance share plan in which 23.7% of all employees benefited from in 2019. 22.4% of females in the company participated in LTIP and 24.2% of males participated in LTIP.

The plan helps to align the interests of Euronext executives and other eligible employees, with those of the Company and long term (or prospective) shareholders. It also provides an incentive for longer term commitment and retention of key employees. LTI vesting is conditional to presence and performance conditions.

The Remuneration policy also includes local benefits plans.

For specific information on Managing Board and Supervisory Board remuneration please refer to sections 4.2.2 and 4.2.3 of this document.

Talent

Euronext has established an ambitious Talent Acquisition and Talent Development policy in accordance with the strategic plan priorities. Shared processes and tools have been deployed across locations to consolidate a common framework on Talent Acquisition with the launch of a new career website, the implementation of an Applicant Tracking System and the development of a Referral Program.

To reinforce its positioning as an attractive employer, Euronext strengthened its commitment to be an equal opportunity employer. Euronext developed its "Early Career" program to recruit and train students as well as recent graduates on the latest technologies and critical skills. The program includes partnerships with engineering and IT universities in France and Portugal to co-develop technical projects and the participation to academical conferences and job fairs events. Euronext received the 2019 V.I.E Strategy Awards from Business France, which increased its visibility as an international employer.

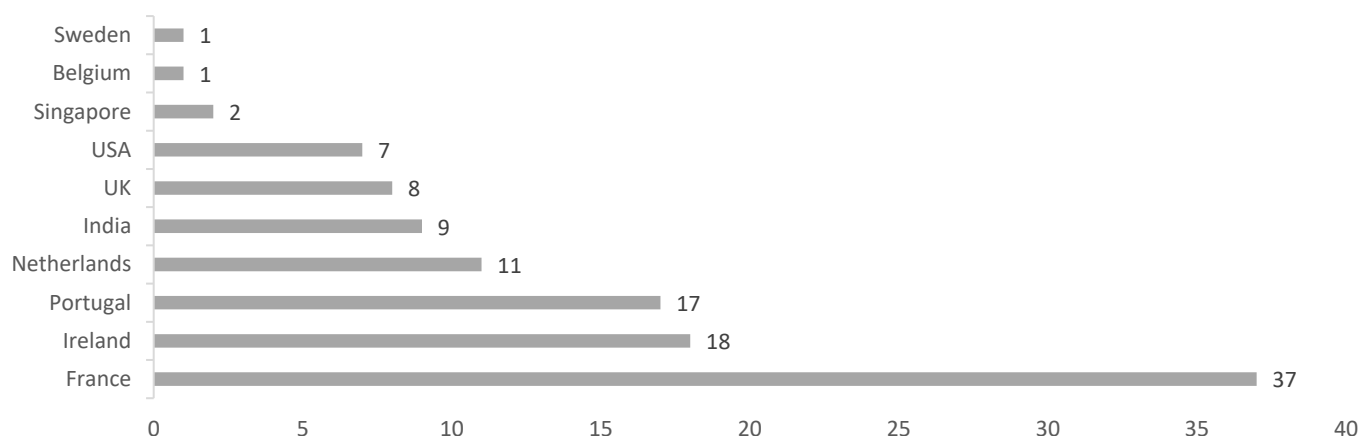
The company also implemented tools to promote career mobilities, training and assessment of skills and performance. The Career Framework, which is progressively rolled-out and updated across functions, offers a global view on existing roles and suggests possible career paths within the company. Euronext designed leadership programs for the development of the managers and leaders of the organization. A Group training plan is rolled out to favor access to training on the core strategic skills to all employees through monthly sharing sessions and Learning Weeks opened to all staff.

Talent reviews are held in a consultative manner by Senior Managers within one department; this consultation focuses on mutual exchange of feedback on employee performance and potential. Talent Reviews also help identify employees' development needs. Talent reviews are held in each function, and output is discussed by the Managing Board. They are also used to identify potential successors in the organisation's key roles, and formalise a succession plan.

In addition, Euronext carries out initiatives to favor the quality of life at work through its Wellnext program with actions related to sport, nutrition and work-life balance and reinforces its ESG commitment internally and externally.

New Employee Hires	2019	2018	2017	2016
Number of permanent and non-permanent employees hired in the year	111	113	101	94
% of females/males included in the above number	36%/64%	25%/75%	30%/70%	NA
% of hires under 30 years old	55%			
% of hires 30 – 40 years old	28,8%			
% of hires 40 – 50 years old	13,5%			
% of hires 50+ years old	2,7%			
Talent pool of trainees, interns, apprentices	86	62	51	NA

Hires by Region for 2019:



Education

Euronext runs internal educational and information programmes including frequent “Lunch & Learn” sessions, in order to develop expertise in each of the key functions, in line with the company strategy and to share a common company mindset and learning culture.

All employees were invited to Lunch and Learn sessions and the total number of sessions run over the last four years are as follows:

	2019	2018	2017	2016
Number of Lunch & Learn sessions	68	43	39	34

In 2018 the concept of “Learning Weeks” was created and deployed across all locations to promote learning and development to all its employees and managers. Through inspiring conferences, workshops and face-to-face meetings, all employees were offered deep content to develop their soft skills, to learn about capital markets trends and on new technologies. The “Learning Weeks” were facilitated by internal experts or external thought leaders. These were continued in 2019.

A dedicated budget is also set and spent for external vendor training purposes across Euronext locations.

	2019	2018	2017	2016
% of employees trained (reported training or development activity)	60%	70%	57%	51%

In 2019, it represents more than 10,158 hours of training reported with an estimated average of 23 hours per employee trained, with 25.8 hours an average per female employee. These figures do not include the Learning Weeks and Lunch and Learn sessions, within which a majority of Euronext employees attended training sessions.

Group Training and Development initiatives are fully supporting the deployment of the strategic plan “Let’s Grow Together 2020-2022”. Leadership seminar have been adjusted to the new strategy for leaders and managers to take ownership of the strategic mindset dimensions. Project Management training sessions have been redesigned to train Euronext project management community according to the new PM Policy. Below are a summary of the group training available as well as transition assistance programs.

Training group activity summary

	Project Management	Leadership	Pitching for business
2019	43 participants on project management essentials program, run across 3 locations with attendees from across the group	34 participants from all locations. 20.6% of which were female	7 participants from client facing team in the Debt and Funds team.
2018	82 participants for session either dedicated to the Project Management community or to all staff across locations	94 participants from all locations, 34% of which were female	36 participants from clients facing teams from Sales and Listing functions
2017	151 participants from all Euronext countries	17 participants from all locations, 47% of which were female	9 participants from the Market and Global Sales team

Career Framework

In 2018, Euronext teams deployed the Career framework within the Information Technology department. Twelve (12) Career Framework roles have been identified to represent the main roles within the Information Technology family. The Career Framework provides a clear map of the professional roles available within Euronext. Other role families are progressively deployed in 2019 and 2020.

Transition Assistance Programs:

To support the organisational and culture change for the integration of Dublin and Oslo entities as part of Euronext, specific change

programmes have been designed for the Irish Stock Exchange, VPS and Oslo Børs. The “Empowering” programs aim to establish a sustainable organisation, engage employees around new strategy and mindsets, and equip them with specific skills adjusted to the new business context with business knowledge training sessions, local strategy workshops, modular training plans and feedback monitoring.

Encourage Health and Safety at Work

Euronext proposes to its employees several initiatives through its Wellnext program to maintain and improve health and wellbeing at work. Each location is monitoring absenteeism rate on a monthly basis.

Euronext ensures the safety of its employees at work and in their working environment by ensuring regular review and updates of safety procedures developed in each location, and coupled with regular testing.

Each Euronext location proposes adapted initiatives based on local needs. Below is a list of main local initiatives:

Belgium	France	Ireland	Netherlands	Norway	Portugal	UK
Free organic fruit; Flu vaccination; Chair massage; Employee assistance programme available on need; Eye tests; Ergonomic assessments; Training and retraining for 1st aiders	Free organic fruit; Daily sport classes and fitness room; Employee assistance programme available on need; Health and safety attributions within the newly elected “economic and social committee”; Training on safety at work for new joiners & also retraining course every 2 years; Mandatory health assessment every 5 years at health services; Flu Vaccination.	Free fruit; Campaign of talks / seminars on physical, mental and financial health; Employee assistance Programme; Onsite Health Assessments; Onsite eye test; Ergonomic assessments; Training and retraining for 1st aiders; Family event.	Health Assessment check every 3 years; Dedicated days on health and wellness at work topics with conferences, Workshop; Chair massage; Inhouse Zumba classes; Training for managers on how to manage stress signals in their teams; Regular workplace check ; Fitness room ; Gaming room ; Football tournament ; Annual running event.	Free fruit; Weekly inhouse Yoga classes; Fitness room; Onsite naprapathy; Health service for employees; Psychological assistance; Flu Vaccination; Eye test and free data glasses.	Free fruit B2 Run (annual runner event); Gym agreements; Pharmacy agreements; Training on safety at work; Chair massage ; Health work ; Annual workplace check ; 2 days dedicated to health and wellness at work topics with conferences & workshops Family day; Flu vaccination	Free fruit; Discounted local gym membership; Sporting events as part of CSR initiatives

3.2.4.2 Promoting Diversity

Euronext is a multinational financial markets company born from the coming together of market exchange activities in Amsterdam, Brussels, Paris and Lisbon. Euronext is now present in 16 European countries and in US and Asia. The federal governance model is central to its organisation, and naturally creates an environment where people of diverse cultures and backgrounds collaborate and drive the organisation forward.

Its long-standing commitment to diversity is entrenched in its corporate values, particularly that of “Unity” which encompasses three main elements:

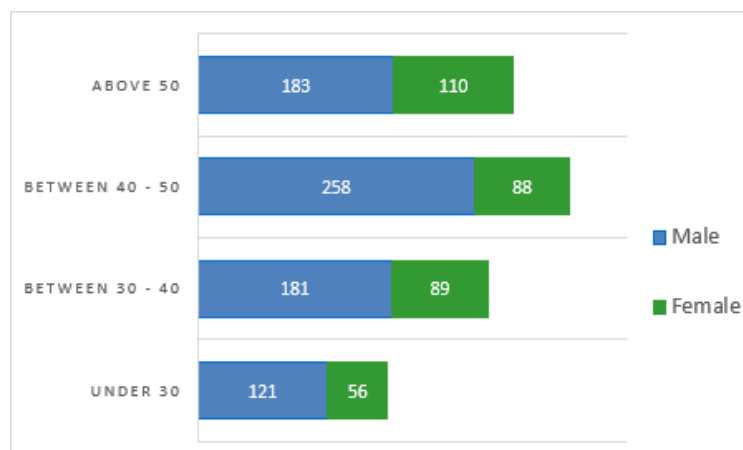
- we respect and value the people we work with;
- we are unified through a common purpose;
- we embrace diversity and strive for inclusion.

In February 2018, a new Euronext Diversity Policy was adopted by the Euronext Managing Board, available on Euronext’s website¹. This policy was an opportunity for Euronext to set its position on Diversity and reaffirm its commitment to ensuring an inclusive environment for all forms of diversity. Diversity at Euronext includes gender, ethnicity, religion, sexual orientation, age, language, socioeconomic status, physical ability, experience and education.

Diversity monitoring	2019	2018	2017	2016
Female / Male regular employees	32% / 68%	33% / 67%	32% / 68%	
Number of nationalities represented	29	22	20	20
% of females in Senior Leadership Team	32.8%	26%	24%	25%
Average employee age – all employees	43			
Average employee age Female / Male	44 / 43			

¹ <https://www.euronext.com/fr/investors/corporate-governance>

Euronext's employee age is divided in the following age groups:

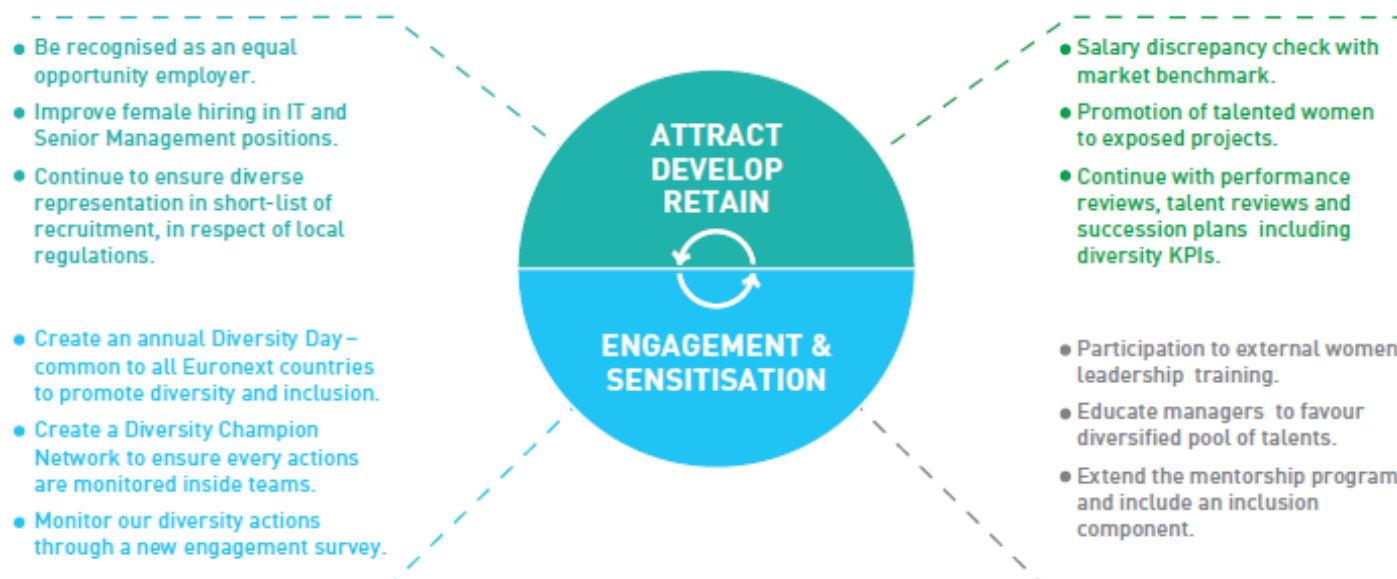


This results in 16.3% of employees under 30 years of age; 24.9% between 30 – 40; 31.9% between 40-50; and 27% over 50 years of age. In 2019, Euronext continued to deliver several initiatives around Diversity promotion:

- Euronext Leadership trainings have been composed of diverse group, representing in each session various locations, functions and a balanced representation of male/female;
- Euronext Diversity Day run across all locations in May 2019, which included a focused session on unconscious bias;
- Euronext participated in several seminars in London, Brussels and Dublin dedicated to women's development;
- a focus was done on gender diversity in recruitment, talent reviews, performance and compensation processes, in line with, and in addition to, local laws.

In 2019, circa 16% of the annual salary increase budget went to catching-up on gender equality salary situations.

Following an ExchangeLab campaign that allowed all staff to suggest ideas, the below action plan has been designed for the coming years:



3.2.4.3 Respect of the Human Rights and local labour laws

Euronext supports the UN Guiding Principles on Business and Human Rights, together with the International Labor Organization Conventions and Recommendations. Euronext's complies with these fundamental rights, conventions and recommendations, notably social rights, freedom of association and equality, abolishment of forced and child labor..

Euronext is committed to social dialogue, supporting union representation rights and facilitating worker representative bodies.

Euronext is also committed to respecting the right to collective bargaining, in accordance with local laws of the countries where its employees are located.

Works Council

In accordance with local laws and regulations, local works councils are set in France, in the Netherlands and in Portugal (Porto). The works councils represent Euronext employees, are informed and/or consulted on economic, financial, social and organisation matters, and complement collective or national labour negotiations.

In France, staff representative elections were organized in 2018 in the two legal entities to renew the Work Councils according to local regulations.

France

Norway

The Netherlands

Portugal

Number of local Work Council sessions held in 2019	19 (across 2 legal entities)	4	10	3
----------------------------------------------------	------------------------------	---	----	---

The Company has also set a social dialogue committee at the European level, including every European country. European staff representatives are informed on economic, financial, social and strategic Group matters.

	2019	2018	2017	2016
Number of meeting of staff representative at European levels	1	1	2	2

Social Dialogue with Unions

Euronext is committed to social dialogue, supporting union representation rights and facilitating worker representation bodies. Euronext held very regular meetings with unions in every company where unions are representatives.

As of 31st December 2019, 55.6% of Euronext employees were covered by collective bargaining agreements.

In 2019, the following were progressed through the works council discussions:

- In Amsterdam, new pension plan implemented; restructuring within Derivatives NL implemented; and new social plan structure agreed;
- In Norway, agreement on the process, timeline, circle and criteria for the post acquisition restructuring process; and agreement on 2019 remuneration;
- In Paris, implementation after consultation of new EMS organization; new Corporate Services organization and new Cash and Equities Derivatives organization; information on project management policy;
- 3 new collective agreements were signed: for Euronext Paris SA, Right to disconnect and Gender Equality agreements signed; for Euronext Technologies SAS, employee savings agreement signed as part of annual collective bargaining negotiations
- In Portugal, new pension plan agreed and implemented; annual remuneration discussions concluded and GDPR policy implemented

Late in 2018, Euronext launched an innovative strategic dialogue with all its employees to construct its new strategic plan, continuing into 2019. It first involved a group-wide employee survey to help develop the future strategy of Euronext. This survey was completed by close to 50% of the organization, and provided detailed answers regarding their ambitions and vision for the future as well as over 2,000 ideas for management to consider. The survey results and themes were shared with all employees during a Group Town Hall. Each major location across Euronext held at least one local strategy workshop session led by their CEO and senior managers; all staff were invited to discuss the outcome of the survey and the proposed strategic pillars in order to provide their input and ideas for inclusion for consideration by the Managing Board. All of this employee input and engagement directly fed the development of the new Euronext 2020-2022 Strategic Plan 'Let's Grow Together'.

3.2.5 Our Society

Key Issues:	
<ul style="list-style-type: none"> ▪ Act ethically, with integrity and the highest standards in terms of good governance ▪ Educate and engage with our local Community 	
 <p>As a company, Euronext commit to the highest ethical and legal standards of conduct.</p>	<p>Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels</p> <p>Target 16.5: Substantially reduce corruption and bribery in all their forms</p>
 <p>As a stock exchange, Euronext is committed to making a positive impact on its local and global communities and will focus community activities on two topics: Financial Literacy and Blue Finance</p>	<p>Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</p> <p>Target 4.4: Substantially increase the number of youth and adults who have relevant skills, for employment, decent jobs and entrepreneurship</p>

3.2.5.1 Act ethically, with integrity and the highest standards in terms of good governance

Euronext's commitment to high ethical and legal standards of conduct is core to Euronext businesses, and the Group aims to be a model for the industry by supporting the highest ethical standards in its dealings with its colleagues, employees, business partners, customers and in its communities.

Euronext is committed to ensuring a balance between the needs of its employees with those of the Company guaranteeing that each and every employee can excel and develop in a safe, discrimination and harassment free environment.

Good Corporate Governance

The Company respects the Corporate Governance Guidelines, Recommendations and Codes set in place in the Netherlands (see section 4.1), and aims to comply with the ones set in place in the other Euronext locations, and notably the French Afep – Medef Recommendations and the 2020 Belgian Code on Corporate Governance.

The governance of Euronext reflects the highest standards of independence, oversight, and transparency. The Company applies strict principles and guidelines to its own governance practice and to the companies that list on its markets.

Euronext's two-tier governance is composed of a Supervisory Board and a Managing Board. The Supervisory Board's main role is the supervision and oversight of the Company's management. The Supervisory Board is chaired by an independent non-executive director. The managing board is responsible for the developing and implementing the Company strategy as well as assuring the day to day operations. The Managing Board is chaired by the group CEO. The functions of Chief Executive Officer ("CEO") (chairing the Managing Board) and Chairman (chairing the Supervisory Board) are separated.

By the end of 2019, the Supervisory Board was composed of ten non-executive directors including three female directors.

Three independent committees report to the Supervisory Board: the Audit Committee, the Nomination and Governance Committee and the Remuneration Committee. Each Committee is chaired by one of the Supervisory Board members and includes several Supervisory Board members.

The General Meeting held on 15 May 2018 has set the annual remuneration for the members of the Supervisory Board in accordance to their role(s), see section 4.4.2.9. Remuneration of Supervisory Board members

In 2019, the Supervisory Board and its three related committees¹ held thirty-five (35) sessions through in person meetings or conference calls.

By the end of 2019 the Managing Board included eight (8) directors, and in its "Extended Managing Board composition" it included five (5) Executive Managers who attended all its meetings (Chief Financial Officer, Chief Information & Technology Officer, General Counsel, Chief Talent Officer and the Head of Cash and Derivatives).

In 2019, the Company has reaffirmed the role of the Euronext Managing Board and of the Investment Committee, performed monthly risk reviews and strengthened the Senior Leadership team with sixty-seven Senior Managers.

The Senior Leadership team, a new Executive group created in 2016, is composed of 33% of females. The balance of country representation is the following: 52% France, 12% Netherlands, 4% United Kingdom, 68% Portugal, 4% Belgium, 7% Ireland 9% Norway, 1% Spain and 3% United States. The average age of this group is 45 years old.

Executive compensation respects the Company's remuneration policy, ensuring adequate performance based rewards. For further details see section 4.4.1 of this Universal Registration Document.

Detailed information about Euronext's Governance can be found on the Corporate Governance page on Euronext's website as well as in sections "Corporate Governance" and "Management control structure" of this Universal Registration Document.

The enterprise risk management framework also illustrates Euronext's commitment to ESG.

Euronext governance includes an internal audit department, supported by external firms to audit specific items, providing an independent and objective assurance on the organisation's governance, risk management and internal control. In 2019, eleven (11) assignments on various domains, including Information Technology, Business entities and Support functions, have been conducted.

Euronext Code of Business Conduct and Ethics

Euronext has adopted a Code of Business Conduct and Ethics that reaffirms its commitment to high standards of ethical conduct and reinforces its business integrity, policies and procedures. The Code of Business Conduct and Ethics explains the Company's core values and basic ethical obligations in conducting business. In particular, it addresses the following themes:

- conflicts of interest;
- inside information and personal trading;
- confidential information and privacy;
- anti-money laundering, sanctions;
- anti-bribery;
- data protection
- fair competition.

Euronext Compliance Policies

These policies aim at ensuring compliance with the laws and promoting best practice as well as the higher ethical standards.

They intend to raise awareness among Euronext employees and avoid non-compliance or reputational risks.

Euronext has implemented the Anti-Money Laundering and Sanctions Policy and Guidance according to the 4th European Union AML Directive. The financial sector relies on Euronext to act as a gatekeeper preventing money laundering and terrorist financing activities. The Euronext Anti-Money Laundering and Sanctions Policy is designed to ensure compliance with EU AML Directives and Regulations applicable to an operator of regulated markets and trading venues. It includes the need to have in place appropriate systems and controls to identify and mitigate the risk of Euronext being used to facilitate money laundering, other financial crime and terrorist financing.

Furthermore, Euronext maintains a strong focus on detecting integrity breaches such as market abuse, market manipulation, and insider trading which are reported to regulators. Euronext has internal procedures and dedicated teams for this purpose and to ensure compliance with requirements of the Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on Market Abuse ("Market Abuse Regulation").

¹ Audit Committee, Nomination and Governance Committee and Remuneration Committee

Prevention of market abuse by Euronext staff is supported by a Personal Trading Policy, a Euronext N.V. Insider trading Policy as well as a Confidential and Inside information Policy.

Finally, Euronext has adopted an anti-bribery policy and a conflict of interest policy according to best practice to comply with local laws, as well as a gift meals and entertainment policy which strives to ensure all Euronext staff upholds the highest standards with respect to conflicts of interest and anti-corruption. Those policies covers all business and all operations of Company. The Anti-Bribery Policy is established to prevent, identify and report the activities constituting bribery in its many forms. The Policy encompasses all forms of corruption and bribery including attempt or appearance of corruption.

Similarly, Euronext has established the Conflicts of interest Policy to avoid conflicts situations, ensure that Employees understand what a conflict of interest is, in its many forms and offer guidance to Employees on how to manage such conflicts. The Policy encompasses all business and operation of the Company with a dedicated focus for certain highly regulated businesses.

The aforementioned policies apply to Euronext and its majority owned subsidiaries, and to all Euronext employees including consultants (including interns and temporary staff) and agents. They are available to Company employees on the Intranet and employees are required to participate mandatory trainings.

Training and awareness

Staff training and awareness sessions are conducted regularly in all company locations to promote compliance and ethics standards. Each new employee is trained shortly after joining by the Euronext Compliance department. Euronext conducts ongoing training as refresher and as necessary, such as following the modification of these policies. In 2019, all Company employees were required to complete an anti-corruption training. In 2020, they will be required to Complete a conflicts of interest training that will be available on a dedicated eLearning platform. Finally, some teams receive specific training as they have been identified as more exposed to certain risks.

	2019	2018
Number of staff that received the training	303	208
Percentage of total employees	90.1%	88.90%

Whistleblowing Program

The Company, *via* its Whistleblowing Policy, allows Employees and third parties to report in confidence alleged breaches of the laws or Company policies, and protects anyone who reports in good faith, ensuring that they shall in no way be put at a disadvantage by the Company as a result of the report. The policy provides internal and external mechanisms to report unlawful and unethical behaviors. External mechanism is managed per internet by a specialized provider and allows employees anonymous reports. The company is committed to protect reporting employees against retaliation. The Whistleblowing Policy and Procedure also describe how the reports are treated, how investigations are carried out including confidentiality aspects as sets for in the laws and contains the rights and obligations of Employees when they want to report an alleged breach. The Company has also upgraded its Policy and Procedure to ensure full compliance with laws of the jurisdictions where it operates.

The Whistleblowing Policy is available on Euronext Website¹ and on Euronext Intranet in the main languages used in the Company. Employees participate mandatory trainings mostly through e-learning platform and are informed on the mechanisms to report unlawful and unethical acts and behaviors

Additionally, the Company is committed to providing all employees and others who are on Company property with a safe and healthy work environment. Accordingly, all employees will comply with all health and safety laws and regulations as well as Company policies governing health and safety. All employees are responsible for immediately reporting accidents, injuries and unsafe equipment, practices or conditions to a manager or other designated person.

For more information on the Code of Business Conduct and Ethics see section 2.1.1.3 "Corporate Compliance – Code of Business Conduct and Ethics"

Data Protection

Euronext is strongly committed to protect the personal data and uphold the right to privacy as provided by Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of Personal Data and on the free movement of such data ("GDPR") and any national implementing laws and regulations of the GDPR.

Euronext has adopted a set of internal policies/procedures and internal/public notices/statements:

- Internal policies and procedures:
 - Data privacy policy
 - Data retention policy
 - Personal data classification policy
 - Personal data breach policy and procedure
 - Data Subjects Information Consent and Rights Policy and procedure
 - Privacy by Design and data protection impact assessment procedure
- Internal/public notices/statements:

¹ <https://www.euronext.com/fr/node/721>

- Privacy notice to staff
- Privacy notice to Board Members
- Privacy Statement
- Data subjects' Rights Request Information procedure
- Privacy notice to applicants

These new processes have been circulated to employees through a global training specifically designed by and for Euronext and in-depth training for specific functions more exposed to certain risks. Staff training and awareness sessions are conducted regularly in all company locations to promote GDPR compliance. Each new employee is trained shortly after joining. All new acquisitions made by Euronext are integrated in these processes as well after harmonization where applicable.

Euronext has implemented several organizational and technical measures to ensure the protection of privacy. Among all these organizational measures, we can underline:

- The use of a data privacy management tool for the record of processing,
- The use of a tool for personal data breaches and data protection impact assessment (realized for all new project or vendor),
- The designation of Business Data Owners within each business unit and support function whose role is to ensure the link between the business unit and support function concerned and the Data Protection Officer in one hand and InfoSec and Data Management Office on the other hand,
- The implementation of several tools by InfoSec department to classify or frame accesses.

A strong governance around data as a whole and personal data particularly exists and is part of the global organization with a monthly reporting of the DPO to the Data Governance Steering Committee chaired by the Chief Data Officer.

GDPR training employees

2019		
	Number	Percentage of total employees
Staff assigned to the training	965	76.2%
Staff completing the training	697	72.2%

3.2.5.2 Educate and engage with our local Community

Euronext is committed to making a positive impact on our local and global communities, and Euronext's employees play important roles in this context. Euronext contributes to its local communities through trainings, volunteerism, philanthropy and thought leadership. An important objective is to increase public understanding and appreciation of the role that Euronext plays as a financial infrastructure provider, and how it is a factor to achieve economic growth and increased welfare. Going forward, Euronext will focus community activities on two topics: Financial Literacy and Blue Finance. Activities related to these topics will be organised by each local exchange, under the management of the local CEO.

In order to support these community activities, the Managing Board decided in December 2019 to set up a new governance committee at Group level. The main responsibility of the governance committee is to prioritise and decide on which initiatives proposed by the different local exchanges to support financially. Initiatives will receive support based on the committee's assessment of the merits of the proposed activity

Financial Literacy

As a financial infrastructure provider, Euronext is at the center of financial markets and communities. As a meeting point for a broad range of stakeholders, Euronext is committed to improving the broader understanding how financial institutions, including Euronext work together and their impacts on the world around them. Euronext strives to improve financial understanding far beyond its own company seeking to reach employees at its broad community of companies, as well as teachers, students, and people in its communities. Euronext believes it can have a broader role to play. Euronext takes the opportunity to partner with international organizations in the field, namely by celebrating Global Money Week, Global Entrepreneurship Week, Financial Literacy Week, with events and bell ceremonies across all its locations.

Blue Finance

All Euronext countries are adjacent to the ocean, have a rich fishing and shipping tradition and have long seafaring traditions. Whilst climate change in general and the transition to a sustainable economy will play a central role in our product offering, Euronext wants to particularly address the threats to the oceans by taking on a leadership position in Blue Finance. There is increasing evidence that losses in the ocean's natural capital resulting from unsustainable economic activity is eroding the resource base on which growth depends. Innovative financial solutions will be required to enhance ocean and coastal resilience and the financial sector has a role to play in order to mitigate this development. In 2020, community initiatives in Euronext's different locations will focus on activities to support the conservation and sustainable use of the oceans, seas and marine resources for sustainable development as set out in Sustainable Development Goals 14 "Life Below Water".

Volunteering

Euronext's employees volunteer for several organizations in all its European locations, Euronext helping to identify and select the themes and institutions with a wide offer of company sponsored initiatives, that most suit its employees wishes and abilities.

Euronext's employees give time to volunteering initiatives.

In 2019 several initiatives were pursued locally, such as:

- in Amsterdam: Euronext Amsterdam hosted numerous financial literacy and education tours about the role of the exchange and the functioning of capital markets. In total, 463 groups representing 9,700 persons took part in these tours in 2019;
- in Brussels: classes on financial markets are regularly taught by Euronext Brussels teams to schools and associations including Capitant, UG/UA, Antwerp Management School, Gastcollege Ugent, Robert Smith Business School, VPO Opwijk;
- in Dublin: employees volunteered in help at the Capuchin Day centre which helps fed those in need. Through our charity committee we also raised awareness for cancer support and had a representative from the charity ARC Cancer support onsite to speak to our employees. We also had a representative from Movember (a cancer charity) come onsite from a breakfast talk to speak to employees about Men's Cancer Awareness;
- in Lisbon and Porto: some volunteers have visited secondary schools that had requested a brief introduction to the capital markets and how companies can grow using it as a tool for financing their businesses;
- in London, a number of initiatives were run throughout 2019, as follows:
 - April: a Career Ready Student Day for Students from Woodhouse College
 - June: Futures For Kids Charity Fun Run and a sponsored Bike Ride (London employee) from London to Paris – Money raised went to Hestia
 - July: Charity Cricket Match supporting Motor neuron disease; hosted 20 Poznan University Business & Economics Students for a talk on Euronext and capital markets; and Hestia Family Picnic for women and children in women's refuges in Tower Hamlets
 - September - Futures For Kids Five-A-Side Football Tournament
- in Oslo : Oslo Børs hosted a number of financial literacy events including tours of the exchange for university and business school students. Employees volunteered at the annual summer party in the Exchange's park for homeless people and other disadvantaged groups in the Exchange's neighbourhood;
- in Paris: 16 presentations were organized, with the support of internal teams from all departments, for various High Schools in and around Paris, for Universities (Université Catholique de Lille, Master II Droit Financier Paris Sorbonne, Master II Finance Paris Dauphine, Toulouse Business School, INSEEC) and for business schools (ESSCA) and Neoma (University of San Diego and Caroline of North's University). Those presentations aimed at giving pedagogic explanations on the role of an exchange to young High School students, and entering into more elaborate details on the functions of an exchange for students in universities and business schools. The Euronext group CEO dedicated a half-day presentation of the role of an exchange to young students from a Collège in Pantin, Bagnolet et Drancy, and several members of Euronext Paris management dedicated time for Finance education sessions in the context of the Journée Nationale des Jeunes.

Giving Visibility

One of the most unique aspects of Euronext's ESG's strategy is the way in which the Company allocates its resources. Our status allows and business ecosystem provides us with a unique position to raise awareness and to promote leadership and best practices. Companies, NGOs, non-profits, associations and foundations are invited to participate to Euronext's opening and closing stock markets bell ceremonies, conferences and seminars.

Euronext has a program of opening or closing the markets with a bell event ("Gong" in Amsterdam). Some of these events gave visibility to international causes or charities – in particular to the following:

- in Amsterdam: 33 bell events have been hosted in relation to international causes or charities such as Women in ETF and Global Money Week;
- in Brussels: bell ceremonies for International Women's Day, Diversity Day and for the Sustainable Value for Money conference. Euronext Brussels signed Febelfin's "Gender Diversity in Finance" Charter for a better gender balance in the financial sector, taking the commitment to act in favor of diversity in the workplace and daily business life.
- In Dublin: a "Ring the Bell for Gender Equality" ceremony that was organized on the 8th of March 2019 with Women in ETFS (WE).
- in Lisbon and Porto: organization of the International Women's Rights Day and collaboration with and support to the Business Council for Sustainable Development (an initiative of many leading firms to promote environment, social and governance development);
- In London: "Power of Profile" breakfast session with women of the London team with Vanessa Vally, OBE (We Are The City); Unconscious Bias training session with external diversity & leadership training provider Scene Change; Euronext London Women attended "We Are The City" conference; Euronext London Women attended "International Women in Business" Conference; Hestia Women's Empowerment Talk and Lunch;
- In Oslo: International Women's Rights Day bell ceremony and conference for female students in IT, Finance and Law in cooperation with UN Global Compact. First closing auction bell ceremony for the Church City Mission in Oslo to give visibility to homeless people and other disadvantaged groups in the neighbourhood of the Exchange
- in Paris: International Women's Rights Day bell ceremony as well as for the National Youth Day (21th of March 2019), for students from 2 classrooms were invited;

Sponsoring and Donations

The Company encourages its staff to volunteer in the financial literacy field, but has also granted a few sponsorship or donations:

- in Amsterdam: Donations were made to September for people living with cerebral palsy and a team of Euronext has participated in

September (10.000 steps per day for 28 days) raising money for the organization;

- in Brussels, two donations have been made in 2019: a donation of 5.000 € to Capitant, a student organisation which aims to introduce students to and further guide them in the financial markets, in all aspects and worldwide, and a donation of 3.000 € to Zam-med 'objective. The Zam-Med is a non-profit organization which aims at financing projects that allowing people to access drinking water in the region of Djuma, in the province of Kwilu, in the Democratic Republic of Congo;
- in Dublin, a coffee morning fundraiser was held for the Peter McVerry (homelessness) Trust; a bake sale and raffle held for our lady's hospice; and a quiz night for Stuart's School with a €2,000 company donation;
- in Lisbon and Porto, Euronext has been one of the key promoters and sponsors of the national initiative Finance for Growth: a program created with the support of the Portuguese Government dedicated to enlightening SMC businesses on the different financing solutions. The initiative aims to get to 1,500 companies, via conferences and a roadshow all over the country, to work closely with those who wants to know more about the tools that better suit their financing needs. Also, EPIS - donation of social responsibility; SIR - forum sponsor for Investor relation (Social Business); AEM - sponsor of association of listed Companies; BCSD - sponsor of ESG; APAF - Portuguese Financial Analyst annual donation and sponsoring IB; AEP: sponsoring of financial institution; PFA - sponsor of Portugal Fintech Association;
- in London: a donation of £7,000 was done for Refurbishment of School Library to the Sir John Cass Primary School.
- in Oslo: Sponsor of and event collaboration with AksjeNorge, a non-profit organisation that contributes to increased knowledge about the securities markets and how to invest long term in listed companies and mutual funds. Donation of the surplus from the violation charges paid by companies on Merkur Market to the Church City Mission. Auction of bell ceremony to raise funds for CARE Norge's work to empower women and girls in some of the world's poorest countries;
- in Paris, a donation of € 5,000 to the Banyan association, which sponsors, in particular, the National Youth Day organized each year (which helps teenagers with their professional orientation and the development of their competences and knowledge of the professional world); €1,000 donation was made to International Women's Rights Day.

3.3 ESG RISKS CONSIDERATIONS

As mention in Chapter 2 Risk Management and Control Structure, Euronext as a European market operator does not face standalone material ESG risks. However ESG considerations are important to Euronext and certain risks faced by Euronext may be qualified as ESG are already taken into account in other risk categories. The below discussion seeks to clarify areas in which Euronext analyses ESG potential.

Social

Given Euronext's role as market operator and mission to uphold the highest standards for a transparent market, the integrity of our markets is one of our imperatives. We believe that financial markets are a cornerstone to a well-functioning economy and, by extension, society. Therefore the risk of an integrity breach of our markets may be considered a societal risk. However, given the strict legal framework and highly regulated environment in which Euronext operates, these risks are considered as compliance risks.

Euronext mitigates potential risks to our market integrity by ensuring strong controls and procedures. Euronext has implemented the Anti-Money Laundering and Sanctions Policy and Guidance according to the 4th European Union AML Directive.

Euronext maintains Member and Issuer Compliance teams to support fair and orderly markets and protect against integrity breaches such as market abuse, market manipulation and insider trading, which if detected are reported to Regulators. With respect to Euronext as an issuer, further controls and policies in order to ensure the highest standards and integrity are maintained:

- Euronext Personal Trading Policy;
- Euronext N.V. Insider Trading Policy;
- Confidential and Insider Information Policy;
- Conflicts of Interest Policy;
- Anti-Fraud Policy;
- Anti-Bribery Policy (in best practice accordance to local laws);
- Anti-Money Laundering and Sanctions Policy;
- Gifts, Meals, and Business Entertainment Policy;
- Employee code of conduct;
- Whistleblowing policy.

Euronext ensures regular training sessions for all employees and targeted training sessions for those employees with access to potential price sensitive information. Euronext also manages a whistleblowing policy to ensure employees have a place to report issues confidentially. For further information please refer to section 3.7.

Euronext employees are essential to the Company and are a critical stakeholder. While Euronext protects itself from key man risk through succession planning and its organization (please refer to section 2.3.7. for further information) employee health, wellbeing, and growth are imperative to the Company. As such Euronext has several initiatives in place to employee wellness (please refer to section 3.7 "Encourage health and safety at work") in addition to upholding European labor laws. Euronext employees benefit from local works councils in France, the Netherlands, and Portugal. Given Euronext's geographic footprint (primarily Europe) and sector, Euronext does not face material Labor/Human Rights risks. Euronext employees are covered by European Labor Laws and the Company benefits from having Euronext has

limited employees outside of Europe (US, India and Hong Kong) and is obligated to uphold European Labor Laws.

At the end of December 2018 Euronext completed its acquisition of Commcise which at the time had staff in London and Bangalore. Post-acquisition a labour law consultant was engaged to work out a transition plan to bridge any legal or regulatory gaps. Following the analysis and subsequent actions, Commcise is in line with the local labour laws that are applicable to both the service they offer and the industry.

Euronext seeks to ensure the highest standards within the Company and throughout our supply chain *via* the Euronext Supplier code of conduct. This code of conduct first signed in 2015 includes provisions regarding human rights, diversity and inclusion, and environmental protection, ensuring that Euronext has an ethical supply chain. Additionally all new vendors are screened for past or current sanctions. For further information regarding our supply chain please refer to section 3.4.2.

Environmental

As an electronic services provider, Euronext does not directly engage in materially environmentally sensitive activities. Nevertheless, Euronext is committed to environmental sustainability and has endeavoured over the past 10 years to offer an increasing range of ESG products and services to its clients.

In 2019, Euronext partnered with Carbone 4 in order to clearly identify and assess its potential climate-related risks and opportunities in addition to calculating its carbon footprint. Climate change will have a material impact on the global and regional economy in which Euronext is a key player. While these changes will have economic and social consequences, the preliminary assessment conducted with Carbone 4 has concluded that Euronext's carbon footprint is relatively low and the exposure to climate change related risks are limited.

However, Euronext believes that environmental challenges including climate change are relevant and will become increasingly so and has therefore included ESG in its strategic plan "Let's Grow Together" as well as seeking to embed ESG within each of its strategic pillars. In line with its strategic plan Euronext will seek to further reduce its carbon emissions notably by analysing the environmental impact of its third party providers, and its technology usage by trying to promote IT solutions that reduce consumption of natural resources, for example the use of communication tools over international travel, reducing the footprint of physical platforms to virtual environments and reduction of hardware consumption.

Please refer to page 81 for further details on Euronext's Green IT Initiative section 3.5 for information regarding the ESG products offered by Euronext.

Governance

Euronext upholds the highest standards of Corporate Governance and complies with the Dutch Code of Governance. Euronext's two-tiered board structure ensures strong oversight over management. Euronext maintains a majority independent Supervisory Board in order to ensure all shareholders are appropriately represented. Finally, Euronext seeks to ensure that executive remuneration and non-executive director remuneration are not excessive with respect to market and sector peers, and that for executive directors, variable compensation is aligned with Company performance. For more information on the composition of the Supervisory Board, please refer to section 4.2.2. for details regarding non-executive and executive remuneration please refer to 4.4 section of this document.

4 CORPORATE GOVERNANCE

A description of the shareholding structure of the Company is provided in section 6 “General description of the Company and its share capital”.

4.1 DUTCH CORPORATE GOVERNANCE CODE, “COMPLY OR EXPLAIN”

The Dutch Corporate Governance Code (“the Code”) became effective in 2016 and finds its statutory basis in Book 2 of the Dutch Civil Code. The Code applies to Euronext as it has its registered office in the Netherlands and its shares are listed on the regulated markets of Euronext Amsterdam, Euronext Brussels, Euronext Lisbon and Euronext Paris. A Dutch and an English version of the Code can be found at www.commissiecorporategovernance.nl

The Code is based on the notion that a company is a long-term alliance between the various stakeholders of the Company. Stakeholders are groups and individuals who, directly or indirectly, influence – or are influenced by – the attainment of the Company’s objectives: employees, shareholders and other lenders, suppliers, customers and other stakeholders. The Managing Board and the Supervisory Board have responsibility for weighing up these interests, generally with a view to ensuring the continuity of the Company and its subsidiaries, as the Company seeks to create long-term value. If stakeholders are to cooperate within and with the Company, they need to be confident that their interests are duly taken into consideration. Good entrepreneurship and effective supervision are essential conditions for stakeholder confidence in management and supervision. This includes integrity and transparency of the Managing Board’s actions and accountability for the supervision by the Supervisory Board.

The Code is based on a “comply or explain” principle. Accordingly, companies are required to state the extent to which they comply with the principles and best practice provisions of the Code in the director’s report and, where it does not comply with them, why and to what extent it deviates from them.

Euronext acknowledges the importance of good Corporate Governance and endeavors to comply with the provisions of the Code. However, there are a limited number of best practice provisions that it currently does not comply with, as further explained below. The fact that Euronext is not compliant with a number of best practice provisions is partly related to the fact that Euronext is an international company uniquely supervised since its creation in 2000 by a College of international Regulators, supervising Euronext on a joint basis, which has required some specific features which may interfere with the specific provisions of the Dutch Code. Euronext is active in a number of European jurisdictions, each with different laws, regulations, best practices, codes of conduct, regulatory guidelines and views.

Provisions of the Dutch Code regarding corporate law matters, that Euronext did not apply in 2019:

- Euronext did not fully apply best practice provision 2.2.1 (“a Managing Board member is appointed for a maximum period of four years”). The terms of appointment of the members of the Managing Board who had been appointed for an indefinite term before Euronext became a listed company have remained unchanged. With regard to the members of the Managing Board who were appointed since Euronext became a listed company, Euronext complied with this best practice provision. It is envisaged that the full Managing Board’s members’ appointment terms are progressively harmonised to comply with this best practice provision;
- Euronext did not apply best practice provision 2.1.7, item iii (“for each shareholder, or group of affiliated shareholders, who directly or indirectly hold more than ten percent of the shares in the Company, there is at most one Supervisory Board member who can be considered to be affiliated with or representing them”). Three members of the Supervisory Board namely Luc Keuleneer, Lieve Mostrey and Franck Silvent, have been proposed by Euronext’s Reference shareholders, who as a group acting via the Reference shareholders’ Agreement hold 23.27% of Euronext’s shares. This group of shareholders acts jointly and has been granted a declaration of non-objection by the Dutch Ministry of Finance. The background of the presence of three members in Euronext’s Supervisory Board who can be considered to be affiliated with or representing the Reference shareholders is related to the request of the Euronext College of Regulators at the moment of its IPO in 2014 for it to have a number of stable, long-term shareholders who could propose one third of the members of the Supervisory Board.

Provision of the Dutch Code regarding the remuneration policy of the Managing Board that Euronext did not apply in 2019:

- Euronext did not apply best practice provision 3.1.2 vi (“...Shares should be held for at least five years after they are awarded”). Euronext has launched its 5-years LTI plan in 2015 with a three-years cliff vesting performance share plan to support its strategy. Euronext retained the flexibility as the one-size-fits-all principle could not apply, and adjusted this policy to its current needs of flexible monitoring and retention. Euronext executives are located in each of our European countries with specific lockup guidelines: the Netherlands, Ireland, France, the United Kingdom, Portugal and Belgium.
- Euronext did not apply best practice provision 3.2.3 (“the remuneration in the event of dismissal should not exceed one year’s salary (the “fixed” remuneration component)”). In the event of termination by the Company of a member of the Managing Board the Company has decided to align progressively all Managing Board members’ contracts on the same line as was decided at the time of recruitment of the Chairman of the Managing Board in September 2015, and disclosed at the Shareholders’ Meeting of 27 October 2015: the limitation to twelve months of fixed salary as provided in the Dutch Corporate Governance Code has been balanced against the French AFEP-MEDEF Corporate Governance Code recommendations, which provide for a maximum

termination indemnity of twenty-four months compensation, fixed and variable remuneration. The termination indemnity has been limited to twice the annual fixed salary, which is in line with the relevant best practices in the various other jurisdictions in which it is active. Managing Board members' contracts have been amended to that effect.

Provision of the Dutch Code regarding meetings with analysts that Euronext did not apply in 2019:

- Euronext did not apply best practice provision 4.2.3 ("meetings with analysts, presentations to analysts, presentations to investors and institutional investors and press conferences shall be announced in advance on the Company's website and by means of press releases, enabling all shareholders to follow these meetings and presentations in real time, for example by means of webcasting or telephone"): Euronext always ensures that all shareholders and other parties are provided with equal and simultaneous information about matters that may influence the share price through the distribution *via* an authorized wire. All material developments are disclosed *via* press releases and all presentations used during analysts and investors meetings are available on Euronext's website at the time the presentation starts. Euronext also provides real time webcast and conference call facilities for all its results presentations and other financial presentations.

4.2 MANAGEMENT STRUCTURE

4.2.1 General Information

No information on family relationships between members of the Supervisory Board, members of the Managing Board and senior staff, as well as on convictions in relation to fraudulent offences, bankruptcies, receiverships, liquidations or official public incriminations with regard to these persons has been included in this Universal Registration Document, as these matters are to the best knowledge of Euronext not applicable to these persons.

Further, to the best of Euronext's knowledge, the members of the Supervisory Board and the Managing Board do not have potential conflicts of interest with the Company in 2019 and up to date of the publication of this Universal Registration Document. When new files are discussed at Supervisory Board and Managing Board meetings, generally concerning Merger and Acquisitions items, a regular conflict check is run and the Conflict of Interest policy then applies, the conflicted board director being withdrawn from the discussion.

Statement of the Managing Board

Responsibilities for the Financial Statements and Directors' Report

In accordance with Article 5: 25c(2)(c) of the Dutch Financial Supervision Act (*Wet op het financieel toezicht*), the Managing Board of Euronext hereby declares that, to the best of its knowledge, (i) the Financial Statements prepared in accordance with IFRS as adopted by the European Union and with Part 9, Book 2 of the Dutch Civil Code give a true and fair view of the assets, liabilities, financial position and profit or loss of Euronext and the enterprises included in the consolidation as a whole, and (ii) the directors' report gives a true and fair view of the position on the balance sheet date, the course of events during the financial year of Euronext and the enterprises included in the consolidation as a whole, together with a description of the principal risks that Euronext faces.

Responsibility for this Universal Registration Document

The Managing Board declares that, having taken all reasonable care to ensure that such is the case, the information contained in the Universal Registration Document, including the Financial Statements and the directors' report, is, to the best of the Company's knowledge, in accordance with the facts and contains no omission likely to affect its import.

In Control Statement

Euronext's first and second lines of defence perform their roles in risk assessments, evaluations of the operating effectiveness of controls, and reporting on risk management and control. The concluding results are regularly discussed at senior and executive management level. Group Audit, as the third line of defence, evaluates both the design and effectiveness of Euronext's governance, risk management and control processes. Audit reports are discussed with risk and process owners and the Audit Committee.

Based on the risk management processes, the Managing Board makes the following statements regarding internal risk management and control, taking into account Euronext's strategy and risk profile.

In accordance with best practice provisions 1.4.2. and 1.4.3 of the Dutch Corporate Governance Code, Euronext's Managing Board is of the opinion that, in respect of financial reporting risks, the design and operation of the internal risk management and control system, as described in 2.1.1.1 "Risk management" and 2.1.1.2 "Internal control" (i) provides a reasonable level of assurance that the financial reporting in this Universal Registration Document does not contain any errors of material importance, and (ii) has worked properly during the financial year 2019.

As set out in section 2.2, Euronext has a robust Enterprise Risk Management Framework and Governance, which allow the Managing Board to identify and assess the Company's principal risks to enable strong decision making with regards to the execution of the stated strategy. On the basis hereof the Managing Board has assessed the risk profile and the design and operating effectiveness of the risk management and control systems; this was discussed with the Audit Committee of the Supervisory Board.

The Managing Board declares that, based on the current state of affairs, the implementation of the Business Continuity Framework and the reporting process on existing or potential material risks, as set out under 2.2.1, it is justified that the financial reporting is prepared on a going concern basis; and that this Universal Registration Document is to the best of the Managing Board's knowledge, in accordance with the facts and contains no omission likely to affect its import. Furthermore, as described in the 1.2 and the chapter "Risks", this Universal Registration Document reflects the material risks and uncertainties that are relevant to the expectation of the Company's continuity for the period of twelve

months after the preparation of this Universal Registration Document.

Stéphane Boujnah,

CEO and Chairman of the Managing Board

Anthony Attia,

CEO of Euronext Paris & Global Head of Listing and Post Trade

Daryl Byrne,

CEO of Euronext Dublin & Head of Debt & Funds Listings and ETFs

Simone Huis in 't Veld,

CEO of Euronext Amsterdam

Chris Topple,

CEO of Euronext London & Head of Global Sales

Isabel Ucha,

CEO of Euronext Lisbon & CEO of Interbolsa

Vincent Van Dessel,

CEO of Euronext Brussels

Availability of Documentation

The Articles of Association of Euronext, historical information and relevant documentation for investors and shareholders may be viewed on Euronext's website in the Investor Relations section at www.euronext.com/en/investors.

4.2.2 Supervisory Board

Euronext has a two-tier governance structure with a Supervisory Board and a Managing Board. The governance arrangements of the Supervisory Board described in this section are based on, among other things, Dutch law, Euronext's Articles of Association and the rules of procedures for the Supervisory Board. These arrangements include additional provisions and modifications agreed with the Euronext College of Regulators designed to ensure the long-term stability and autonomy of Euronext and curb possible disproportionate levels of influence that large shareholders may have on it.

Responsibilities

The Supervisory Board is responsible for the supervision of the activities of the Managing Board and the supervision of the general course of the business of Euronext. The Supervisory Board may on its own initiative provide the Managing Board with advice and may request any information from the Managing Board that it deems appropriate. In performing their duties, the members of the Supervisory Board must act in the interests of Euronext and those of its business. The Supervisory Board is collectively responsible for carrying out its duties.

Appointment and Dismissal

Members of the Supervisory Board are appointed by the General Meeting (i) in accordance with a proposal of the Supervisory Board or (ii) from a binding nomination to be drawn up by the Supervisory Board, with due observance of the profile (*profiel*) for the size and the composition of the Supervisory Board adopted by the Supervisory Board and reviewed annually. The profile sets out the scope and composition of the Supervisory Board, taking into account the nature of the business, its activities, and the desired expertise, experience, diversity and independence in matters of capital markets in general and in particular in the areas of finance, economics, human resources and organisation, information technology and data processing, legislation and regulation, legal matters and compliance.

The Articles of Association of Euronext provide that each member of the Supervisory Board is appointed for a maximum period of four years provided that unless such member of the Supervisory Board has resigned or is removed at an earlier date or unless otherwise specified in the relevant proposal for appointment, his or her term of office shall ultimately lapse immediately after the day of the first General Meeting to be held during the fourth year after the year of his or her appointment. An appointment can be renewed for a term of up to four years at a time.

The General Meeting may suspend or dismiss a member of the Supervisory Board at all times. The Supervisory Board can make a proposal for the suspension or dismissal of a member of the Supervisory Board. If the suspension or dismissal occurs in accordance with a proposal thereto by the Supervisory Board, a resolution of the General Meeting for suspension or dismissal of a member of the Supervisory Board requires an absolute majority of the votes cast. However, such resolution of the General Meeting requires a majority of at least two-thirds of the votes cast representing more than one third of the outstanding and issued share capital, if the suspension or dismissal does not occur in accordance with a proposal by the Supervisory Board.

Meetings and Decision-Making

The Articles of Association provide that the Supervisory Board shall adopt resolutions by an absolute majority of the votes cast. Each member of the Supervisory Board has one vote. In the event of a tie of votes, the Chairman of the Supervisory Board has a casting vote.

A member of the Supervisory Board may not participate in the deliberation and the decision-making process of the Supervisory Board if it concerns a subject in which this member of the Supervisory Board has a direct or indirect personal interest which conflicts with the interest of Euronext and its business enterprise. In such event, the other members of the Supervisory Board shall be authorised to adopt the resolution. If all members of the Supervisory Board have a conflict of interest as indicated, the resolution shall nevertheless be adopted by the Supervisory Board, notwithstanding the conflicts of interest. In 2019, no transactions have taken place in which members of the Managing

Board and Supervisory Board were conflicted.

Members of the Supervisory Board

The Articles of Association provide that the number of members of the Supervisory Board will be determined by the Supervisory Board and will consist of a minimum of three members. Only natural persons can be members of the Supervisory Board. In the event of a vacancy, the Supervisory Board continues to be validly constituted by the remaining member or members of the Supervisory Board.

As per 1 January 2019, the Supervisory Board was composed of Dick Suimers, Ramon Fernandez, Manuel Ferreira da Silva, Jim Gollan, Kerstin Günther, Luc Keuleneer, Lieve Mostrey, Padraic O'Connor and Franck Silvent. Ramon Fernandez retired from the Supervisory Board following the Annual General Meeting that was held on 16 May 2019. In the same meeting, Jim Gollan was re-appointed to the Supervisory Board for a term of four years. In an Extraordinary General Meeting held on 8 October 2019, Nathalie Rachou and Morten Thorsrud were appointed to the Supervisory Board, each for a term of four years, subject to regulatory approval. These appointments took effect on 5 November 2019.

Dick Sluimers is the Chairman of the Supervisory Board. The Chairman of the Supervisory Board is not a former member of the Managing Board of the company and is independent within the meaning of best practice provision 2.1.8 of the Dutch Corporate Governance Code.

Euronext has assessed that the appointments to the Supervisory Board in 2019 are in compliance with the requirements as included in art. 5:29a of the Dutch "Wet op het financieel toezicht" regarding the maximum number of Supervisory Board positions.

Nathalie Rachou and Morten Thorsrud took part in an induction program offered by Euronext. The induction program consisted of a series of meetings with key staff members, with whom the various aspects of Euronext business, clients and initiatives, governance and regulatory environment, finance and the risk and compliance program at Euronext were discussed.

The Supervisory Board consisted of ten members as at 31 December 2019 and was composed as follows:

Dick Sluimers

Dick Sluimers is the Chairman of the Supervisory Board, chairs the Nomination and Governance Committee and is a member of the Remuneration Committee. He was appointed to the Supervisory Board in 2016. He is also the Chairman of the Supervisory Board of Euronext Amsterdam.

Mr Sluimers is the former CEO of APG group. He currently is Extraordinary State Councillor at the Dutch Council of State. Furthermore he is the chairman of the Supervisory Board of NIBC B.V. and a member of the Supervisory Board of AkzoNobel N.V., as well as a member of the board of directors of FWD group Limited. He is also a member of the board of Governors of the State Academy of Finance and Economics, a Trustee of the Erasmus University Trustfund, a member of the board of the Amsterdam Concert Hall Fund, and a member of the Electoral Committee of the Dutch Liberal Party, and a member of the advisory boards of Quore Capital and Hemingway Corporate Finance.

Mr Sluimers was CFO and later CEO in the Management Board of pension fund ABP from 2003 to 2008. Between 1991 and 2003 he held various positions at the Dutch Ministry of Finance, most recently as Director General of the Budget. Prior to that he was Deputy Director General at the Ministry of Public Health and held senior positions at the Ministry of Social Affairs and the Ministry of Finance. In addition, he was a member of the Supervisory Boards of Fokker N.V., the National Investment Bank N.V., Inter Access N.V. and ABP Insurance N.V. He was also Trustee of the International Financial Reporting Standards Foundation (IFRS), a member of the Advisory Board of Rabobank, Chairman of the board of Governors of the Postgraduate Programme for Treasury Management at the Vrije Universiteit Amsterdam, a member of the Advisory Board of Netspar and a board member of Holland Financial Centre.

He studied economics at the Erasmus University in Rotterdam and read politics at the University of Amsterdam for several years.

Manuel Ferreira da Silva

Manuel Ferreira da Silva is a member of the Supervisory Board, a member of the Remuneration Committee and a member of the Nomination and Governance Committee. He was appointed to the Supervisory Board of Euronext N.V. in 2012.

Mr Ferreira da Silva is Vice-Chairman of the board of the SERRALVES Foundation, Museum of Contemporary Art. He served for thirty-five years as a banker at Banco BPI where he was executive member of the board for the last sixteen years and the CEO of its wholly-owned investment bank. He was a member and, between 2012 and 2014, Chairman of the council of the University of Porto School of Economics and is the Vice-Chairman of the Supervisory Board of Porto Business School. He was member of the board of the Lisbon and Porto Stock Exchanges between 2000 and 2001 and a member of the Advisory Board of the Portuguese Securities Market Commission (CMVM) between 2001 and 2005. Between 1980 and 1989, Mr Ferreira da Silva lectured at the University of Porto School of Economics and spent two years as an assistant director of the Navy's Centre of Operational Research. He graduated with a degree in Economics from the Universidade do Porto in 1980 and holds a MBA from the Nova School of Business and Economics (Lisbon, 1982).

Jim Gollan

Jim Gollan is a member of the Supervisory Board and chairs the Audit Committee. He was appointed to the Supervisory Board in 2015. He is also the Chairman of Euronext London.

Currently, Mr Gollan is the Audit Committee Chair of Citibank Europe Plc and the Chair of the charity Brain Research UK. Previously, he was a board member of NYSE LIFFE and a non-executive director of Merrill Lynch International, where he chaired the board Risk Committee, and Bank of America Merrill Lynch International Limited, where he chaired the Board. His executive career includes roles as Board Chair, CEO and CFO, working in the United Kingdom, Europe and Asia in banking, fund management and financial markets with Standard Chartered, Lloyds Bank, Gartmore and SIX Group. Mr Gollan was also the practice leader of KPMG's Financial Services Consulting, Asia and is a Fellow of the Institute of Chartered Accountants in England and Wales.

Kerstin Günther

Kerstin Günther is a member of the Supervisory Board and a member of the Audit Committee. She was appointed to the Supervisory Board in 2016.

Ms Günther is a senior digitalization and transformation executive with 26 years international management experience in the ICT sector. In April 2019, Ms Günther joined the Helmholtz Institute Munich as scientific technical Managing Director. From 1991 till 2017 she worked for the Deutsche Telekom Group with focus on Central and Eastern Europe, where she held various management positions. Ms Günther was Senior Vice President Technology (CTIO) Europe before she founded 'Deutsche Telekom Pan-Net' in 2015, Deutsche Telekom's international, digital, virtualized infrastructure cloud and centralized European service production, which she lead as Managing Director until 2017. From 2013 until 2017 she was Chairperson of the Board of Magyar Telekom and Vice-Chairperson of the Board of Slovak Telekom. Until March 2019, she was CFO and a member of the Board of the foundation "Bürgerstiftung Rheinviertel" in Bonn, Germany. She is a graduate of the Technical University of Wroclaw, Poland (MSc 1991) and of Case Western Reserve University Cleveland, USA (MBA 1999).

Luc Keuleneer

Luc Keuleneer is a member of the Supervisory Board and a member of the Audit Committee. He was appointed to the Supervisory Board in 2018. He is also a member of the Supervisory Board of Euronext Amsterdam and a non-executive member of the board of directors of Euronext Brussels.

Mr Keuleneer is professor financial and treasury management at several universities in Belgium and the Netherlands. He is a non-executive director and member of the Audit Committee of SFPI-FPIM, the Federal Holding and Investment company of the Belgian state, and a number of other companies. He is the government commissioner of the Belgian "Protection fund for deposits and financial instruments". Previously, Mr Keuleneer worked for Paribas Bank Belgium, the Belgian Institute of Chartered Accountants, Deloitte & Touche Management Solutions KPMG Corporate finance and as expert-advisor financial institutions and public enterprises to the Belgian Minister of Finance. He holds a MSc in Business Engineering of the Catholic University Leuven (Belgium) and a Master in Business Administration with a specialisation in finance from the University of Chicago (US), and has had additional training in Strategic Finance at IMD-Lausanne and in Financial risk management at the Swiss Finance Institute.

Lieve Mostrey

Lieve Mostrey is a member of the Supervisory Board, chairs the Remuneration Committee, and is a member of the Nomination and Governance Committee. She was appointed to the Supervisory Board in 2014. On 1 January 2020, she retired as the Remuneration Committee's chair and continued as a member.

Since January 2017, Ms Mostrey has been appointed Chief Executive Officer of Euroclear Group. She joined Euroclear in 2010 as Executive Director and Chief Technology & Services Officer. Previously, Ms Mostrey was a member of the Executive Committee of BNP Paribas Fortis in Brussels, where she was responsible for IT technology, operations (including securities, payments, credit cards, mortgages, clients and accounts), property and purchasing. Ms Mostrey began her career in 1983 within the IT department of Generale Bank in Brussels, moving to Operations in 1997 and, upon its merger with Fortis in 2006, became country manager for Fortis Bank Belgium. She became Chief Operating Officer of Fortis Bank in 2008, which was acquired by BNP Paribas in 2009. She was also a non-executive director of the Boards of Euroclear PLC and Euroclear S.A./N.V. between 2006 and 2010 and of RealDolmen between 2013 and 2017. Having earned a degree in civil engineering from Katholieke Universiteit Leuven in 1983, Ms Mostrey completed a post-graduate degree in economics from Vrije Universiteit Brussel in 1988.

Padraic O'Connor

Padraic O'Connor is a member of the Supervisory Board, a member of the Remuneration Committee and a member of the Nomination and Governance Committee. He was appointed to the Supervisory Board in 2018. He previously was the Chairman of the Irish Stock Exchange.

Mr O'Connor is non-executive Chairman of U.S. Bank Global Fund Services (Ireland) Ltd, LGIM (Europe) Ltd, Sarasin Funds Management (Ireland) Ltd and Fideuram Asset Management Ireland DAC. He is also a director of European Wholesale Securities Market Limited, a subsidiary of Euronext. He was the Managing Director of NCB group between 1991 and 1999 prior to which he was Chief Economist at the firm. Before joining NCB, Mr O'Connor worked at the department of Finance and the Central Bank of Ireland. He holds primary and postgraduate degrees in Economics from University College Dublin.

Nathalie Rachou

Nathalie Rachou is a member of the Supervisory Board, a member of the Remuneration Committee and a member of the Nomination and Governance Committee. She was appointed to the Supervisory Board in November 2019. She became the Remuneration Committee's chair on 1 January 2020.

Ms Rachou is a Non-Executive Director at Altran Technologies (since 2012), Société Générale (since 2008) and Veolia Environnement (since 2012). In addition, she is Senior Advisor of Rouvier Associés (since 2015). In 1999, she founded Topiary Finance Ltd, an asset management company based in London, of which she remained the CEO until its merger with Rouvier Associés in 2015. Prior to that, from 1978 to 1999, she held a number of positions within Banque Indosuez and Crédit Agricole Indosuez, mostly in capital markets. She was a Non-Executive Director at Laird plc from 2016 to 2018. Ms Rachou has a Masters in Management at Ecole des Hautes Etudes Commerciales (HEC) and completed an executive program at INSEAD.

Franck Silvent

Franck Silvent is a member of the Supervisory Board and a member of the Audit Committee. He was appointed to the Supervisory Board in 2017.

Mr Silvent is a Managing Partner of Degroof Petercam Finance.

Mr Silvent worked in the French Ministry of Finance (Inspection Générale des Finances) as an auditor from 1998 to 2002. In 2002 he was appointed Deputy Director of Strategy, Finance, Management Control and Accounting at Caisse des Dépôts. From 2005 to 2012 he worked at Compagnie des Alpes (CDA) where he served as Director of Finance, Strategy and Development, before becoming Deputy CEO. From 2013 to August 2017, Mr Silvent has been Director of Finance, Strategy and Holdings at Caisse des Dépôts.

He graduated from the *École Nationale d'Administration*.

Morten Thorsrud

Morten Thorsrud is a member of the Supervisory Board and a member of the Audit Committee. He was appointed to the Supervisory Board in November 2019.

Mr Thorsrud is the President and CEO of If P&C Insurance Company, a position he has held since 2019. He has been with the company in various roles since 2002. In addition, he has been a member of the Sampo Group Executive Committee since 2006, and a member of the Sampo Managing Directors Committee, a member of the Board of Finance Norge and a member of the Board of Topdanmark, all since 2019. Previously, from 1996 to 2002, he was with McKinsey & Company, most recently as an Associate Partner. Mr Thorsrud has a Master of Business and Economics from the Norwegian School of Management.

The table below contains information on the members of the Supervisory Board that has not been included above (also as at 31 December 2019).

Name	Age	Gender	Nationality	Profession	Member since	Independent/non-independent	End of current term
Dick Sluimers	66	Male	Dutch	Economist	14/07/2016	Independent	2020
Manuel Ferreira da Silva	62	Male	Portuguese	Banker	15/03/2014	Independent	2022
Jim Gollan	64	Male	British	Accountant	20/07/2015	Independent	2023
Kerstin Günther	52	Female	German	Engineer	14/07/2016	Independent	2020
Luc Keuleneer	60	Male	Belgian	Professor	06/06/2018	Non-independent	2022
Lieve Mostrey	59	Female	Belgian	CEO	19/12/2014	Non-independent	2022
Padraic O'Connor	70	Male	Irish	Economist	06/06/2018	Independent	2022
Nathalie Rachou	62	Female	French	Director	05/11/2019	Independent	2023
Franck Silvent	47	Male	French	Managing Partner	03/11/2017	Non-independent	2021
Morten Thorsrud	49	Male	Norwegian	Director	05/11/2019	Independent	2023

Three members of the Supervisory Board, namely Luc Keuleneer, Lieve Mostrey and Franck Silvent, were proposed by the Company's Reference shareholders, who as a group hold more than ten percent of the Company's shares. The Company regards these three members of the Supervisory Board as non-independent within the meaning of the Dutch Corporate Governance Code. The background of the presence of three non-independent members in Euronext's Supervisory Board is related to the wish of Euronext College of Regulators for Euronext to have a number of stable, long-term shareholders.

Until 1 January 2020, Dutch law required large Dutch companies to pursue a policy of having at least 30% of the seats on both the Managing Board and the Supervisory Board held by men and at least 30% of those seats held by women. In September 2019, the Dutch "Sociaal Economische Raad" published a report advocating an integral approach and strict regulations when it comes to diversity 'at the top'. The Dutch government fully adopted these recommendations. In the first half of 2020 a new bill is expected for Dutch listed companies to represent at least 30% of men and women on the supervisory board. This new bill also includes an obligation for large companies in general to strive for appropriate and ambitious targets for the top and sub top of the company. Although the Nomination & Governance committee of Euronext already acts in line with requirements in this respect as set in clause 2.2.5 of the Dutch Corporate Governance Code, Euronext, as a large Dutch Company agrees with report of the Dutch "Sociaal Economische Raad" and is in favour of a quick implementation of legislation in this respect.

Euronext already meets the gender diversity targets with respect to the Supervisory Board, as three of the ten members are women.

Euronext will continue to promote gender diversity within its Supervisory Board by taking into account all relevant selection criteria including, but not limited to, gender balance, with regard to future appointments.

During 2019, no Supervisory Board member acted as a delegated Supervisory Board member, nor was any Supervisory Board member involved in Euronext's management.

As far as Euronext is aware, there were no transactions in which there were conflicts of interest with the members of the Supervisory Board that were of material significance to Euronext and/or to any of its subsidiaries during the 2019 financial year.

Euronext's Articles of Association provide for an indemnity for each present or former member of the Managing Board and each present or former member of the Supervisory Board against all costs, charges, losses and liabilities incurred by them in the proper execution of their duties or the proper exercise of their powers in any such capacities in the Company including, without limitation, any liability incurred in defending proceedings in which judgment is given in their favour or in which they are acquitted, or which are otherwise disposed of without a finding or admission of material breach of duty on their part, other than cases of willful misconduct or gross negligence (*opzet of grove nalatigheid*).

The Supervisory Board is supported by Euronext N.V.'s Company secretary, Paul Theunissen.

Euronext N.V.'s registered address serves as the business address for all members of the Supervisory Board, being Beursplein 5, 1012 JW, Amsterdam, the Netherlands.

Committees of the Supervisory Board

Audit Committee

As per 1 January 2019, the Audit Committee was composed of Jim Gollan, Kerstin Günther, Luc Keuleneer and Franck Silvent. Dick Sluimers was appointed to the Audit Committee on 15 May 2019 and retired from it on 5 November 2019, at which date Morten Thorsrud was appointed to the Audit Committee. As per 31 December 2019, the Audit Committee was composed of Jim Gollan, Kerstin Günther, Luc Keuleneer, Franck Silvent and Morten Thorsrud. The Committee has been chaired by Jim Gollan throughout 2019. The Audit Committee has a majority of independent members.

The Audit Committee assists the Supervisory Board in supervising and monitoring the Managing Board by advising on matters such as the compliance by Euronext with applicable laws and regulations, Euronext's disclosure of financial information, including its accounting principles, the recommendation for the appointment of Euronext's external auditor to the General Meeting, the recommendations from Euronext's internal auditor and external auditor, and the review of the internal risk management and control systems and IT and business continuity safeguards, as well as technologies and security issues.

The roles and responsibilities of the Audit Committee as well as the composition and the manner in which it discharges its duties are set out in the charter of the Audit Committee included in the regulations of the Supervisory Board. The Audit Committee will meet as often as the Chairman of the Audit Committee or a majority of the members of the Audit Committee deems necessary but in any event at least twice a year.

Nomination and Governance Committee

As per 1 January 2019, the Nomination and Governance Committee was composed of Dick Sluimers, Ramon Fernandez, Manuel Ferreira da Silva and Lieve Mostrey. Following the Annual General Meeting that was held on 16 May 2019, Ramon Fernandez retired from the Committee. Padraic O'Connor was appointed to the Committee on 31 July 2019, and Nathalie Rachou on 5 November 2019. As per 31 December 2019, the Nomination and Governance Committee was composed of Dick Sluimers, Manuel Ferreira da Silva, Lieve Mostrey, Padraic O'Connor and Nathalie Rachou. The Committee has been chaired by Dick Sluimers throughout 2019.

The responsibilities of the Nomination and Governance Committee relating to selection and appointment include recommending criteria and procedures to the Supervisory Board for the selection of candidates to the Managing Board and the Supervisory Board and its Committees, identifying and recommending to the Supervisory Board candidates eligible to serve on the Managing Board and the Supervisory Board and its Committees, establishing and overseeing self-assessment by the Managing Board and the Supervisory Board and its Committees, conducting timely succession planning for the CEO and the other positions of the Supervisory Board and the Managing Board and reviewing and evaluating the size, composition, function and duties of the Managing Board and the Supervisory Board, consistent with their respective needs.

The responsibilities of the Nomination and Governance Committee relating to governance include the supervision and evaluation of compliance with the Dutch Corporate Governance Code.

The roles and responsibilities of the Nomination and Governance Committee as well as the composition and the manner in which it discharges its duties are set out in the charter of the Nomination and Governance Committee included in the regulations of the Supervisory Board. The Nomination and Governance Committee will meet as often as necessary and whenever any of its members requests a meeting.

Remuneration Committee

As per 1 January 2019, the Remuneration Committee was composed of Lieve Mostrey, Ramon Fernandez, Manuel Ferreira da Silva and Padraic O'Connor. Following the Annual General Meeting that was held on 16 May 2019, Ramon Fernandez retired from the Committee. Nathalie Rachou and Dick Sluimers were appointed to the Committee on 5 November 2019. As per 31 December 2019, the Remuneration Committee was composed of Lieve Mostrey, Manuel Ferreira da Silva, Padraic O'Connor, Nathalie Rachou and Dick Sluimers. The Committee has been chaired by Lieve Mostrey throughout 2019. Nathalie Rachou has succeeded her as the Committee's chair on 1 January 2020.

The responsibilities of the Remuneration Committee include analysing the possible outcomes of the variable remuneration components and how they may affect the remuneration of the members of the Managing Board, preparing proposals for the Supervisory Board concerning remuneration policies for the Managing Board to be adopted by the General Meeting, preparing proposals for the Supervisory Board concerning the terms of the service agreements and total compensation of the individual members of the Managing Board, preparing proposals for the Supervisory Board concerning the performance criteria and the application thereof for the Managing Board, preparing proposals for the Supervisory Board concerning the approval of any compensation plans in the form of share or options, reviewing the terms of employment and total compensation of employees directly reporting to the Managing Board and the total compensation of certain other specified employees, defined in consultation with the Managing Board, overseeing the total cost of the approved compensation programmes, preparing and publishing on an annual basis a report of its deliberations and findings and appointing any consultant in respect of executive remuneration.

The roles and responsibilities of the Remuneration Committee as well as the composition and the manner in which it discharges its duties are set out in the charter of the Remuneration Committee included in the regulations of the Supervisory Board. The Remuneration Committee will meet as often as necessary and whenever any of its members requests a meeting.

Other than as set out in section 2.1 above and in accordance with provision 2.1.10 of the Dutch Corporate Governance Code, the Supervisory Board complies with the requirements of independence, as set out in the best practice provisions 2.1.7 -2.1.9 of the Code.

4.2.3 Managing Board

The Managing Board is responsible for the day-to-day management of the operations of Euronext and is supervised by the Supervisory Board. As described in the Articles of Associations, the Managing Board is required to inform or seek approval from the Supervisory Board depending on the matter. In performing their duties, the members of the Managing Board must act in the interest of Euronext and that of its business. The Managing Board, as a whole or represented by two of its members, is authorised to represent Euronext. In addition, specific authorisations to other senior members of staff are in place.

As per rules of procedure of the Managing Board, the Managing Board currently consists of the Chief Executive Officer (“CEO”) of the Euronext group, the Head of Markets and Global Sales and the CEOs of the local exchanges. The members of the Managing Board are appointed by the General Meeting only in accordance with a proposal of the Supervisory Board or upon a binding nomination by the Supervisory Board. Prior to making a nomination, the proposed nomination must be submitted to the College of Regulators and the Dutch Ministry of Finance for approval.

The Managing Board shall adopt resolutions by an absolute majority of the votes cast knowing that conflicted members cannot participate and that the Chairman of the Managing Board has a casting vote.

The following matters require the approval of the Supervisory Board:

- issue and acquisition of shares in the capital of Euronext and debt instruments issued by it or of debt instruments issued by a limited partnership or general partnership of which Euronext is a fully liable partner;
- application for admission of such shares to trading on a regulated market or a multilateral trading facility as described in section 1: 1 of the Dutch Financial Supervision Act or a similar system comparable to a regulated market or multilateral trading facility from a state which is not a member state or the withdrawal of such admission;
- a proposal to reduce the issued share capital;
- entering into or terminating a long-term cooperation with a legal entity or company or as fully liable partner in a limited partnership or general partnership, if such cooperation or termination is of major significance to Euronext;
- the acquisition or disposal of a participating interest in the capital of a company, if the participating interest represents an amount of at least €50 million or such greater amount as the Supervisory Board may determine from time to time and communicates to the Managing Board in writing;
- other investments representing an amount of at least of €25 million or such greater amount as the Supervisory Board may determine from time to time and communicates to the Managing Board in writing;
- a proposal to amend the Articles of Association;
- a proposal to dissolve Euronext;
- a proposal to conclude a legal merger or a legal demerger or to convert Euronext in another legal form;
- application for bankruptcy and for suspension of payments;
- termination of the employment of a considerable number of employees at the same time or within a short period of time;
- far-reaching changes in the employment conditions of a significant number of employees, or far-reaching changes in management incentive schemes or pension schemes;
- the annual budget for the next financial year, including the underlying budgets of the Euronext Market Subsidiaries; and
- proposed investments not covered by the budgets referred to in the preceding paragraph, including proposed investments submitted to the Managing Board by any of the local exchanges, in each case involving an amount greater than such amount as the Supervisory Board may determine from time to time and communicates to the Managing Board in writing.

Additionally, pursuant to Dutch law, resolutions of the Managing Board involving a major change in Euronext’s identity or its business require the prior approval of the General Meeting and the Supervisory Board, which in any case include:

- the transfer of the enterprise or practically the whole enterprise to third parties;
- the entering into or the termination of a long-term joint cooperation with another legal entity or company or as fully liable partner in a limited partnership or a general partnership if this cooperation or termination of such a cooperation is of major significance to Euronext;
- the acquisition or disposal of a participating interest in the capital of a company having a value of at least one-third of the amount of the assets according to the balance sheet with explanatory notes thereto, or if Euronext prepares a consolidated balance sheet, according to such consolidated balance sheet with explanatory notes in the last adopted annual accounts.

The Rules of Procedure of the Managing Board provide that the Managing Board of a Euronext Market Subsidiary has the right to reject a resolution by the Managing Board if such resolution solely or principally has an impact on the exchange operated by such Euronext Market Subsidiary and such impact is material or of strategic importance for the Exchange operated by such Euronext Market Subsidiary. Each member of the Managing Board of such Euronext Market Subsidiary has the right to request that the item is placed on the agenda of the Supervisory Board of Euronext. The Supervisory Board shall then discuss the matter with the Managing Board of Euronext, and consider the arguments of the Managing Board of the Euronext Market Subsidiary, following which the Supervisory Board will take a final and binding decision on the matter.

Appointment and Dismissal

Members of the Managing Board are appointed by the General Meeting of shareholders (i) in accordance with a proposal of the Supervisory Board or (ii) from a binding nomination to be drawn up by the Supervisory Board.

The General Meeting of shareholders may suspend or dismiss a member of the Managing Board at all times. Managing Board members may also be suspended by the Supervisory Board.

Members of the Managing Board

The table below lists the members of the Managing Board at 31 December 2019.

Name	Age	Position	Appointed on
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Stéphane Boujnah	55	Group CEO	4 November 2015
Håvard Abrahamsen	54	CEO Oslo Børs VPS	5 November 2019
Anthony Attia	45	CEO Euronext Paris & Global Head of Listing and Post Trade	15 March 2014
Daryl Byrne	47	CEO Euronext Dublin & Head of Debt & Funds Listings and ETFs	24 October 2018
Simone Huis in 't Veld	49	CEO Euronext Amsterdam	5 November 2019
Chris Topple	50	CEO Euronext London & Head of Global Sales	24 October 2018
Isabel Ucha	54	CEO Euronext Lisbon & CEO Interbolsa	16 May 2019
Vincent Van Dessel	61	CEO Euronext Brussels	15 March 2014

On 1 January 2019, the Managing Board was composed of Stéphane Boujnah (Chairman), Anthony Attia, Daryl Byrne, Chris Topple, Vincent Van Dessel and Maurice van Tilburg.

At the Annual General Meeting held on 16 May 2019, Maurice van Tilburg was re-appointed and Isabel Ucha was appointed to the Managing Board.

At an Extraordinary General Meeting held on 8 October 2019, Stéphane Boujnah was re-appointed and Håvard Abrahamsen and Simone Huis in 't Veld were, subject to regulatory approval, appointed to the Managing Board, each for a term of four years. Maurice van Tilburg resigned from the Managing Board on the same date. The appointments of Håvard Abrahamsen and Simone Huis in 't Veld became effective on 5 November 2019.

Håvard Abrahamsen resigned from the Managing Board with effect from 1 February 2020. The Supervisory Board has nominated Øivind Amundsen for appointment to the Managing Board by the Annual General Meeting to be held on 14 May 2020 and subject to regulatory approval.

All members of the Managing Board who were appointed before Euronext N.V. became a listed company were appointed for an indefinite period of time; the appointments that occurred since were made in compliance with the Dutch Corporate Governance Code for four years terms. All appointments' terms will progressively be compliant with the Dutch Corporate Governance Code.

Euronext has assessed that the appointments to the Managing Board in 2019 are in compliance with the requirements as included in art. 5:29a of the Dutch "Wet op het financieel toezicht" regarding the maximum number of Supervisory Board positions.

Euronext's registered address serves as the business address for all members of the Managing Board, being Beursplein 5, 1012 JW, Amsterdam, the Netherlands.



Stéphane Boujnah

CEO and Chairman of the Managing Board

Previous experiences:

Head of Santander Global Banking and Markets for continental Europe

Biography:

Stéphane Boujnah has been the CEO of Euronext and Chairman of the Managing Board of Euronext since 2015.

Before joining Euronext, Mr Boujnah was Head of Santander Global Banking and Markets for continental Europe. From 2005 to 2010, he was Managing Director at Deutsche Bank responsible for the development of the investment banking operations in France. Previously he founded KM5 Capital, an advisory company specialised in equity raising and M&A advice for venture capital funds and innovative technology companies. From 2000 to 2002, he was Director of the European M&A team of Credit Suisse First Boston Technology Group in Palo Alto and London. From 1997 to 1999, Mr Boujnah was senior adviser to the French Minister for Economy, Finance and Industry. He began his career in 1991 as a business lawyer at Freshfields.

Mr Boujnah was a member of the Commission pour la Libération de la Croissance Française established by the then President Nicolas Sarkozy in 2007. He is founder and Vice-President of the Board of directors of the think tank En Temps Réel and President of the board of directors of Accentus and Insula Orchestra.

He is also a member of the Board of Euronext Dublin.

He graduated from the Institut d'Etudes Politiques de Paris. He holds a Master degree and a DEA in Law from La Sorbonne Paris, a LLM in Law from the University of Kent, and a MBA from Insead.

Other current mandates:

- Board member of Euronext Dublin
- Vice-President of the Board of directors of the think tank En Temps Réel

Age:

55

Nationality:

French

First appointment:

2015

Second appointment:

2019

Location:

Paris



Håvard Abrahamsen

CEO of Oslo Børs VPS

Previous experiences:

Managing Director of PwC Norway

Biography:

Håvard Abrahamsen is the CEO of Oslo Børs VPS and member of the Managing Board of Euronext N.V. Mr Abrahamsen joined the group from his position as a partner at PwC. He has been a partner at PwC since 2002, and he was Managing Director of PwC Norway between 2010 and 2018. He has also been on PwC's Global Board for the last five years. Before joining PwC, He spent eight years at Oslo Børs, where his final role was Executive Vice President, Equity Markets.

He holds a master's degree in economics and business administration from BI Norwegian Business School and a master's degree in accounting and auditing from the Norwegian School of Economics.

Other current mandates:

■ None

Age:

54

Nationality:

Norwegian

First appointment:

2019

Location:

Oslo



Anthony Attia

CEO of Euronext Paris, Global Head of Listing and Post Trade

Previous experiences:

Chief of staff to the President and Deputy CEO of NYSE Euronext

Biography:

Anthony Attia has been the CEO of Euronext Paris since 2014. He is also Global Head of Listing and Post Trade for the group. From 2010 to 2013, based in New York, he served as Chief of Staff to the President and Deputy CEO of NYSE Euronext. Areas of responsibilities included strategy, technology and integration. In 2008, following the merger between NYSE and Euronext, he was appointed Senior Vice President in charge of designing and deploying the Universal Trading Platform across all markets. In 2004, he served as Executive Director, Head of Operations for Euronext. He was responsible for market surveillance, the operational relationship with customers, and business development projects in Amsterdam, Brussels, Lisbon and Paris. In 2000, he was the Program Director for the Euronext integration, in charge of migrating the French, Belgian and Dutch exchanges to the Euronext single order book and NSC trading system. Since he joined Société des Bourses Françaises in 1997, he has held a number of responsibilities including market organisation, business strategy, mergers and integration, and trading system design. He is a member of the board and audit committee of LCH SA, a member of the board of Euroclear Holding, a director of Euronext Dublin and the Vice President of FESE, the Federation of European Exchanges. He is also the Chairman of the Board of Directors of Liquidshare, the blockchain company redefining post trade for European SMEs. He holds an Engineering degree in computer science, applied mathematics and finance from the Institut d'Informatique d'Entreprise and also studied at Insead.

Other current mandates:

- Member of the board and audit committee of LCH SA
- Member of the board of Euroclear Holding
- Director of Euronext Dublin
- Vice President of FESE
- Chairman of the Board of Directors of Liquidshare

Age:

45

Nationality:

French

First appointment:

2014

Location:

Paris



Daryl Byrne

CEO of Euronext Dublin, Head of Debt & Funds Listings and ETFs

Previous experiences:

Chief Regulatory Officer of Euronext Dublin

Biography:

Daryl Byrne became the CEO of Euronext Dublin and the Head of Debt & Funds Listings and ETFs in 2018. He joined the Irish Stock Exchange in 2000 and has held a number of senior management roles. Since 2011, as Chief Regulatory Officer, he was responsible for Euronext Dublin's regulatory functions and operations relating to the listing of financial instruments on Euronext Dublin's markets, across multiple asset classes including equity, debt and funds. He was also responsible for Euronext Dublin's regulatory engagement with issuers and market participants, as well as domestic and EU regulatory authorities. Mr Byrne was instrumental in the development of Euronext Dublin's global markets for securities. Previously he held the position of Head of Strategy Planning and Brand. He is a member of the board of ISE OldCo Ltd. Mr Byrne currently participates on the ESMA Corporate Finance Standing Committee Consultative Working Group and the European Corporate Governance Codes Network, and is a former member of the Irish REITs Forum and the Company Law Review Group. Mr Byrne is a Fellow Chartered Accountant and holds a Bachelor of Business Studies degree from Trinity College Dublin.

Other current mandates:

- Member of the board of ISE OldCo Ltd
- ESMA Corporate Finance Standing Committee Consultative Working Group
- European Corporate Governance Codes Network



Simone Huis in 't Veld

CEO of Euronext Amsterdam

Previous experiences:

Managing Director and Country COO of Deutsche Bank

Biography:

Simone Huis in 't Veld is CEO of Euronext Amsterdam and member of the Managing Board of Euronext N.V. since October 2019. She joined Euronext from her position as Managing Director and Country COO of Deutsche Bank in the Netherlands. Her previous professional experience includes over twenty years of senior management experience in the financial sector (Deutsche Bank, ABN AMRO, Rabobank), of which over twelve years in Executive/Board roles in an international environment.

She holds a Master's degree in Sociology from the University of Amsterdam and participated in several (non)executive management courses (Nyenrode Business University and London Business School, among others).

Ms Huis in 't Veld is a member of the supervisory boards of iBabs and MSI Services

Other current mandates:

- Member of the Supervisory Board of iBabs
- Member of the Supervisory Board of MSI Services

Age:

47

Nationality:

Irish

First appointment:

2018

Location:

Dublin

Age:

49

Nationality:

Dutch

First appointment:

2019

Location:

Amsterdam



Chris Topple

CEO of Euronext London, Head of Global Sales

Previous experiences:

Co-head of Societe Generale Prime Services

Biography:

Chris Topple joined Euronext as CEO of Euronext London and Head of Global Sales in 2018. He is also a member of the boards of Euronext UK Holdings, Algomi and AlgoNext. Previously, Mr Topple has been co-head of Societe Generale Prime Services, a global multi-asset, multi-instrument prime brokerage proposition, including financing, custody and execution. Before that, he was responsible for leading the Prime Brokerage and Clearing Services (PCS) sales teams globally within Societe Generale's Newedge Group. Mr Topple joined Newedge from Lehman Brothers / Nomura in 2012, where he spent five years as Co-Head of Prime Brokerage Sales. Prior to Lehman Brothers, he worked for JP Morgan from 1993 to 2005 in a variety of senior roles, including Global Head of Electronic Trading Sales across Fixed Income, European Head of Fixed Income Prime Brokerage Sales and Head of European Clearing Sales. Mr Topple holds a BSc in European Business with Technology Politecnico di Torino from Italy and Brighton Polytechnic.

Other current mandates:

- Member of the board of Euronext UK Holdings
- Member of the board of Algomi
- Member of the board of AlgoNext



Isabel Ucha

CEO of Euronext Lisbon, CEO of Interbolsa

Previous experiences:

Advisor for Economic Affairs to the Prime Minister

Biography:

Isabel Ucha is CEO of Euronext Lisbon and CEO of Interbolsa, the Custody and Settlement service provider (CSD) for the Portuguese market.

Having joined the Portuguese Stock Exchange in 2008, her previous professional experience includes several senior roles, including serving as Advisor for Economic Affairs to the Prime Minister, Head of Issuing and Markets at the Portuguese Treasury and Debt Management Agency (IGCP), and at the Portuguese securities market regulator (CMVM). Ms Ucha has also been an assistant lecturer at Universidade Católica, teaching different economic and financial programs (Economics, Corporate Finance, Economics of Finance, Economics of Regulation, European Economics, Portuguese Economy, Corporate Governance).

Ms Ucha holds a degree in Economics from Universidade Católica and a Masters in Economics from Universidade Nova, as well as a Masters in Finance from London Business School

Other current mandates:

- None

Age:

50

Nationality:

British

First appointment:

2018

Location:

London

Age:

54

Nationality:

Portuguese

First appointment:

2019

Location:

Lisbon/Porto



Vincent Van Dessel

CEO of Euronext Brussels

Previous experiences:
CEO of Euronext Brussels

Biography:

Vincent Van Dessel has been the CEO of Euronext Brussels since 2009. From 2003 to 2009, Mr Van Dessel was General Manager of Euronext Brussels. From 2000 to 2003, he was Chairman of the Market Authority of the Brussels Exchanges, responsible for members' admission, listing, company information and the supervision of the markets. Upon the merger of the Amsterdam, Paris and Brussels exchanges into Euronext in 2000, he became member of the Executive Committee of Euronext N.V. Group. He joined the Brussels Stock Exchange in 1992 as Director Markets and Listing and later became member of the Managing Board of the Brussels Exchanges. Mr Van Dessel started his career as a stockbroker in 1984. Mr Van Dessel is a director of Enternext S.A.. He has an MSc in Applied Economics from KU Leuven University and is also a regular guest lecturer at several universities, including the Paris Sorbonne. He has also been a member of the Euribor Steering Committee.

Other current mandates:

- Director of Enternext S.A.
- Member of the Euribor Steering Committee

Age:

61

Nationality:

Belgian

First appointment:

2014

Location:

Brussels

Senior Management

Sylvia Andriessen

Sylvia Andriessen is the General Counsel of the Company. She has more than 25 years of experience in various international legal functions both in listed, private equity and privately owned companies. On 1 September 2018 Ms Andriessen joined the Euronext group as Deputy General Counsel, and became General Counsel as per 20 December 2019. Prior to joining Euronext she was the Chief Legal Officer of the commodity trading group Nidera, based in Rotterdam/Geneva, including responsibility for ESG and Insurance, and Deputy GC of COFCO International. Before her role at Nidera/COFCO, Ms Andriessen was General Counsel and part of the Executive Management Committee at the Odigeo Group based in Barcelona, and General Counsel at the Provimi Group based in Rotterdam. Before that during a period of 17 years she held various Legal and General Counsel positions at Unilever in Rotterdam and London, with special focus on Mergers and Acquisitions, Restructuring and Corporate Governance.

Alain Courbebaisse

Alain Courbebaisse is the Chief Information and Technology Officer of the Company. He leads the IT function across Euronext. Mr Courbebaisse joined Euronext in 2017.

Prior to joining Euronext, Mr Courbebaisse was Head of Prime Brokerage and Clearing Services and Head Of Platform Sales at Societe Generale Americas Services, and prior to this he was the Global CIO of Newedge. In his earlier roles, he was European CIO and Global head of Development at Fimat, Head of IT at Draeger Medical S.A., Consultant and Developer for IBM. Mr Courbebaisse is President of Euronext Technologies S.A.S., Chairman of the board of FastMatch Inc., a member of the Supervisory Board of Tredzone and a member of the boards of Euronext IP & IT Holding B.V., Euronext Synapse LLC, Euronext Technologies Unipessoal Lda, and AlgoNext Ltd. Mr Courbebaisse graduated from Conservatoire National des Arts et Metiers in Computer science.

Simon Gallagher

Simon Gallagher is Head of Cash and Derivatives at Euronext, with overall P&L responsibility for these activities, including the product offer, market model, client strategy and liquidity programmes. Current priorities include revamping Euronext's retail and institutional offers, with a particular focus on enhancing liquidity experience of institutional traders, as well as the development of Euronext Block, a Large-in-Scale block trading MTF for Equities. Prior to this role, he held several positions within Euronext in Corporate Finance and Strategy, and occupied various roles in the oil and gas sector. He is a CFA charter-holder who holds an MBA from the University of Birmingham and a degree in Economics from the University of Surrey.

Amaury Houdart

Amaury Houdart is the Chief Talent Officer of the Company. He leads the Human Resources function and strategic initiatives related to employee engagement, talent development, and organisational changes across Euronext. Mr Houdart joined Euronext in 2016.

Prior to joining Euronext, Mr Houdart was Group Director of Human Resources and Employee Shareholding at Groupe Steria SCA, a leading European IT services company. In his earlier roles, he was Business Consulting Manager, Mergers & Acquisitions Director and then Human Resources Director at Unilog LogicaCMG, a leading international IT services company. Mr Houdart graduated from Paris Dauphine University in International Affairs.

Giorgio Modica

Giorgio Modica is the Chief Financial Officer of the Company. He joined Euronext in 2016. His responsibilities include both Euronext's financial and corporate facilities and services. Mr Modica joined from BNP Paribas (Paris and Milan), where he was a senior Corporate Finance banker in Financial Institutions for nine years, holding the responsibility for the Stock Exchange sector globally and for the overall FIG markets in Italy and Spain. In over fifteen years of international investment banking experience, Mr Modica covered both M&A and ECM, as well as the structuring of financing solutions (equity and debt).

Since 2011, as advisor to NYSE Euronext and then Euronext, Mr Modica has supported the Euronext group very closely throughout its key milestone transactions, including the attempted combination with Deutsche Börse, the carve-out of Euronext and its subsequent IPO. Mr Modica started his career at the venture capitalist firm MyQube in Geneva, and then moved to investment banking at HSBC in Milan and MCC/Capitalia in Rome. He is a director of Euronext UK Holdings Ltd, Euronext US Inc., FastMatch Inc., Euronext Dublin, and Irish Stock Exchange Services Limited. Mr Modica graduated cum-laude from Bocconi University and holds a Master in Finance from SDA Bocconi.

Diversity

Until 1 January 2020 Dutch law required large Dutch companies to pursue a policy of having at least 30% of the seats on both the Managing Board and the Supervisory Board held by men and at least 30% of those seats held by women. Following a report of the Dutch "Sociaal Economische Raad" new legislation for Dutch listed companies is expected in the first half of 2020. In line with the expected legislation Euronext strives for appropriate and ambitious diversity targets at the top and sub top.

Euronext qualifies as a large Dutch Company and has set a goal to improve the the gender diversity targets with respect to the Managing Board, as less than 30% of its members are women. This is partly related to historical circumstances and partly to the sectors in which Euronext is active. The Managing Board is geographically balanced and is composed of members from each local Euronext market operator. Out of twelve members (including Extended Managing Board members and Stéphane Boujnah), three members are female.

The Senior Leadership team in 2019 was composed of 33% of women. The balance of country representation was the following: 52% France, 12% the Netherlands, 4% United Kingdom, 6% Portugal, 4% Belgium, 7% Ireland, 9% Norway, 1% Spain and 3% United States. The average age of this group is 45 years.

Euronext will continue to promote gender diversity within its Managing Board by striving to increase the proportion of female members by taking into account all relevant selection criteria including, but not limited to, gender balance, with regard to future appointments.

4.3 REPORT OF THE SUPERVISORY BOARD

4.3.1 Meetings

The Supervisory Board met fifteen times in 2019: there were seven in-person meetings and eight conference calls.

The Supervisory Board discussed amongst others the following topics: the quarterly, half year and full year results, the dividend proposal, the 2020 budget and 2021 forecast, the agendas of the General Meetings, including the nomination for appointments to the Supervisory Board and the Managing Board, the nomination of the external auditor, the strategy, the implementation of the strategy and the principal risks associated with it, the risk profile, and M&A opportunities. It monitored the activities of the Managing Board with regard to creating a culture aimed at long-term value creation for the company and its affiliated enterprise, and with regard to procedures for reporting actual or suspected irregularities.

It also discussed the items that its committees reported on, and their deliberations and findings. Among those items were, in addition to the items mentioned above, the investor base, the share price development, the internal and external audit planning and reports, litigations, the external auditors' reports, the Remuneration Policy, annual performance criteria, compensation programs, the evaluation and assessment of the Managing Board and the Supervisory Board, the composition of the Managing Board, the composition and rotation schedule of the Supervisory Board and succession planning.

The personal information of the individual Supervisory Board members can be found in paragraph 4.2.2.

The composition of the Supervisory Board and its committees is in line with the independence standards as set by articles 2.1.7 and 2.1.9 of the Dutch Corporate Governance Code. Mr Luc Keuleneer, Ms Lieve Mostrey and Mr Franck Silvent are considered non-independent Supervisory Board members.

4.3.2 Supervisory Board Attendance Record

On average, 99.11% of the Supervisory Board members were present at the Supervisory Board meetings. Not taking part in the Supervisory Board's deliberations in relation to a potential conflict of interest is not counted as being absent.

In 2019, fifteen Supervisory Board meetings were held.

Name	Attended	Absence ratio
Dick Sluimers	15 out of 15 meetings	0%
Ramon Fernandez (retired 16 May 2019)	8 out of 8 meetings	0%
Manuel Ferreira da Silva	15 out of 15 meetings	0%

Jim Gollan	13 out of 15 meetings	13.33%
Kerstin Günther	15 out of 15 meetings	0%
Luc Keuleneer	15 out of 15 meetings	0%
Lieve Mostrey	15 out of 15 meetings	0%
Padraic O'Connor	15 out of 15 meetings	0%
Nathalie Rachou (appointed 5 November 2019)	4 out of 4 meetings	0%
Franck Silvent	15 out of 15 meetings	0%
Morten Thorsrud (appointed 5 November 2019)	4 out of 4 meetings	0%

In 2019, six Audit Committee meetings were held.

Name	Attended	Absence ratio
Jim Gollan	6 out of 6 meetings	0%
Kerstin Günther	6 out of 6 meetings	0%
Luc Keuleneer	6 out of 6 meetings	0%
Franck Silvent	6 out of 6 meetings	0%
Dick Sluimers (appointed 15 May 2019, retired 5 November 2019)	1 out of 1 meeting	0%
Morten Thorsrud (appointed 5 November 2019)	1 out of 1 meeting	0%

In 2019, seven Nomination and Governance Committee meetings were held.

Name	Attended	Absence ratio
Dick Sluimers	7 out of 7 meetings	0%
Ramon Fernandez (retired 16 May 2019)	2 out of 2 meetings	0%
Manuel Ferreira da Silva	7 out of 7 meetings	0%
Lieve Mostrey	7 out of 7 meetings	0%
Padraic O'Connor (appointed 31 July 2019)	2 out of 2 meetings	0%
Nathalie Rachou (appointed 5 November 2019)	1 out of 1 meeting	0%

In 2019, seven Remuneration Committee meetings were held.

Name	Attended	Absence ratio
Lieve Mostrey	7 out of 7 meetings	0%
Ramon Fernandez (retired 16 May 2019)	1 out of 1 meeting	0%
Manuel Ferreira da Silva	7 out of 7 meetings	0%
Padraic O'Connor	7 out of 7 meetings	0%
Nathalie Rachou (appointed 5 November 2019)	2 out of 2 meetings	0%
Dick Sluimers (appointed 5 November 2019)	2 out of 2 meetings	0%

Most Supervisory Board meetings were also attended by all or by most members of the Managing Board. In addition, several managers were invited to discuss specific items included on the Supervisory Board's agenda.

4.3.3 Supervisory Board Activities

The Supervisory Board was informed and consulted by the Managing Board in almost all of its meetings on the course of business and the main risks attached to it, Euronext's financial and operational performance and matters related to the Euronext's governance and strategy.

Large parts of the meetings of the Supervisory Board that were held on 21 March 2019, 20 September 2019 and 18 November 2019 were dedicated to Euronext's strategy.

During the meetings held in 2019, the Supervisory Board approved the quarterly and semi-annual statements, the semi-annual report, the annual report for 2018, the budget for 2020, and the agendas of the General Meetings, including the nomination for appointments to the Supervisory Board and the Managing Board, the nomination of the external auditor, and a proposal regarding the dividend. All meetings of the Supervisory Board were prepared by the Chairman of the Managing Board in close co-operation with the Chairman of the Supervisory Board.

4.3.4 Board Evaluation

The annual evaluation of the Supervisory Board, its Committees and Managing Board by the Supervisory Board relating to the year 2019 took place in January and February 2020. This evaluation was conducted through questionnaires, the results of which were compiled by the Corporate Secretary. The report on the outcome of the questionnaires was discussed initially by the Nomination and Governance Committee and subsequently by the Supervisory Board as a whole.

The topics included in the questionnaires covered, among other items, the interaction with the Managing Board, the Supervisory Board meetings, Chairmanship, communications, decision making processes, lessons learned from events that occurred through the year, succession and development planning, shareholder value, the composition and profile of the Supervisory Board, the Committee structure and the competencies and expertise of its members.

The performance of the individual Management Board members and the Management Board as a whole was discussed during the physical meetings of the Nomination and Governance Committee and the executive session of the Supervisory Board in December 2019 and February 2020.

After discussing the results of the questionnaires, the Supervisory Board concluded that the Supervisory Board and its Committees had properly discharged their responsibilities during 2019. During the board evaluation, the Supervisory Board further concluded that the relation and interaction with the Managing Board, including the flow of information, was good. The Chair of the Remuneration Committee led the review of the performance of the Chairman. The Supervisory Board concluded that the Chairman had performed his duties well.

The Supervisory Board and its Committees agreed that during 2020 they will increase their attention for items such as cybersecurity and ESG.

4.3.5 Report Audit Committee

As per 1 January 2019, the Audit Committee was composed of Jim Gollan, Kerstin Günther, Luc Keuleneer and Franck Silvent Dick Sluimers was appointed to the Committee on 15 May 2019 and retired from it on 5 November 2019. Morten Thorsrud was appointed to the Committee on 5 November 2019. As per 31 December 2019, the Audit Committee was composed of Jim Gollan, Kerstin Günther, Luc Keuleneer, Franck Silvent and Morten Thorsrud. The Committee has been chaired by Jim Gollan throughout 2019.

The Audit Committee convened six times in 2019. These meetings were regularly attended by, in addition to the members of the Audit Committee, the Chairman of the Supervisory Board, the CEO, the CFO, the member of the Managing Board in charge of Operations, the Chief Information and Technology Officer, the Head of Risk and Compliance department, the General Counsel, the Head of Internal Audit and the external auditors.

In addition, the Audit Committee held regular individual discussions with the external auditors and the Head of Internal Audit. The Supervisory Board was regularly informed about the results of these discussions. The Chairman of the Audit Committee reported to the Supervisory Board about the activities of the Committee and about its meetings and discussions in the Supervisory Board meetings.

Among the items that were discussed by the Audit Committee were the annual, semi-annual and quarterly figures, risk management, the investor base, the share price development, the appointment of the external auditors, the internal and external audit planning and reports, litigations, and the external auditors' reports.

4.3.6 Report Remuneration Committee

As per 1 January 2019, the Remuneration Committee was composed of Lieve Mostrey, Ramon Fernandez, Manuel Ferreira da Silva and Padraic O'Connor. Ramon Fernandez retired from the Committee on 16 May 2019, and Nathalie Rachou and Dick Sluimers were appointed to the Committee on 5 November 2019. As per 31 December 2019, the Remuneration Committee was composed of Lieve Mostrey, Manuel Ferreira da Silva, Padraic O'Connor, Nathalie Rachou and Dick Sluimers. The Committee has been chaired by Lieve Mostrey throughout 2019. She was succeeded as the Committee's chair by Nathalie Rachou on 1 January 2020.

The Remuneration Committee held seven meetings in 2019. The Committee focused on reviewing short term and long term incentives decisions after year end results. The Committee also reviewed a Compensation policy adjustment proposal and proposed compensation for new hires. In 2019, the Remuneration Committee:

- proposed to the Supervisory Board an adjustment of the Remuneration Policy following external benchmarks delivered in 2019 on Managing Board roles. The proposed amended Remuneration Policy was adopted by the General Meeting on 8 October 2019;
- analysed as every year the outcome of the annual performance criteria, their impact on short term incentive, long term incentive and total compensation of the members of the Managing Board, and proposed subsequent decisions to the Supervisory Board;
- reviewed as every year the total cost of the approved compensation programs for all employees, and proposed subsequent decisions to the Supervisory Board.

4.3.7 Report Nomination and Governance Committee

As per 1 January 2019, the Nomination and Governance Committee was composed of Dick Sluimers, Ramon Fernandez, Manuel Ferreira da Silva and Lieve Mostrey. Padraic O'Connor was appointed as a member of the Committee on 31 July 2019, and Nathalie Rachou was appointed as a member of the Committee on 5 November 2019. As per 31 December 2019, the Nomination and Governance Committee was composed of Dick Sluimers, Manuel Ferreira da Silva, Lieve Mostrey, Padraic O'Connor, Nathalie Rachou and Dick Sluimers. The Committee has been chaired by Dick Sluimers throughout 2019.

The Nomination and Governance Committee met seven times in 2019. Topics that were discussed in the Committee's meetings included the evaluation and assessment of the Managing Board, the evaluation and assessment of the Supervisory Board, the composition of the Managing Board, the composition and rotation schedule of the Supervisory Board and succession planning.

4.3.8 Financial Statements

The Managing Board has prepared the 2019 Financial Statements and has discussed these with the Supervisory Board. The Financial Statements will be submitted for adoption at the 2020 Annual General Meeting as part of the Universal Registration Document.

4.4 REMUNERATION REPORT

4.4.1 Remuneration Principles And Components

Remuneration

Euronext operates in European and global financial markets where it competes for a limited pool of talented executives. Highly qualified people, who are capable of achieving stretched performance targets, are essential to generating superior and sustainable returns for Euronext and its shareholders, while creating long term value for the overall ecosystem. Our people and remuneration strategies aim to enable Euronext to attract, develop and retain talent that will ensure that we maximise long term shareholder value and support the development of capital markets and the growth of the real economy..

The majority of remuneration for the members of the Managing Board is linked to demanding performance targets, in line with our ambitious performance culture, over both the short (calendar year) and long-term (3-year period) to ensure that executive rewards are aligned with performance delivered for shareholders and long term value creation for all stakeholders.

In determining the level and structure of the remuneration of the members of the Managing Board, the Remuneration Committee takes into account, among other things, the financial and operational results as well as non-financial indicators relevant to Euronext's long-term objectives. The Remuneration Committee has performed and will perform scenario analyses to assess that the outcomes of variable remuneration components appropriately reflect performance and with due regard for the risks to which variable remuneration may expose the Company.

In determining the Remuneration Policy and the compensation of members of the Managing Board, the Supervisory Board has taken and will take into account (i) the transformation of Euronext, (ii) the local market practices and the competitive environment where Euronext operates, (iii) the impact of the overall remuneration of the Managing Board on the pay differentials within the Company and (iv) the employment terms of the employees in the Company and its subsidiaries.

The remuneration of the members of the Managing Board consists of the following components:

- an Annual Fixed Salary component ("AFS");
- a Short Term Incentive in the form of cash reward ("STI");
- a Long Term Incentive in the form of equity ("LTI"); and
- pension provisions (post-employment benefits), employee share plan and fringe benefits.

Euronext believes that it is crucial to provide shareholders with transparent and comprehensible information about its remuneration philosophy. The first source of information for shareholders is the remuneration report. The information provided during the Company's analyst presentations, meetings with shareholders and during the Annual General Meeting of shareholders is the second most important source of information. It is also critical to explain to shareholders why a proper remuneration system has a positive impact on the Company and how it helps to align the interest of all stakeholders.

For instance, in some countries, listed companies already have to submit the remuneration of their executives (board of directors, Executive Committee and/or Advisory Board) to a binding shareholders say-on-pay vote at the Annual General Meeting. In other countries strong recommendations by national or international Corporate Governance bodies (such as the International Corporate Governance Network) exist. Euronext is committed to implement best practice for say-on-pay, considering existing applicable legislation, the European shareholders rights Directive II, and recommendations in the jurisdictions in which it is active as guiding principles. Other best practices will be followed such as benchmarking against comparable institutions, defining measurable performance targets and balancing short-term and long-term remuneration components notably through an adequate cash-to-stock ratio.

The application of these principles to the remuneration of the Managing Board was reviewed by the Remuneration Committee and Supervisory Board in 2019, following a comprehensive total compensation benchmark conducted in 2019. The updated framework of the Remuneration Policy was adopted by the Annual General Meeting in October 2019.

The tables hereafter reflect the current remuneration of the Managing Board.

Executive Remuneration Summary

The remuneration of the Managing Board is composed of the following key elements:

Element	Purpose	Commentary
AFS	Reflect the responsibility and scope of the role taking into account seniority and experience	Annual Fixed Salary is reviewed annually through our compensation review process to ensure competitiveness against competitors.
STI	Reward annual financial and individual performance	Target 75% of Annual Fixed Salary for the CEO and 50% or 40% of Annual Fixed Salary for other Managing Board members. For the Managing Board, 100% of total STI is paid in cash. The performance criteria are based on delivery against pre-set EBITDA, market share and cost targets, on successful execution of the strategic plan and on individual qualitative targets. See next chapter for more details.
LTI	Incentivise performance over the longer term and aim to retain key employees	150% of Annual Fixed Salary for the CEO, and ranging from 50% to 75% for other Managing Board members depending on role and seniority. LTI awards vest after three years. The grant of LTI awards will be determined on the rules set by the Remuneration Committee and are linked to performance criteria.

		<p>The grant of the LTI is conditional and depends on two performance measures to be met:</p> <p>Total shareholders Return compared with a selected Index and actual EBITDA compared to a target cumulated EBITDA, both over a 3 years period. Both criteria having equal weight and being used as the discount or multiplier percentage on the conditionally granted LTI.</p> <p>See next chapter for more details.</p>
Pension arrangements and fringe benefits	Ensure competitive benefits package and conformity with local market practice	The pension arrangements of the member of the Managing Board consist of state pension and additional pension schemes that are in line with local practice in the countries where Euronext operates. In addition members of the Managing Board are entitled to the usual fringe benefits such as a company car, expense allowance, medical insurance, accident insurance in line with local market practice in the countries where Euronext operates.

4.4.2 2019 Remuneration Report

4.4.2.1 Introduction

4.4.2.1.1 2019 Report of the Remuneration Committee

The Remuneration Committee of Euronext assists the Supervisory Board with respect to the Company's remuneration strategy and principles for members of the Managing Board of the Company (the "Managing Board"), the administration of its cash and equity based compensation plans and draft proposals to the Supervisory Board and oversees the remuneration programs and remuneration of the Company's senior managers and other personnel.

Considering the re-appointment of the CEO and the transformation of Euronext, the Remuneration Committee undertook early in 2019 a review of the Remuneration Structure for the Managing Board, including a benchmark analysis with 4 peer groups as detailed in this Remuneration Report. The amended remuneration for the CEO was adopted by the shareholders on 8 October 2019.

The company's major investors, and organisation representing institutional shareholders, have been consulted throughout the year. In line with their feedback, and according to applicable regulatory requirements, and in particular the EU Shareholders' Rights Directive, the level of disclosure has been reinforced in the Remuneration Policy and in this Remuneration Report.

No significant adjustments to the Managing Board Remuneration Policy are proposed in 2020, also considering the recent adjustments proposed to and approved by the EGM on 8 October 2019. However, the adjusted Remuneration Policy will be submitted to the General Meeting of May 2020 in line with shareholders feedback and with the underlying guiding principles of the Shareholder Rights Directive II.

4.4.2.1.2 Performance and effect on remuneration in 2019

In 2019, the Euronext team delivered major operational, financial and strategic milestones which have clearly transformed Euronext.

- (i) The continued **focus on growth** and operational efficiency allowed Euronext to grow double digits on various metrics¹.
 1. **revenues at €679m**, +10.4% above 2018;
 2. **EBITDA at €399.4m**, +12.8% above 2018;
 3. **EBITDA margin at 58.8%**, 120bps above 2018;
 4. **Adjusted EPS at €3.90**, +10.9% above 2018.
- (ii) Euronext delivered our second geographic footprint enlargement since 2002, after the acquisition of Dublin in 2018, with the acquisition of **Oslo Børs VPS**.
- (iii) Euronext executed successfully on its plan to make Oslo the hub of Euronext's Nordic ambitions with the entering into a binding agreement for the acquisition of **Nord Pool**².
- (iv) Significant steps were delivered to diversify the Euronext topline in order to materially **improve the quality of the revenue mix**:
 1. successful integration of FastMatch, now Euronext FX, with the first expansion steps in Singapore;
 2. consistent deployment of our Corporate Services businesses which delivered +43% annual growth mostly coming from subscription-based revenues;
 3. acquisition of VPS, contributing significantly to the increase of non-volume driven revenues;
 4. binding agreement for the acquisition of Nord Pool¹, adding Power as a new asset class on Euronext markets, with no correlation to the core equities trading businesses of Euronext.
- (v) **Optiq®**, our cutting-edge technology platform has been completed, delivered and fully deployed on time to secure the mid-term technology future of Euronext and its repositioning as a technology-leader in the industry landscape.
- (vi) **Let's Grow Together 2022**, our new strategic plan released in October 2019 met strong support of our shareholders, and is fully owned by our employees. This plan has been designed in-house through a thorough iterative process involving the entire organization over a period of 10 months. It sets an ambitious objective to become the leading pan-European market infrastructure.

These key performance indicators and strategic achievements are the basis for the Remuneration decisions described in this report.

4.4.2.2 Annual Fixed Salary (AFS)

AFS, STI and LTI are determined on the basis of benchmarking comparable companies in relevant markets and take into account role, scope, accountability, and experience. Typically, AFS will be positioned at the median level of the peer group benchmark in line with the overall job responsibilities of the individual Managing Board member.

¹ Please refer to the EBITDA definition provided in Chapter 5 and as defined in section 7.1.1

² Acquisition closed on 15 January 2020

The AFS reflects the responsibility and scope of each role, taking into account seniority, experience and market practice.

In 2019 the Remuneration Committee conducted its annual review of the Annual Fixed Salary levels of our Managing Board Members and in accordance with the Remuneration Policy, a benchmark analysis has been conducted to support those decisions.

Euronext has become significantly larger with a more mature and complex financial profile, an ambitious performance culture and more complex and diverse operations to face new challenges to come, that will be of a different nature and complexity in terms of cross-cultural management, strategic challenges, regulatory and financial complexity, operational and technological threats.

Considering, the transformation of Euronext and the competitive environment in which it operates, it has been decided to amend the remuneration of the Group CEO's and two other members of the Managing Board, based on their enlarged responsibilities. The Group CEO remuneration has been approved by the shareholders in the General Meeting on 8 October 2019 and the Supervisory Board under the recommendation of the Remuneration Committee approved the new remuneration for Chris Topple and Anthony Attia during its meeting on 6 November 2019. The remuneration structure remain composed of the fixed salary, a short term incentive in a form of cash reward and a long-term incentive in form of equity

The new AFS of the members of the Managing Board are disclosed in the table below and the benchmark details are disclosed in this document.

No significant adjustments to the Managing Board Annual Fixed Salary are proposed in 2020, also considering the recent adjustments proposed to and approved by the EGM on 8 October 2019.

See details of the Annual Fixed Salary per Managing Board member in section 4.2.6.1.

4.4.2.3 Short Term Incentive (STI)

The STI for the Managing Board is paid, on a yearly basis in cash. The objective of this STI is to ensure that the Management Board is well incentivized to achieve operational performance targets aligned with the strategic initiatives in the shorter term.

A member of the Managing Board is eligible for an annual variable component up to a certain percentage of the Annual Fixed Salary for on target performance.

Short Term Incentive (STI) component as a percentage of the Annual Fixed Salary (AFS) for Managing Board members

Position	Minimum annual STI as % of AFS	On target annual STI as % of AFS	Maximum annual STI as % of AFS
CEO	0.00%	75.00%	150.00%
CEO France/CEO Netherlands/CEO Ireland/CEO UK/ CEO Norway	0.00%	50.00%	100.00%
CEO Belgium/CEO Portugal	0.00%	40.00%	80.00%

Performance conditions for the Short Term Incentive are set by the Supervisory Board annually for the relevant year. They include criteria concerning Euronext's financial performance, quantitative criteria representing company performance and/or individual qualitative performance.

An overall underperformance of the set objectives leads to a discount of the STI payment whereby a 20% negative deviation leads to a 50% reduction of STI. Over performance leads to a multiplier whereby a 20% outperformance of the set objectives will lead to an increase of 100% of STI. This level of outperformance reflects the absolute cap of the STI. Linear extrapolation between performance bands is applied.

Euronext performance conditions	STI pay-out
+20% or higher	Increase of 100%
At target to +20%	Increase on linear basis from on-target up to and including 100% increase
At target	On-target number
At target to -20%	Decrease on linear basis from on-target to 50%
More than -20%	Decrease on linear basis from 50% to 0

In 2019 the performance criteria, and weights, for the individual Managing Board members' short term incentive were based on:

Position	Weights of performance criteria (in % of STI)		
	Euronext financial targets (1)	Successful execution of Euronext strategic initiatives (2)	Individual strategic targets (3)
CEO	40%	30%	30%

Position	Weights of performance criteria (in % of STI)		
	Euronext financial targets (1)	Successful execution of Euronext strategic initiatives (2)	Individual quantitative and strategic targets (4)
CEO France/ CEO Netherlands/CEO Ireland/ CEO UK/ CEO Norway/ CEO Belgium/CEO Portugal	30%	20%	50%

(1) Euronext Financial targets for 2019, approved by the Supervisory Board, include EBITDA, market share and operational cost for

the CEO and the other members of the Managing Board. Those criteria are monitored on a granular manner and their measurement is revised and controlled by the Remuneration Committee. Following 2019 results, overall performance for this criteria was assessed as over performed with a payout between target and maximum level.

- (2) Successful execution of Euronext strategic initiatives consist of the following three objectives for the CEO and the other members of the Managing Board:

- Build and deploy the new strategic plan;
- Achievement of integration milestones for new acquisitions;
- Achievement of Optiq® milestones.

Each of these three elements include measurable KPIs, assessed by the Remuneration Committee and the Supervisory Board during the annual review. Following assessment of the 2019 KPIs and milestones by the Supervisory Board, overall performance for this criteria was assessed as over performed with a payout between target and maximum level.

- (3) The individual targets of the Group CEO were the following for 2019:

- Mobilise the teams around the new strategic plan
- Deliver Client Centricity KPIs and projects
- Strengthen the succession plan and the management team in line with the new profile of the company & attract talents
- Build a trustful relation with the Board and its committees
- Build a trustful relation with analysts, investors and RSH
- Deploy M&A strategy & secure smooth execution of any possible deal
- Increase team productivity and optimize efficiencies

Following assessment of the 2019 KPIs and milestones by the Supervisory Board, overall performance for this criteria was assessed as over performed with a payout between target and maximum level.

- (4) Other members of the Managing Board have dedicated individual quantitative and strategic targets, performance is assessed for each of them on individual basis by the Supervisory Board upon recommendation of the CEO.

Regarding qualitative targets, the Remuneration Committee approves every year a list of critical KPIs, and benchmarks achievement of these KPIs against the initial targets in order to define the percentage of performance for each criteria.

KPI achievement and % pay-out for members of the Managing Board:

Name	Position	Performance criteria achievement	Performance multiplier impact	Annual target as % of AFS	Maximum Pay-out as % of AFS	Pay-out as % of AFS
Stéphane Boujnah	Chief Executive Officer and Chairman	117%	187%	75%	150%	140%
Anthony Attia	CEO of Euronext Paris and Global Head of Listing	113%	167%	50%	100%	83%
Chris Topple	CEO of Euronext London, Head of Global Sales	114%	168%	50%	100%	83%
Daryl Byrne	CEO of Euronext Dublin and Head of Debt & Funds Listings and ETFs	100%	100%	50%	100%	50%
Isabel Ucha	CEO of Euronext Lisbon and CEO of Interbolsa	105%	124%	40%	80%	50%
Vincent van Dessel	CEO of Euronext Brussels	99%	98%	40%	80%	39%

Håvard S. Abrahamsen was not included in the Short Term Incentive plan. Simone Huis in 't Veld had a specific agreement for an on-target short term incentive as part of her onboarding in 2019. Maurice van Tilburg resigned in 2019 and received a short term incentive prorated as part of his resignation agreement.

For 2020, the same structure will be used for the Short Term Incentive, with additional ESG objectives aligned with the commitment of the new strategic plan. All Short Term Incentive objectives are supportive of the long term strategy of Euronext and aligned with shareholder interests.

See details of the Short Term Incentive payout per Managing Board member in section 2.6.1.

4.4.2.4 Long Term Incentive (LTI)

Members of the Managing Board are eligible for Long Term Incentive awards (LTI), which help to align the interests of the Managing Board members with those of its long term (or prospective) shareholders and which provide an incentive for longer term commitment and retention

of the Managing Board members.

The main features of the LTI arrangements are the following:

- Equity awards will be made in the form of performance shares ("Performance Shares") with a three year cliff vesting schedule ("Performance Share Plan");
- The provisional and conditional target grant of LTI will be a percentage of Annual Fixed Salary (please see the table below);
- At vesting date the actual grant will be determined taking into consideration the performance of Euronext against the criteria of TSR for 50% of the performance shares granted and the absolute EBITDA¹ performance for 50% of the performance shares granted (as described below).
- Participants are not entitled to dividends during the vesting period.

An important objective of the LTI is to provide an incentive to the Managing Board members to continue their employment relationship with Euronext and to focus on the creation of sustainable shareholder value.

As a reminder, Long Term Incentive (LTI) component as a percentage of the Annual Fixed Salary (AFS) for Managing Board members:

Position	Annual LTI as % of AFS
CEO	150.00%
CEO France/CEO Netherlands/CEO Ireland/CEO UK	75.00%
CEO Belgium/CEO Portugal/ CEO Norway	50.00%

4.4.2.4.1 Granted shares

In 2019, the actual number of conditional LTI Performance Share Plan ("PSP") awards granted depends on the performance of the following two performance measures:

- **Total Shareholder Return ("TSR") (50% weighting):** The TSR performance will be based on an absolute difference between the Total Shareholders Return Index of Euronext and Total Shareholders Return Index of the STOXX Europe 600 Financial Services index during the vesting period. An overall underperformance in reference to the index will lead to a discount on the conditional LTI at vesting date whereby a 20% negative deviation leads to a 50% reduction of conditionally granted LTI at vesting date. Below 20% the multiplier will be 0%. Over performance will lead to a multiplier whereby a 20% outperformance of the index will lead to an increase of 100% in conditionally granted LTI at vesting date. This level of outperformance reflects the absolute cap of the LTI allotment.
- **Absolute Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA) (50% weighting):** The EBITDA¹ performance will be based on the ratio between (i) the actual cumulated EBITDA of the company for the three year period, as reported in the audited financial statement of the company, and (ii) a cumulated target EBITDA for the same period computed based on a target yearly EBITDA growth rate ("y") as approved by the Remuneration Committee. The multiplier of the shares granted in year N+1 (e.g. grant year), will be computed at the end of the three-year period (i.e. N+3), based on the ratio i/ii. An overall underperformance in reference to this ratio will lead to a discount on the conditional LTI at vesting date whereby a 0.9 ratio leads to a 50% reduction of conditionally granted LTI at vesting date. Below 0.9 the multiplier will be 0%. Over performance will lead to a multiplier whereby a 1.1 ratio will lead to an increase of 100% in conditionally granted LTI at vesting date. This level of outperformance reflects the absolute cap of the LTI allotment.

These percentages are independent and both weighted equally; they are being used as the discount or multiplier percentage on the conditionally granted LTI;

A summary table of the above is as follows.

Euronext performance conditions (for each part of the performance conditions)		Vesting % of the number of shares
Total Shareholder Return (TSR)	Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA ¹)	
+20% or higher	Ratio i/ii is at 1.1 or higher	Increase of 100%
At target to +20%	Ratio i/ii is between 1 and 1.1	Increase on linear basis from original grant up to and including 100% increase
At target	Ratio i/ii is equal to 1	Original granted number
At target to -20%	Ratio i/ii is between 1 and 0.9	Decrease on linear basis from original grant to lapse of 50% of the shares
More than -20%	Ratio i/ii is below 0.9	Lapse of 100% of the shares

4.4.2.4.2 Vested shares

Based on the financial targets set by the Supervisory Board, the performance measurement for the award made in 2016 that vested in 2019 was:

- Performance of Euronext against the criteria of TSR (50%) between target and maximum level;
- EBITDA¹ margin (50%) between target and maximum level.

The performance conditions from the previous Remuneration Policy were the following:

¹ As defined in Chapter 5, and as defined as EBITDA¹ in section 7.1.1

Euronext performance conditions (for each part of the performance conditions)		Vesting % of the number of shares
Total Shareholder Return (TSR)	Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA)	
+33% or higher	+33% or higher	Increase of 100%
At target to +33%	At target to +33%	Increase on linear basis from original grant up to and including 100% increase
At target	At target	Original granted number
At target to -20%	At target to -20%	Decrease on linear basis from original grant to lapse of 50% of the shares
More than -20%	More than -20%	Lapse of 100% of the shares

After the three-year vesting period, the final performance of Euronext over this period compared to the performance of the peer group has determined the number of shares to be vested.

As a reminder LTI Performance Share Plan ('PSP') PSP awards that vested in 2019 depends on the performance of the following two performance measures that are independent and both weighted equally:

- **Total Shareholder Return ('TSR') (50% weighting):** The TSR performance of Euronext is measured over a three-year period against the TSR of a peer group of four exchanges which are the London Stock Exchange, Deutsche Börse, Bolsas y Mercados Españoles and the Warsaw Stock Exchange; Euronext TSR index had outperformed the average peer group TSR index by a percentage difference of 1.3% resulting in 3.93% increase of the numbers of shares linked to TSR criteria.
- **average Earnings Before Interest, Tax, Depreciation and Amortisation and Exceptional Items ('EBITDA1') margin (50% weighting):** the average of the difference between the Company's actual EBITDA Margin on 31 December 2017 and 31 December of the first and second financial year thereafter compared to the budgeted EBITDA margin for the financial year of the grant date and first and second financial year thereafter. Over the Plan period the average of the percentage differences between the actual EBITDA margins and the budget EBITDA margins was 2.1%, resulting in 6.37% increase of the numbers of shares linked to EBITDA criteria.

See details of the Long Term Incentive per Managing Board member in section 4.2.6.1. and 4.2.6.2.

4.4.2.5 Pension schemes and fringe benefits

Due to the nature and structure of the Company, the members of the Managing Board are eligible to local benefits and pension arrangements. Pension consist of various state pension and additional local supplementary pension schemes in place depending on market practice in the countries where Euronext operates. Local members of the Managing Board have access to local supplementary pension schemes when available, in line with conditions offered to other employees locally.

Please see in the below table details on individual pension local schemes in place.

	Type of supplementary pension scheme
Stéphane Boujnah	None
Anthony Attia	None
Chris Topple	All employee Defined Contribution scheme
Daryl Byrne	All employee Defined Contribution scheme
Isabel Ucha	All employee Defined Contribution scheme
V. van Dessel	All employee Defined Contribution scheme
H. Abrahamsen	All employee Defined Contribution scheme /age related contribution
S. Huis in 't Veld	All employee Defined Contribution scheme
M. van Tilburg	/age related contribution

The CEO does not benefit from any pension nor retirement arrangement of any sort funded by Euronext and more generally the members of the Managing Board don't benefit from any specific pension benefits compare to all other employee.

See details of the pension contribution amount per members of the Managing Board in section 4.4.2.6.1., post-employment benefits.

At the time of the IPO in 2014, the Company offered Ordinary Shares to all eligible employees, which Ordinary Shares are held through the French Fonds Commun de Placement d'Entreprise "Euronext group" ("FCPE").

On 31 December 2019, no more units are held by the members of the Managing Board.

There is currently no lock-up of ordinary shares.

4.4.2.6 Remuneration of Managing Board members for 2019 and previous years

4.4.2.6.1 Five year Remuneration overview

¹ As defined in Chapter 5, and as defined as EBITDA₁ in section 7.1.1

The remuneration for 2019 and previous years, is presented in the table below.

The actual remuneration expensed for the members of the Managing Board, for the year 2019 amounts to € 7,524,135. This amount includes a pro rata compensation related to Isabel Ucha, Simone Huis in 't Veld, Maurice van Tilburg and Håvard S. Abrahamsen.

The total remuneration consists of (i) an aggregate Annual Fixed Salary, (ii) the aggregate Short Term Incentive compensation based on the achievements against objective measurable criteria and (iii) the aggregate Long Term Incentive compensation recognised in accordance with IFRS 2 and (iv) an amount to be contributed to post-employment benefits. The table also presents the fixed to variable remuneration ratio.

The pay-for-performance philosophy and long-term value creation is, amongst others, realized by the pay mix, with more than two-thirds of the CEO total package in variable pay. A significant part of the pay package is conditional upon the achievement of long term performance targets, with long term variable pay representing almost half of the pay package. Such balance is considered to support the Company's strategy and the long term sustainable interests of the Company and all its stakeholders including its shareholders.

Managing Board remuneration									
Name	Title	Currency	Year	AFS	STI	LTI based on IFRS 2 ¹	Post-employment benefits	% fixed	% variable
Stéphane Boujnah	Chief Executive Officer and Chairman	EUR	2019	825,000	1,155,000	1,023,586	0	27%	73%
		EUR	2018	725,000	1,015,000	532,813	0	32%	68%
		EUR	2017	725,000	815,625	291,045	0	40%	60%
		EUR	2016	725,000	797,500	65,924	0	46%	54%
		EUR	2015	725,000	250,000	0	0	74%	26%
Anthony Attia	CEO of Euronext Paris and Global Head of Listing	EUR	2019	360,000	300,000	301,635	0	37%	63%
		EUR	2018	300,000	270,000	352,996	0	33%	67%
		EUR	2017	300,000	225,000	257,948	0	38%	62%
		EUR	2016	300,000	210,000	160,886	0	45%	55%
		EUR	2015	300,000	225,000	218,261	0	40%	60%
Chris Topple	CEO of Euronext London, Head of Global Sales	GBP	2019	360,000	300,000	347,493	23,357	36%	64%
		GBP	2018	320,000	320,000	17,492	4,891	49%	51%
Daryl Byrne	CEO of Euronext Dublin and Head of Debt & Funds Listings and ETFs	EUR	2019	270,000	135,000	19,504	32,400	64%	36%
		EUR	2018	270,000	100,000	6,224	6,750	72%	28%
Isabel Ucha	CEO of Euronext Lisbon and CEO of Interbolsa	EUR	2019	230,000	115,000	21,606	21,645	63%	37%
Vincent Van Dessel	CEO of Euronext Brussels	EUR	2019	282,722	112,843	179,996	35,596	49%	51%
		EUR	2018	275,655	110,000	181,860	34,631	49%	51%
		EUR	2017	270,701	110,000	157,460	33,853	50%	50%
		EUR	2016	264,764	105,905	77,374	33,507	59%	41%
		EUR	2015	263,630	132,000	100,349	33,388	53%	47%
Håvard S. Abrahamsen	CEO Oslo Børs VPS	NOK	2019	4,000,000	0	0	25,309	100%	0%
Simone Huis in 't Veld ²	CEO of Euronext Amsterdam	EUR	2019	270,000	135,000	0	4,458	67%	33%
Maurice van Tilburg ³	CEO of Euronext Amsterdam and Head of Market Operations and Client Centricity	EUR	2019	270,000	150,000	139,256	14,878	48%	52%
		EUR	2018	270,000	190,000	280,721	16,667	36%	64%
		EUR	2017	270,000	190,000	71,539	16,869	51%	49%
		EUR	2016	270,000	162,000	86,394	16,093	52%	48%
		EUR	2015	220,000	164,000	51,623	11,536	51%	49%

The Company has not granted any loans, advanced payments and guarantees to the members of the Managing Board.

There are no specific agreements made by the Company with a Managing Board member that provide a payment upon termination of employment as a result of a public takeover bid within the meaning of Article 5:70 of the Dutch Financial Supervision Act.

¹ IFRS standard 2 on "Shared-based payments" prescribes recognition of expense for share based grants on the fair value as per grant date. This "grant date fair value" is expensed over the 3-year vesting period.

² 2019 Short Term Incentive for new joiners are reflecting a contractual arrangement at the time of hiring for Simone Huis in 't Veld.

³ On 31 October 2019 Maurice van Tilburg's resignation became effective.

4.4.2.6.2 Long Term Incentive in Performance Shares overview

in number of shares	Plan	Year of granting	Outstanding as at 1 Jan. 2019	Granted in calendar year	Forfeited in calendar year	Additional performance shares vested in 2019	Vested in calendar year	Outstanding as at 31 Dec. 2019
Stephane Boujnah	LTI	2016	18,518			954	19,472	-
	LTI	2017	15,469					15,469
	LTI	2018	14,798					14,798
	LTI	2019		11,381				11,381
Anthony Attia	LTI	2016	5,747		-	296	6,043	-
	LTI	2017	4,801					4,801
	LTI	2018	4,035					4,035
	LTI	2019		3,532				3,532
Maurice van Tilburg	LTI	2016	5,172		-	266	5,438	-
	LTI	2017	4,320		4,320			-
	LTI	2018	3,632		3,632			-
	LTI	2019		3,178	3,178			-
Daryl Byrne	LTI	2018	717					717
	LTI	2019		3,178				3,178
Chris Topple	LTI	2018		13,760				13,760
	LTI	2019		4,313				4,313
Isabel Ucha	LTI	2019		1,805				1,805
Vincent van Dessel	LTI	2016	3,381		-	174	3,555	-
	LTI	2017	2,856					2,856
	LTI	2018	2,472					2,472
	LTI	2019		2,210				2,210
			85,918	43,357	11,130	1,690	34,508	85,327

2016 performance shares vested on 9 September 2019

4.4.2.6.3 Five year Company performance overview

Company performance	2015	2016	2017	2018	2019
Financial metrics					
Absolute revenue (EUR)	518.5	496.4	532.3	615.0	679.1
Share price (31/12) (EUR)	47.285	39.205	51.810	50.300	72.650
Absolute EBITDA (EUR)	283.8	283.9	297.8	354.3	399.4
Non-financial metrics					
Countries	8	7	11	15	17
Headcount	652	589	687	848	1,086
Average employee remuneration¹ (AFS + STI in k€)	94	91	90	89	95

4.4.2.7 2019 Group CEO Pay ratio

Euronext takes into account the internal pay ratios when formulating the Remuneration Policy. In light of transparency and clarity, Euronext applies a methodology using total cash, including base salary and short term

Incentive that are disclosed in the table above.

The ratio between the total annual remuneration of the group CEO and the average annual employee compensation in 2019 was 20.9. The comparable 2018 ratio was 19.6. (please refer to the table above for further details on Managing Board remuneration). This change of ratio is linked to the adjustment to the CEO remuneration approved by the EGM on 8 October 2019.

4.4.2.8 2019 benchmark analysis

In accordance with the Remuneration Policy, a benchmark analysis has been conducted (by a third-party provider in April 2019) against four

¹ Excluding recent acquisitions: Nord Pool, Oslo Børs VPS, Euronext Funds360, Commisce and Corporate Services.

different peer groups to assess compensation levels of the CEO. First two reference markets consist of European headquartered companies of comparable size and scope, primarily active in the Finance & IT industries and relevant direct competitors. To complement these two peer groups, an analysis was performed against two local markets on equivalent position (France where the CEO is based, and the Netherlands/AEX). This analysis showed that the current target total compensation package was positioned below European Market, significantly below the median of the French Market and the lower quartile of the Direct Competitors and slightly lower than the Dutch Market.

The detailed results are as follow:

- **Peer group 1: European market¹**
 - Total Direct Compensation was at 87% of the market median
 - 21 companies in the Finance, Technology and Infrastructure industries compose this peer group with a market capitalization between € 2 and € 9 billion
- **Peer group 2: Direct competitors²**
 - Total Direct Compensation was at 46% of the market median:
 - For the European competitors, Total Direct Compensation was at 71% of the median
 - For the U.S. competitors, Total Direct Compensation was at 24% of the median
 - 14 listed companies and 9 non-listed companies compose this peer group with a market capitalization (for those listed) between € 2 and € 52 billion
- **Peer group 3: Local Market (France)³**
 - Total Direct Compensation was at 80% of the market median
 - 25 companies in the Finance, Technology and Infrastructure industries compose this peer group with a market capitalization between € 2 and € 12 billion
- **Peer group 4: Local Market (the Netherlands - AEX Market)⁴**
 - Total Direct Compensation was at 99% of the market median
 - 18 companies compose this peer group with a market capitalization between € 2 and € 12 billion

4.4.2.9 Remuneration of Supervisory Board members

4.4.2.9.1 2019 remuneration

The principles of the Supervisory Board Remuneration Policy are to incentivise Supervisory Board members to utilize their skills and competences to the maximum extent possible to execute the tasks which include but are not limited to those responsibilities required by the Civil Code, Dutch Corporate Governance Code and the Articles of Association.

The gross amounts that were paid to members of the Supervisory Board in 2019 are disclosed in the below table. They reflect each role's responsibilities as well as the time spent since the number of meetings in 2019 was quite high. The development of the remuneration of Dick Sluimers also reflects his appointment as Chairman of the Supervisory Board in 2018. Other changes in remuneration are mainly the result of mid-year appointments or resignations.

Group Supervisory Board	2019	2018	2017	2016	2015
Dick Sluimers	€ 129,000	€ 112,500	€ 81,000	€ 40,883	
Manuel Ferreira da Silva	€ 87,000	€ 72,000	€ 67,000	€ 67,000	€ 68,742
Jim Gollan	€ 85,000	€ 72,500	€ 65,000	€ 63,538	€ 27,283
Kerstin Günther	€ 81,000	€ 66,000	€ 57,585	€ 35,014	
Luc Keuleneer	€ 81,000	€ 49,875			
Lieve Mostrey	€ 0	€ 0	€ 0	€ 0	€ 0
Padraic O'Connor	€ 84,000	€ 42,375			
Nathalie Rachou	€ 18,121				
Franck Silvent	€ 81,000	€ 63,500	€ 8,890		
Morten Thorsrud	€ 17,184				
Ramon Fernandez	€ 37,000	€ 69,500	€ 61,000	€ 58,820	€ 24,599

Two members of the Supervisory Board, Dick Sluimers and Luc Keuleneer, also received remuneration in relation to their positions in the

¹ Peer group 1: Sage Group, Cellnex Telecom SA, Standard Life Aberdeen PLC, Elisa Oyj Class A, United Internet AG, AVEVA Group plc, Nemetschek SE, 1&1 Drillisch AG, SES SA FDR (Class A), Iliad SA, Investec plc, Infrastrutture Wireless Italiane S.p.A., Gemalto N.V., Telekom Austria AG, Eutelsat Communications SA, SimCorp A/S, VEON Ltd., KBC Ancora SCA, Quilter Plc, Inmarsat plc, Sunrise Communications Group Ltd.

² Peer group 2: Listed competitors: CME Group Inc. Class A, S&P Global, Inc., Intercontinental Exchange, Inc., Thomson Reuters Corporation, Deutsche Boerse AG, IHS Markit Ltd., London Stock Exchange Group plc, MSCI Inc. Class A, Nasdaq, Inc., Cboe Global Markets Inc, FactSet Research Systems Inc., MarketAxess Holdings Inc., Morningstar, Inc., Bolsas y Mercados Espanoles/ Non-listed direct competitors: CLS Group Holdings AG, Depository Trust & Clearing Corporation, Euroclear Plc, Fitch Group, Inc., London Metal Exchange Ltd., LCH.Clearnet Group Ltd, NEX Group Limited, SIX Group Ltd., SWIFT

³ Peer group 3: Amundi SA, Gecina SA, Edenred SA, Worldline SA, Teleperformance SE, Bureau Veritas SA, Atos SE, Ubisoft Entertainment SA, Covivio SA, Getlink SE, Scor SE, SES SA FDR (Class A), Iliad SA, Wendel SE, Eurazeo SA, ALD SA, Air France-KLM SA, Ingenico Group SA, Eutelsat Communications SA, Alten SA, Elis SA, Altran Technologies SA, Nexity SA Class A, Soitec SA, Rothschild & Co. SCA Finance

⁴ Peer group 4 : NN Group N.V., Royal KPN NV, Aegon N.V., Randstad NV, Galapagos NV, Royal Vopak NV, ASR Nederland NV, OCI NV, GrandVision NV, Gemalto N.V., IMCD N.V., Takeaway.com Holding BV, SBM Offshore NV, Aalberts Industries N.V., Koninklijke Boskalis Westminster N.V., Signify NV, Core Laboratories, ASM International N.V.

Supervisory Board of Euronext Amsterdam, one of Euronext's subsidiaries. One member of the Supervisory Board, Jim Gollan, also received remuneration in relation to his position as Chairman of the board of Euronext London Limited, one of Euronext's subsidiaries. These remunerations are disclosed in the figures as illustrated below.

Local Boards	2019	2018	2017	2016	2015
Dick Sluimers	€ 15,000	€ 15,000	€ 15,000	€ 10,779	
Jim Gollan	30,000 GBP	30,000 GBP	30,000 GBP	30,000 GBP	30,000 GBP
Luc Keuleneer	€ 15,000	€ 15,000			

The Remuneration Policy for the members of the Supervisory Board will be submitted to the General Meeting of May 2020.

Euronext does not issue option or share plans or other incentive plans to the Supervisory Board. Euronext has not granted any loans to members of the Supervisory Board. There are no service contracts which provide for benefits upon termination of employment with members of the Supervisory Board.

4.4.2.9.2 Appointment and dismissal

Ramon Fernandez retired after the Annual General Meeting held on 16 May 2019. Nathalie Rachou and Morten Thorsrud were appointed in the Extraordinary General Meeting of 8 October 2019.

5 SELECTED HISTORICAL CONSOLIDATED FINANCIAL INFORMATION AND OTHER FINANCIAL INFORMATION ^{DR}

In accordance with Article 19 of Regulation (EU) 2017/1129, the following information is incorporated by reference in the Universal Registration Document:

For Financial Year 2017

Required disclosures in the report of the Managing Board appearing in the Statement of the Managing Board, the Consolidated Financial Statements are presented on pages 135-203 and the corresponding auditors report is presented on page 206 of the 2017 Registration Document filed with the *Autoriteit Financiële Markten* on 29 March 2018.

For Financial Year 2018

Required disclosures in the report of the Managing Board appearing in the Statement of the Managing Board, the Consolidated Financial Statements are presented on pages 143-227 and the corresponding auditors report is presented on page 230 of the 2018 Registration Document filed with the *Autoriteit Financiële Markten* on 3 April 2019.

Selected Historical Consolidated Financial Information

The selected consolidated financial information set out below is derived from the audited Consolidated Financial Statements for the financial years ended 31 December 2019, 2018 and 2017 and should be read in conjunction with, and is qualified by reference to, those Financial Statements.

Selected Consolidated Income Statement Data

<i>In thousands of euros</i>	Year ended		
	31 December 2019	31 December 2018	31 December 2017
Revenue			
Listing	128,951	106,490	84,247
Trading revenue	272,810	276,572	237,854
<i>of which</i>			
▪ Cash trading	205,565	210,947	190,276
▪ Derivatives trading	44,324	43,910	40,339
▪ FX trading	22,921	21,715	7,239
Investor Services	5,735		
Advanced data services	128,756	118,298	104,673
Post-trade	104,831	77,381	71,698
<i>of which</i>			
▪ Clearing	55,237	55,331	51,132
▪ Custody and Settlement	49,594	22,050	20,566
Euronext Technology Solutions & Other revenue	37,805	36,063	33,465
Other income	220	229	357
TOTAL REVENUE	679,108	615,033	532,294
Salaries and employee benefits	(153,145)	(118,488)	(104,363)
Depreciation and amortisation	(43,676)	(23,400)	(16,932)
Other operational expenses	(126,543)	(142,295)	(130,149)
OPERATING PROFIT BEFORE EXCEPTIONAL ITEMS	355,744	330,850	280,850
Exceptional items	(21,871)	(21,474)	(14,787)
OPERATING PROFIT	333,873	309,376	266,063
Finance costs	(11,851)	(5,481)	(3,553)
Change in fair value of financial liabilities	(13,275)	(3,200)	-
Other net financing income/(expense)	7,711	3,421	(47)
Results from equity investments	7,270	5,984	48,325
Share of net (loss) of associates and joint ventures accounted for using the equity method, and impairments thereof	1,844	1,612	287
PROFIT BEFORE INCOME TAX	325,572	311,712	311,075
Income tax expense	(100,294)	(94,084)	(68,886)
PROFIT FOR THE YEAR	225,278	217,628	242,189
PROFIT ATTRIBUTABLE TO:			
▪ Owners of the parent	221,966	215,968	241,297
▪ Non-controlling interest	3,312	1,660	892

Selected Consolidated Balance Sheet Data

<i>In thousands of euros</i>	As at 31 December 2019	As at 31 December 2018	As at 31 December 2017
Assets			
Non-current assets			
Property, plant and equipment	58,890	38,884	27,782
Right-of-use assets	51,751	0	0
Goodwill and other intangible assets	1,458,760	705,636	515,134
Deferred tax assets	21,025	20,932	7,991
Investments in associates and joint ventures	67,025	72,685	75,004
Financial assets at fair value through other comprehensive income	197,821	220,100	0
Financial assets at amortised cost	1,503	7,021	0
Other non-current assets	1,559	812	0
Available-for-sale financial assets	0	0	147,503
Other receivables	0	0	7,968
Total non-current assets	1,858,334	1,066,070	781,382
Current assets			
Trade and other receivables	125,376	101,082	94,986
Other current assets	12,057	9,240	0
Income tax receivables	1,395	2,532	1,428
Derivative financial instruments	19,353	7,361	0
Other current financial assets	12,118	14,160	0
Cash and cash equivalents	369,822	398,018	187,785
Total current assets	540,121	532,393	284,199
Assets held for sale	8,760	0	0
Total assets	2,407,215	1,598,463	1,065,581
Equity and liabilities			
Equity			
Issued capital	112,000	112,000	112,000
Share premium	116,560	116,560	116,560
Reserve own shares	-11,194	-17,816	-17,269
Retained earnings	625,545	509,483	468,882
Other reserves	75,229	70,866	35,096
Shareholders' equity	918,140	791,093	715,269
Non-controlling interests	15,686	11,231	14,211
Total equity	933,826	802,324	729,480
Non-current liabilities			
Borrowings	1,011,527	504,940	164,682
Lease liabilities	41,180	-	-
Other non-current financial liabilities	-	17,400	10,000
Deferred tax liabilities	78,754	21,429	19,834
Post-employment benefits	25,958	10,666	11,713
Contract liabilities	45,795	41,461	0
Provisions	15,079	5,994	5,081
Total non-current liabilities	1,218,293	601,890	211,310
Current liabilities			
Borrowings	6,750	3,745	203
Lease liabilities	13,970	0	0
Other current financial liabilities	30,675	6,986	6,654
Derivative financial instruments	141	85	0
Current income tax liabilities	23,333	11,240	17,429
Trade and other payables	117,298	115,332	99,161
Contract liabilities	62,825	55,487	0
Provisions	104	1,374	1,344
Total current liabilities	255,096	194,249	124,791
Total equity and liabilities	2,407,215	1,598,463	1,065,581

Selected Statement of Cash Flows Data

<i>In thousands of euros</i>	Year ended		
	31 December 2019	31 December 2018	31 December 2017
Net cash provided by operating activities	253,771	223,512	207,003
Net cash (used in) investing activities	-607,307	(215,152)	(185,093)
Net cash provided by/(used in) financing activities	327,678	202,012	(8,524)
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	-25,858	210,372	13,386
Cash and cash equivalents – Beginning of year	398,018	187,785	174,501
Non-cash exchange gains/(losses) on cash and cash equivalents	-2338	(139)	(102)
CASH AND CASH EQUIVALENTS – END OF YEAR	369,822	398,018	187,785

Other Financial Information

Non-IFRS financial measures

Euronext uses the following non-IFRS measures as supplemental measures since it believes they provide meaningful supplemental information regarding its financial and operational performance. These measures should not be used instead of, or considered as alternatives to operating result or any other performance measure derived in accordance with IFRS:

- EBITDA;
- EBITDA margin.

Non-IFRS measures are not prepared in accordance with IFRS and may be different from, and not comparable to, similarly titled measures reported by other companies. These measures should be read in conjunction with the Consolidated Financial Statements:

- EBITDA is defined as the operating profit before exceptional items and depreciation and amortization, please refer to section 7.1.1 for further details;
- EBITDA margin is defined as the operating profit before exceptional items and depreciation and amortisation, divided by total revenue.

Reconciliation of EBITDA and EBITDA margin

<i>In thousands of euros (except for percentages)</i>	Year ended		
	31 December 2019	31 December 2018	31 December 2017
Operating profit before exceptional items	355,744	330,850	280,850
Depreciation and amortization	(43,676)	(23,400)	(16,932)
Operating profit before exceptional items and depreciation and amortisation (EBITDA)	399,420	354,250	297,782
TOTAL REVENUE	679,108	615,033	532,294
EBITDA margin ^(a)	59%	58%	56%

(a) EBITDA margin is a non-IFRS measure and is not audited. EBITDA margin should not be considered as an alternative to, or more meaningful than, and should be read in conjunction with, operating profit before exceptional items.

Adjusted EPS Definition

<i>In €m unless stated otherwise</i>	Year Ended	
	31 December 2019	31 December 2018
Net Income Reported	222.0	216.0
EPS Reported (€ per share)	3.19	3.10
Intangible assets adj. related to acquisitions (PPA)	-	7.4
Exceptional items	-	21.5
Impairments	-	1.5
Revaluation of buy-options and deferred payments	-	3.2
Tax related to those items	5.5	5.2

Adj. Net Income	271.4	244.4
Adj. EPS (€ per share)	3.90	3.51

In 2018, some exceptional items such as impairments and revaluations of buy-options were not considered as a part of the net income adjustments due to their low materiality (7 cents per share or 1.9%). In 2019, due to their significance such items were considered part of the adjustment (28 cents per share or 7.1%). As a consequence, 2018 adjusted net income was restated for consistency purposes.

6 GENERAL DESCRIPTION OF THE COMPANY AND ITS SHARE CAPITAL DR

6.1 LEGAL INFORMATION ON THE COMPANY

6.1.1 General

Euronext is a public company with limited liability (*naamloze Vennootschap*) incorporated under the laws of the Netherlands and is domiciled in the Netherlands. The Company was incorporated in the Netherlands on 15 March 2014. Euronext's statutory seat (*statutaire zetel*) is in Amsterdam, the Netherlands, and its registered office and principal place of business is at Beursplein 5, 1012 JW Amsterdam, the Netherlands. The Company is registered with the trade register of the Chamber of Commerce for Amsterdam, the Netherlands, under number 60234520, and the telephone number is +31 (0)20-7214444. Euronext's LEI is 724500QJ4QSZ3H9QU415 and its corporate website is <https://www.euronext.com/en>.

6.1.2 Corporate Objects

Euronext's corporate objects, as set out in Article 3 of the Articles of Association, are to participate and to manage other enterprises and companies of which the objects are to set up, develop, hold and operate, directly or indirectly, one or more regulated and other markets or other facilities with regard to the listing of, the trading in, the post-trade processing of transactions in, and related services and process in, securities and derivatives, as well as to manage and finance subsidiaries, to enter into joint ventures with other enterprises and other companies engaged in one or more of the activities referred to above; to acquire, operate and dispose of industrial and intellectual property rights as well as real property; to provide security for the debts of the Company, its subsidiaries or any other legal person and to undertake all that is connected to the foregoing or in furtherance thereof.

6.2 SHARE CAPITAL

6.2.1 Authorised and Issued Share Capital

Under the Articles of Association, Euronext's authorised share capital amounts to €200,000,001.60 and is divided into 125,000,000 Ordinary Shares, each with a nominal value of €1.60 and one priority share with a nominal value of €1.60. All of Euronext's shares have been or will be created under Dutch law.

As of 31 December 2019, Euronext's issued share capital amounts to €112,000,000 and is divided into 70,000,000 Ordinary Shares. The Priority Share is currently not outstanding. As of 31 December 2019, Euronext held 232,625 shares in its own share capital after settlement and custody of trades made on 30 and 31 December 2019. All shares that are issued at the date of the Registration Document are fully paid up.

Euronext is subject to the provisions of the Dutch Financial Supervision Act and the Articles of Association with regard to the issue of shares following admission. The shares are in registered form and are only available in the form of an entry in Euronext's shareholders' register and not in certificated form.

6.2.2 Issue of Shares

Under its Articles of Association Euronext may issue shares, or grant rights to subscribe for shares, only pursuant to a resolution of the General Meeting upon proposal of the Supervisory Board or upon proposal of the Managing Board, which proposal has been approved by the Supervisory Board.

Euronext's Articles of Association provide that the General Meeting may designate the authority to issue shares or grant rights to subscribe for shares, to the Managing Board upon proposal of the Supervisory Board on a proposal of the Managing Board, which proposal has been approved by the Supervisory Board. Pursuant to the Dutch Civil Code and Euronext's Articles of Association, the period of designation may not exceed five years. Such designation may be renewed by a resolution of the General Meeting for a subsequent period of up to five years each time. Unless the resolution determines otherwise, the designation is irrevocable. At the designation, the number of shares which may be issued by the Managing Board must be determined.

On 16 May 2019, the General Meeting designated the Managing Board as per 16 May 2019 for a period of eighteen months or until the date on which the meeting again extends the designation, if earlier, as the competent body to, subject to the approval of the Supervisory Board, issue ordinary shares and to grant rights to subscribe for ordinary shares up to a total of 10% of the currently issued ordinary share capital, which 10% can be used for general purposes, including but not limited to the financing (in cash or in kind by way of ordinary shares) of mergers and acquisitions as well as facilitating grants under the Company's employee remuneration and long term incentive plans; whereby not more than 2% of the currently issued ordinary share capital out of the aforementioned 10% will be issued for facilitating these plans, it being understood that it is the intention of the Company that they will in principle be funded by means of ordinary shares held as treasury

stock (if need be, purchased from the market for this purpose).

6.2.3 Pre-Emption Rights

Dutch company law and Euronext's Articles of Association in most cases give shareholders pre-emption rights to subscribe on a *pro rata* basis for any issue of new shares or upon a grant of rights to subscribe for shares. Exceptions to these pre-emption rights include the issue of shares and the grant of rights to subscribe for shares (i) to Euronext's employees, (ii) in return for non-cash consideration, or (iii) the issue of shares to persons exercising a previously granted right to subscribe for shares.

A shareholder may exercise pre-emption rights during a period of two weeks from the date of the announcement of the issue or grant. The General Meeting or the Managing Board, if so designated by the General Meeting, may restrict the right or exclude shareholder pre-emption rights. A resolution by the General Meeting to designate the authority to exclude or limit pre-emption rights to the Managing Board requires a majority of at least two-thirds of the votes cast if less than 50% of Euronext's issued share capital is represented and can only be taken upon proposal of the Supervisory Board or upon proposal of the Managing Board, which proposal has been approved by the Supervisory Board. If the General Meeting has not designated this authority to the Managing Board, the General Meeting may itself vote to limit or exclude pre-emption rights and will also require a majority of at least two-thirds of the votes cast, if less than 50% of Euronext's issued share capital is represented at the General Meeting.

On 16 May 2019, the General Meeting designated the Managing Board as per 16 May 2019 for a period of eighteen months or until the date on which the meeting again extends the designation, if earlier, as the competent body to, subject to the approval of the Supervisory Board, restrict or exclude the pre-emptive rights of shareholders pertaining to (the right to subscribe for) ordinary shares upon any issuance of ordinary shares (as referred to in Item 6a of the agenda of the meeting) to the extent such issuance pertains to the payment in ordinary shares in case of mergers and acquisitions or facilitating grants under the Company's employee remuneration and long term incentive plans.

The Company has an agreement with its Reference shareholders (see section 4.4.1.) to give reasonable prior notice if Euronext uses this authority for share issuances in case of a merger or acquisition transaction.

6.2.4 Acquisition of Shares in Euronext's Capital

Euronext may acquire fully paid shares at any time for no consideration (*om niet*), or, subject to the following provisions of Dutch law and its Articles of Association, Euronext may acquire fully paid shares for consideration, namely if (i) its shareholders' equity, less the payment required to make the acquisition, does not fall below the sum of paid-in and called-up share capital and any statutory reserves, (ii) Euronext and its subsidiaries would thereafter not hold shares or hold a pledge over Euronext shares with an aggregate nominal value exceeding 50% of its issued share capital, and (iii) the Managing Board has been authorised by the General Meeting, with the prior approval of the Supervisory Board.

Authorisation from the General Meeting to acquire Euronext shares must specify the number and class of shares that may be acquired, the manner in which shares may be acquired and the price range within which shares may be acquired. Such authorisation will be valid for no more than eighteen months. Any shares Euronext holds may not be voted or counted for voting quorum purposes.

On 16 May 2019, the General Meeting designated the Managing Board as per 16 May 2019 for a period of eighteen months or until the date on which the meeting again extends the authorisation, if earlier, to, subject to the approval of the Supervisory Board, have the Company acquire ordinary shares in the share capital of the Company through purchase on a stock exchange or otherwise. The authorisation is given for the purchase of up to 10% of the issued ordinary shares at the time of the purchase, for a purchase price between (a) the par value of the ordinary shares at the time of the purchase and (b) the average closing price of the ordinary shares on Euronext Paris, Euronext Amsterdam, Euronext Brussels and Euronext Lisbon, during the five trading days preceding the day of purchase within a margin of 10% of that purchase price. Under the Facilities Agreement (see section 5.1.10), Euronext's ability to acquire its shares is restricted, subject to certain exceptions.

6.2.5 Reduction of Share Capital

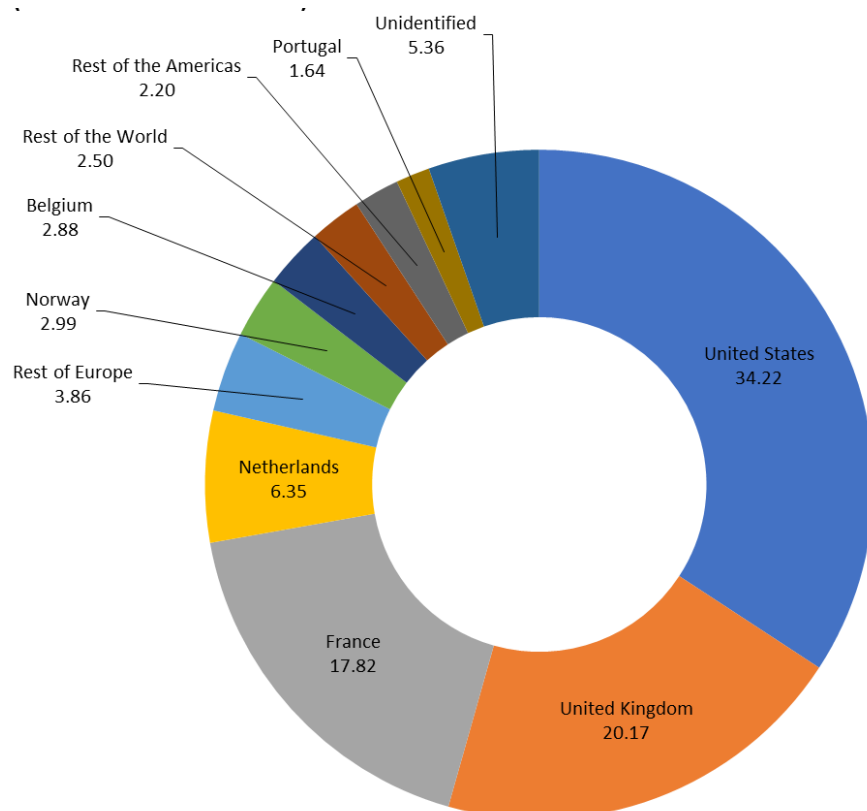
Under Euronext's Articles of Association, upon a proposal from the Supervisory Board, or upon proposal of the Managing Board, which has been approved by the Supervisory Board, the General Meeting may resolve to reduce Euronext's issued and outstanding share capital by cancelling its shares, or by amending Euronext's Articles of Association to reduce the nominal value of its shares. The decision to reduce Euronext's share capital requires a majority of at least two-thirds of the votes cast if less than 50% of Euronext's issued share capital is present or represented at the General Meeting.

6.3 SHAREHOLDER STRUCTURE

The shareholding structure as of 31 December 2019 was as follows.

Shareholder	Number of shares	% of capital
Reference shareholders	16,289,000	23.27%
Treasury Shares	232,625	0.33%
Employees	111,494	0.16%
Free float	53,366,881	76.24%

GEOGRAPHIC BREAKDOWN OF THE FREE FLOAT IN 2019



6.4 SHARE CLASSES AND MAJOR SHAREHOLDERS

6.4.1 Reference Shareholders

Prior to the IPO, on 27 May 2014, a group of institutional investors (collectively, the “Reference shareholders”, and each a “Reference shareholder”) purchased an aggregate of 33.36% of the issued and outstanding Ordinary Shares from ICE, the selling shareholder at the IPO, at €19.20 or a 4% discount to the Offer Price (€20.00).

This Group of Reference shareholders was comprised of Novo Banco, BNP Paribas S.A., BNP Paribas Fortis S.A./N.V., ABN AMRO Bank N.V. through its subsidiary ABN AMRO Participaties Fund I B.V., ASR Levensverzekering N.V. (a company of the ASR Nederland group), Caisse des Dépôts et Consignations, Bpifrance Participations, Euroclear S.A./N.V., Société Fédérale de Participations et d'Investissement/Federale Participatie- en Investeringsmaatschappij, Société Générale and BancoBPI Pension Fund represented by BPI Vida e Pensões – Companhia de Seguros, S.A. The Reference shareholders had entered into a reference shareholders agreement (the “Reference shareholders Agreement”) governing the relationship among the Reference shareholders.

On 13 June 2017, Euronext was informed that the Reference shareholders had decided to extend an amended version of their agreement dated 3 June 2014, which was due to expire on 20 June 2017 and which was extended for a further period of two years commencing on 21 June 2017. Eight of the initial Reference shareholders adhered to the extension, at that time accounting for 23.86% of Euronext’s share capital. The new Reference shareholders group agreed to a new lock-up period of two years commencing on 21 June 2017 and expiring on 20 June 2019. The Supervisory Board representation of the Reference shareholders was maintained, as the Reference shareholders, acting jointly, retained their right to nominate one third of the Supervisory Board seats.

On 14 December 2018, Caisse des Dépôts et Consignations announced it decided to simplify the structure of its shareholding in Euronext N.V. by transferring the 3.00% of the share capital of Euronext N.V. held by Bpifrance Participations to Caisse des Dépôts et Consignations itself, which already held directly 3.00% of the equity of Euronext N.V. as well. Further to the transaction, Caisse des Dépôts et Consignations held directly the 4,200,000 shares representing 6.00% of Euronext N.V. share capital.

On 17 June 2019, Euronext was informed that the Reference Shareholders had decided to extend an amended version of their Reference Shareholders Agreement dated 21 June 2017 for a further period of two years commencing on 20 June 2019. The new Reference Shareholders group from that date comprised of five of the former members and accounted for 23.27% of Euronext share capital. The new Reference Shareholders agreed a new two-years lock-up period commencing on 20 June 2019 and expiring on 19 June 2021, maintaining

their level of representation on the Supervisory Board.

As per 31 December 2019, the group of Reference shareholders comprised:

Name of reference shareholder	Number of shares	Individual shareholding (% of capital)
ABN AMRO Bank N.V. through its subsidiary ABN AMRO Participaties Fund I B.V.	385,000	0.55%
BNP Paribas group	1,554,000	2.22%
Caisse des Dépôts et Consignations	5,600,000	8.00%
Euroclear S.A./N.V.	5,600,000	8.00%
Société Fédérale de Participations et d'Investissement/ Federale Participatie- en Investeringsmaatschappij	3,150,000	4.50%
TOTAL SHAREHOLDING	16,289,000	23.27%

Share Transfer Restriction

Under the Reference shareholders Agreement, each of the Reference shareholders has agreed not to sell or otherwise transfer or dispose of any of the Ordinary Shares such Reference shareholder acquires pursuant to the Share Purchase Agreement for a period of two years commencing on 20 June 2019. This transfer restriction will not apply to any transfers to (i) affiliates of a Reference shareholder, provided that the transferee agrees to be bound by this transfer restriction and the other terms and conditions of the Reference shareholders Agreement and shall accede to the Reference shareholders Agreement, (ii) another Reference shareholder, provided that the Ordinary Shares transferred will continue to be subject to the transfer restriction and the other terms and conditions of the Reference shareholders Agreement as if originally held by the acquiring Reference shareholder, and (iii) a third party with the unanimous consent in writing of the Reference shareholders (subject to the consent of the relevant regulator(s), such consent not to be unreasonably withheld and provided the third party shall accede to the Reference shareholders Agreement, and further provided that no mandatory bid obligation is triggered by such transfer. In the case of transfers to an affiliate of a Reference shareholder, such affiliate must retransfer the relevant Ordinary Shares to the original Reference shareholder prior to ceasing to be an affiliate of such Reference shareholder. In the case of proposed transfers to another Reference shareholder, the other Reference shareholders will have a right of first refusal *pro rata* to their respective holdings. In addition, repo and securities lending transactions may be excluded from this restriction on the basis of guidelines to be agreed.

In the event of a tender offer announced or made by any person to acquire all or a portion of the Ordinary Shares, the Reference shareholders will review and assess the merits of the proposed bid and adopt a common position. Subject to consulting with the Euronext College of Regulators, if the outcome of that procedure is that the Reference shareholders decide to accept the offer, once made, the transfer restriction will not apply, except as provided to the contrary in any declaration of no-objection and subject to any and all other requirements and restrictions under applicable law and regulation, and with the understanding that no Reference shareholder will be obliged to sell its Ordinary Shares regardless the common position taken.

Further Restrictions

Each of the Reference shareholders has agreed not to enter into any transaction or do anything, and not to permit its affiliates to enter into any transaction or do anything, if such transaction or action would result in the Reference shareholders or any of them becoming obligated to make a mandatory bid (verplicht openbaar bod) for the Ordinary Shares within the meaning of section 5:70 of the Dutch Wet op het financieel toezicht (Financial Supervision Act) implementing Article 5 of Directive 2004/25/EC.

Supervisory Board Representation

The Reference shareholders, acting jointly, will have the right to propose one third of the Supervisory Board seats. Members of the Supervisory Board who are appointed upon a nomination by the Reference shareholders are referred to as "Reference shareholder directors". The Supervisory Board undertakes to include the name of the person proposed by the Reference shareholders in its binding nomination to the shareholders Meeting of Euronext, unless the Supervisory Board objects against the nomination if it reasonably believes that the nominee may not fulfil the suitability and integrity criteria under applicable Dutch law, and always subject to any applicable regulatory assessments, approvals and requirements.

The Reference shareholder directors have been appointed by the General Meeting each for a term of four years. If the Reference shareholders Agreement is terminated before the end of term of office of a Reference shareholder director, his or her term of office shall lapse immediately after the day of the first General Meeting of Euronext to be held after the date of termination of the Reference shareholders Agreement.

Committee of Representatives

Each Reference shareholder has appointed one representative and one alternate duly authorised to represent and act for and in the name of the relevant Reference shareholder and any and all of its affiliates for all purposes of the Reference shareholders Agreement, who shall be the contact person vis-à-vis the other Reference shareholders and the Company. The representatives of all Reference shareholders constitute the Committee of Representatives which decides on all matters requiring a joint decision of the Reference shareholders. The decisions of the Committee of Representatives shall be binding upon all Reference shareholders.

Voting

Depending on the decision concerned, the decisions of the Committee of Representatives shall be adopted by absolute majority of the votes cast or by qualified majority of two thirds of the votes cast, as indicated below. Each Reference shareholder will have such number of votes equal to the aggregate number of Ordinary Shares held by the Reference shareholder and its affiliates, provided that no Reference shareholder shall at any time have one-third or more of the votes within the Committee of Representatives regardless of the number of Ordinary Shares held.

In all instances where the Reference shareholders Agreement calls for joint decision making of the Reference shareholders in the General Meeting, each Reference shareholder will exercise, and will cause any of its affiliates to exercise, its voting rights in such shareholders' Meeting in accordance with the decision of the Committee of Representatives on the relevant subject.

The Reference shareholders agree to vote in accordance with the decision of the Committee of Representatives on any proposed shareholders' resolutions.

The following resolutions require a qualified majority of two thirds of the votes cast:

- any issuance of Ordinary Shares by the Company or rights to acquire Ordinary Shares (and exclusion or limitation or pre-emption rights, as the case may be);
- any decrease in the share capital of the Company;
- any authorisation for the Company to acquire its own shares;
- any issuance of securities other than Ordinary Shares, to the extent these give exposure to Ordinary Shares, including but not limited to hybrids and covered bonds;
- any proposal to appoint, suspend or remove any member of the Supervisory Board (including but not limited to any Reference shareholders director);
- any going private transaction or other change of control of the Company;
- any major identity transforming transactions requiring shareholders' approval pursuant to section 2: 107a of the Dutch Civil Code;
- any other major acquisitions or disposals not requiring approval under section 2: 107a of the Dutch Civil Code;
- any amendment of the Articles of Association of the Company; and
- any proposal for legal merger, demerger, conversion or dissolution of the Company.
- For the following resolutions, the adoption is by absolute majority of the votes cast:
 - any proposal to appoint, suspend or remove any member of the Managing Board;
 - adoption of the annual Financial Statements of the Company;
 - discharge of the members of the Managing Board and the Supervisory Board; and
 - any dividend or other distribution to shareholders.

Termination

The Reference shareholders Agreement and all restrictions and requirements thereunder or pursuant thereto shall terminate upon the earlier of (i) expiry of the Restricted Period, unless extended by written agreement signed by all Reference shareholders, subject to any regulatory declarations of no objection or regulatory approvals, (ii) the Company becoming bankrupt or being granted a (provisional) suspension of payment, and (iii) at any time after the Restricted Period, the aggregate shareholding of the Reference shareholders becoming less than 21% of the issued share capital of the Company unless increased to at least 21% again within 30 days after such event. The Reference shareholders Agreement is terminating on 21 June 2021.

Letter Agreement

In addition to the renewed Reference shareholders Agreement, the Letter Agreement of 4 June 2014 between Euronext and its Reference shareholders, as supplemented on 25 March 2015 and as amended and extended on 13 June 2017, has been amended and extended on 17 June 2019. The focus of the revised Letter Agreement dated 17 June 2019 is to strengthen the regular dialogue between Euronext and its Reference shareholders, addressing (i) the right of the Reference shareholders to retain one third of the Supervisory Board seats, (ii) the use by Euronext of the delegated authorities for the issuance / repurchase of shares, with the possible exclusion or restriction of pre-emption rights, (iii) the process of communication between Euronext and the Reference shareholders, which includes periodical meetings on topics including strategy, governance and financing structure; and (iv) the involvement of the Reference shareholders in the selection procedure in case of any vacancies for the CEO, the COO or Supervisory Board positions.

6.4.2 Major Shareholdings

On top of the Reference shareholders who own jointly 23.27% and whose individual holdings are disclosed above and according to the AFM any substantial holding and gross short positions in issuing institutions and shares with special controlling rights have to be notified.

An issuing institution is: a public limited company (*naamloze Vennootschap*) incorporated under Dutch law whose (depository receipts for) shares are admitted to trading on a regulated market in the Netherlands or in another Member State of the European Union or an EEA State, or a legal entity incorporated under the law of a state that is not an European Union Member State and whose (depository receipts for) shares are admitted to trading on a regulated market in the Netherlands.

As soon as the substantial holding or short position equals or exceeds 3% of the issued capital, the holder should report this. Subsequently, it should notify the AFM again when its substantial holding or short position consequently reaches, exceeds or falls below a threshold. This

can be caused by the acquisition or disposal of shares by the shareholder or because the issued capital of the issuing institution is increased or decreased. Thresholds are: 3%, 5%, 10%, 15%, 20%, 25%, 30%, 40%, 50%, 60%, 75% and 95%.

The duty to notify applies to legal entities as well as natural persons.

In 2019 and from 1 January 2020 until the publication of this report, the following crossings of thresholds were declared:

Date	Shareholder having crossed the threshold	Crossing of threshold in capital and voting rights	Type	No of shares	% of voting rights at date of declaration
14/02/2019	Massachussets Financial Services Company	3%	Increase	2,129,492	3.04%
08/03/2019	Amundi Asset Management	5%	Decrease	3,488,519	4.98%
12/03/2019	Massachussets Financial Services Company	3%	Increase	2,934,626	4.16%
25/03/2019	Capital Research and Management Company	5%	Increase	3,544,244	5.06%
18/04/2019	Massachussets Financial Services Company	5%	Increase	3,660,317	5.23%
17/05/2019	Blackrock, Inc	3%	Increase	2,112,927	3.02%
20/05/2019	Blackrock, Inc	3%	Decrease	2,096,268	2.99%
17/05/2019	Blackrock, Inc	3%	Increase	2,145,849	3.07%
31/05/2019	Blackrock, Inc	3%	Decrease	2,083,729	2.98%
03/06/2019	Blackrock, Inc	3%	Increase	2,241,173	3.20%
13/06/2019	Blackrock, Inc	3%	Decrease	2,204,818	3.15%
20/06/2019	Blackrock, Inc	3%	Decrease	2,084,290	2.98%
20/06/2019	Société Générale S.A.	3%	Decrease	350,000	0.50%
01/07/2019	Capital Group International Inc.	5%	Decrease	0	0.00%
24/10/2019	Blackrock, Inc	3%	Increase	2,160,425	3.09%
04/11/2019	Blackrock, Inc	3%	Decrease	1,969,256	2.99%
26/11/2019	Blackrock, Inc	3%	Increase	2,107,442	3.01%
09/12/2019	Blackrock, Inc	3%	Decrease	2,051,733	2.93%
12/12/2019	Massachussets Financial Services Company	5%	Increase	4,813,795	6.88%

None of Euronext's shareholders hold 10% or more in the capital of the Company.

As of the date of publication of the 2019 Universal Registration Document, the only shareholders owning more than 3% (excluding Reference shareholders) and declaring it to the AFM are listed below:

Shareholder having crossed the threshold	Nb of shares	% of voting rights at date of declaration
Amundi Asset Management	3,488,519	4.98%
Massachussets Financial Services Company	4,813,795	6.88%

6.5 GENERAL MEETING OF SHAREHOLDERS AND VOTING RIGHTS

The Annual General Meeting must be held within six months after the end of each financial year. An Extraordinary General Meeting may be convened, whenever Euronext's interests so require, by the Managing Board or the Supervisory Board. Shareholders representing alone or in aggregate at least one-tenth of Euronext's issued and outstanding share capital may, pursuant to the Dutch Civil Code, request that a General Meeting be convened. Within three months of it becoming apparent to the Managing Board that Euronext's equity has decreased to an amount equal to or lower than one-half of the paid-in and called-up capital, a General Meeting will be held to discuss any requisite measures.

Euronext will give notice of each General Meeting by publication on its website and in any other manner that Euronext may be required to follow in order to comply with and the applicable requirements of regulations pursuant to the listing of its shares on Euronext Amsterdam, Euronext Brussels, Euronext Lisbon and Euronext Paris. The notice convening any General Meeting must include, among other items, an agenda indicating the place and date of the meeting, the items for discussion and voting, the proceedings for registration including the

registration date, as well as any proposals for the agenda. Pursuant to Dutch law, shareholders holding at least 3% of Euronext's issued and outstanding share capital have a right to request the Managing Board and the Supervisory Board to include items on the agenda of the General Meeting. The Managing Board and the Supervisory Board must agree to these requests, provided that (i) the request was made in writing and motivated, and (ii) the request was received by the Chairman of the Managing Board or the Chairman of the Supervisory Board at least sixty days prior to the date of the General Meeting.

The Managing Board must give notice of a General Meeting, by at least such number of days prior to the day of the meeting as required by Dutch law, which is currently forty-two days.

Each shareholder (as well as other persons with voting rights or meeting rights) may attend the General Meeting, to address the General Meeting and, in so far as they have such right, to exercise voting rights *pro rata* to its shareholding, either in person or by proxy. Shareholders may exercise these rights, if they are the holders of shares on the registration date which is currently the 28th day before the day of the meeting, and they or their proxy have notified Euronext of their intention to attend the meeting in writing at the address and by the date specified in the notice of the meeting.

The Managing Board may decide that persons entitled to attend General Meetings and vote there may, within a period prior to the General Meeting to be set by the Managing Board, which period cannot start prior to the registration date, cast their vote electronically or by post in a manner to be decided by the Managing Board. Votes cast in accordance with the previous sentence are equal to votes cast at the meeting.

Each shareholder may cast one vote for each Ordinary Share held. Members of the Managing Board and the Supervisory Board may attend a General Meeting in which they have an advisory role. The voting rights attached to shares are suspended as long as such shares are held by Euronext. The rights of the holders of Ordinary Shares that were offered and sold in the Offering rank *pari passu* with each other and with all other holders of the Ordinary Shares, including the Reference shareholders, with respect to voting rights and distributions. Euronext has no intention of changing the rights of shareholders.

Resolutions of the General Meeting are taken by an absolute majority, except where Dutch law or Euronext's Articles of Association provide for a qualified majority or unanimity.

Two General Meetings were held in 2019.

The Annual General Meeting was held on 16 May 2019. In this meeting decisions were taken on the adoption of the 2018 Financial Statements, a dividend of €1.54 per ordinary share, the discharge the members of the Managing Board and Supervisory Board in respect of their duties performed during the year 2018, the re-appointment of Jim Gollan as a member of the Supervisory Board, the re-appointment of Maurice van Tilburg as a member of the Managing Board, the appointment of Isabel Ucha as a member of the Managing Board, the acquisition of up to 100% of the issued share capital of Oslo Børs VPS Holding ASA, the appointment of Ernst & Young Accountants LLP¹ as the Company's external auditors and the designation of the Managing Board as the competent body to 1) issue ordinary shares, 2) to restrict or exclude the pre-emptive rights of shareholders and 3) to acquire ordinary shares in the share capital of the Company on behalf of the Company.

An Extraordinary General Meeting was held on 8 October 2019. In that meeting decisions were taken on the appointment of Nathalie Rachou and Morten Thorsrud as members of the Supervisory Board, the re-appointment of Stéphane Boujnah as a member of the Managing Board, the appointments of Håvard Abrahamsen and Simone Huis in 't Veld as members of the Managing Board, and the remuneration policy.

6.6 ANTI-TAKEOVER PROVISIONS

Euronext currently does not have any anti-takeover provisions.

6.7 OBLIGATIONS OF SHAREHOLDERS AND MEMBERS OF THE MANAGING BOARD TO DISCLOSE HOLDINGS

Shareholders may be subject to notification obligations under the Dutch Financial Supervision Act. Pursuant to chapter 5.3 of the Dutch Financial Supervision Act, any person who, directly or indirectly, acquires or disposes of an actual or potential capital interest and/or voting rights in the Company must immediately give written notice to the AFM of such acquisition or disposal by means of a standard form if, as a result of such acquisition or disposal, the percentage of capital interest and/or voting rights held by such person reaches, exceeds or falls below the following thresholds: 3%, 5%, 10%, 15%, 20%, 25%, 30%, 40%, 50%, 60%, 75% and 95%. In addition, any person whose capital interest or voting rights reaches, exceeds or falls below a threshold due to a change in Euronext's outstanding share capital, or in votes that can be cast on the shares as notified to the AFM by the Company, should notify the AFM no later than the fourth trading day after the AFM has published Euronext's notification of the change in its outstanding share capital.

Each person holding an interest in Euronext's share capital or voting rights of 3% or more at the time of admission of Euronext's shares to trading must immediately notify the AFM. Furthermore, every holder of 3% or more of the Company's share capital or voting rights whose interest at 31 December at midnight differs from a previous notification to the AFM must notify the AFM within four weeks.

For the purpose of calculating the percentage of capital interest or voting rights, the following interests must be taken into account: (i) shares and/or voting rights directly held (or acquired or disposed of) by any person, (ii) shares and/or voting rights held (or acquired or disposed of) by such person's subsidiaries or by a third party for such person's account or by a third party with whom such person has concluded an oral or written voting agreement, (iii) voting rights acquired pursuant to an agreement providing for a temporary transfer of voting rights in

¹ Whose principal place of business is at Boompjes 258, 3011 XZ Rotterdam, the Netherlands. Ernst & Young Accountants LLP is registered at the Chamber of Commerce of Rotterdam in the Netherlands under number 24432944. The office address of the independent auditor of Ernst & Young Accountants LLP that signed the independent auditor's report is Cross Towers, Antonio Vivaldistrat 150, 1083 HP Amsterdam, the Netherlands.

consideration for a payment, and (iv) shares and/or voting rights which such person, or any controlled entity or third party referred to above, may acquire pursuant to any option or other right to acquire shares and/or the attached voting rights.

Special rules apply to the attribution of shares and/or voting rights that are part of the property of a partnership or other form of joint ownership. A holder of a pledge or right of usufruct in respect of shares can also be subject to notification obligations, if such person has, or can acquire, the right to vote on the shares. The acquisition of (conditional) voting rights by a pledgee or beneficial owner may also trigger notification obligations as if the pledgee or beneficial owner were the legal holder of the shares and/or voting rights. Under the Dutch Financial Supervision Act, Euronext was required to file a report with the AFM promptly after the date of listing its shares setting out its issued and outstanding share capital and voting rights. Thereafter, Euronext is required to notify the AFM promptly of any change of 1% or more in its issued and outstanding share capital or voting rights since the previous notification. The AFM must be notified of other changes in Euronext's issued and outstanding share capital or voting rights within eight days after the end of the quarter in which the change occurred. The AFM will publish all Euronext's notifications of its issued and outstanding share capital and voting rights in a public register. If a person's capital interest and/or voting rights reach, exceed or fall below the above-mentioned thresholds as a result of a change in Euronext's issued and outstanding share capital or voting rights, such person is required to make a notification not later than on the fourth trading day after the AFM has published Euronext's notification as described above.

Furthermore, each member of the Managing Board, the Supervisory Board and certain other persons who, *inter alia*, have (co-)managerial responsibilities in respect of the Company, as well as certain persons closely associated with any such members or other persons, must immediately give written notice to the AFM by means of a standard form of all shares and voting rights in Euronext held by him or her at the time of admission of Euronext's shares to listing and thereafter of any change in his or her holding of shares and voting rights in Euronext.

6.8 SHORT POSITIONS

Each person holding a net short position amounting to 0.2% or more of the issued share capital of a Dutch listed company must report it to the AFM. Each subsequent increase of this position by 0.1% above 0.2% will also have to be reported. Each net short position equal to 0.5% of the issued share capital of a Dutch-listed company and any subsequent increase of that position by 0.1% will be made public *via* the AFM short selling register. To calculate whether a natural person or legal person has a net short position, their short positions and long positions must be set off. A short transaction in a share can only be contracted if a reasonable case can be made that the shares sold can actually be delivered, which requires confirmation of a third party that the shares have been located. There is also an obligation to notify the AFM of gross short positions. The notification thresholds are the same as apply in respect of the notification of actual or potential capital interests in the capital and/or voting rights, as described above.

The AFM keeps a public register of all notification made pursuant to these disclosure obligations and publishes any notification received. In 2019, no short position was declared to the AFM

6.9 MARKET ABUSE REGIME

The Market Abuse Regulation (Regulation (EU) nr. 596/2014 (the "MAR") and related Commission Implementing Regulations and Delegated Regulations, provide for specific rules that intend to prevent market abuse, such as the prohibitions on insider trading, divulging inside information and tipping, and market manipulation (the "European Union Market Abuse Rules"). Euronext is subject to the European Union Market Abuse Rules and non-compliance with these rules may lead to criminal fines, administrative fines, imprisonment or other sanctions.

The European Union Market Abuse Rules on market manipulation may restrict Euronext's ability to buy back its shares. In certain circumstances, investors in Euronext can also be subject to the European Union Market Abuse Rules. Pursuant to Article 19 of the MAR ("Managers' transactions"), members of the Managing Board, Supervisory Board and any senior executive who has regular access to inside information relating directly or indirectly to Euronext and has the power to take managerial decisions affecting the future developments and business prospects of Euronext, (persons discharging managerial responsibilities (PDMR'S); in case of Euronext Supervisory Board, Managing Board and permanent invitees to Management Board meetings), must notify the AFM of every transaction conducted on their own account relating to the shares or debt instruments of Euronext or to derivatives or other financial instruments linked thereto.

In addition, certain persons closely associated with members of Euronext's Managing Board or any of the other persons as described above and designated by the MAR PDMR'S must also notify the AFM of every transaction conducted on their own account relating to the shares or debt instruments of Euronext or to derivatives or other financial instruments linked thereto. The MAR determines the following categories of persons: (i) the spouse or any partner considered by national law as equivalent to the spouse, (ii) dependent children, (iii) other relatives who have shared the same household for at least one year at the relevant transaction date and (iv) a legal person, trust or partnership, the managerial responsibilities of which are discharged by a person discharging managerial responsibilities or by a person referred to in point (i), (ii) or (iii), which is directly or indirectly controlled by such a person, which is set up for the benefit of such a person, or the economic interests of which are substantially equivalent to those of such a person. These notifications must be made no later than on the third business day following the transaction date and by means of a standard form. The notification may be postponed until the moment that the value of the transactions performed for the PDMR that person's own account, or transactions carried out by the persons closely associated with that person, reaches or exceeds an amount of €5,000 in the calendar year in question.

The AFM keeps a public register of all notifications under art. 19 of the MAR. Third parties can request to be notified automatically by e-mail of changes to the public register. Pursuant to the MAR, Euronext will maintain a list of its insiders. In addition, to further ensure compliance with MAR, Euronext has adopted an internal policy relating to the possession of and transactions by members of its PDMR'S and employees in Euronext shares or in financial instruments of which the value is (co)determined by the value of the shares. Euronext N.V. Insider Trading Policy has been published on its website on <https://www.euronext.com/en/investors/corporate-governance>.

6.10 TRANSPARENCY DIRECTIVE

After the admission to listing of its shares on Euronext Amsterdam, Euronext Brussels and Euronext Paris on 20 June 2014, and on Euronext Lisbon on 17 September 2014, Euronext became a listed public limited liability company (*naamloze Vennootschap*) incorporated and existing under the laws of the Netherlands. The Netherlands is Euronext's home member state for the purposes of the Transparency Directive

(Directive 2004/109/EC as most recently amended by Directive 2013/50/EU) as a consequence of which it is subject to the Dutch Financial Supervision Act in respect of certain on-going transparency and disclosure obligations upon admission to listing and trading of its shares on Euronext Amsterdam, Euronext Brussels, Euronext Lisbon and Euronext Paris.

6.11 DUTCH FINANCIAL REPORTING SUPERVISION ACT

The Dutch Financial Reporting Supervision Act (*Wet toezicht financiële verslaggeving*) (the “FRSA”) applies to financial years starting from 1 January 2006. On the basis of the FRSA, the AFM supervises the application of financial reporting standards by, among others, companies whose corporate seat is in the Netherlands and whose securities are listed on a Dutch Regulated Market or foreign stock exchange. Pursuant to the FRSA, the AFM has an independent right to (i) request an explanation from Euronext regarding its application of the applicable financial reporting standards and (ii) recommend to Euronext the making available of further explanations. If Euronext does not comply with such a request or recommendation, the AFM may request that the Enterprise Chamber order Euronext to (i) make available further explanations as recommended by the AFM, (ii) provide an explanation of the way it has applied the applicable financial reporting standards to its financial reports or (iii) prepare Euronext’s financial reports in accordance with the Enterprise Chamber’s instructions.

This Universal Registration Document also concerns the annual financial reporting within the meaning of 5:25c(2) of the Dutch Financial Supervision Act. The Chapters 1, 2, 3, 5, 6 and 7, as well as sections 4.1 and 4.2 concern the directors’ report within the meaning of 2:391 of the Dutch Civil Code, the statement of the Managing Board has been included in section 4.2.1 and the Financial Statements in Chapter 8.

6.12 DIVIDENDS AND OTHER DISTRIBUTIONS

Euronext may make distributions to its shareholders only insofar as its shareholders’ equity exceeds the sum of the paid-in and called-up share capital plus the reserves as required to be maintained by Dutch law or by its Articles of Association. Under Euronext’s Articles of Association, the Managing Board decides which part of any profit will be reserved.

At the time of its IPO in 2014, Euronext’s dividend policy was established to achieve a dividend pay-out ratio of approximately 50% of net income, upon the approval of the Annual General Meeting, and as long as the Company is in position to pay this dividend while meeting all its various duties and obligations. In May 2017, Euronext decided to complement this policy, for the remainder of its ‘Agility for Growth’ strategic plan with the introduction of a floor to the dividend per share. Starting at the Annual General Meeting in 2017 and until the Annual General Meeting in 2020, Euronext dividend policy is to distribute the highest of 50% of the reported net income and a floor at €1.42 per share, upon the approval of the Annual General Meeting, and as long as the Company is in position to pay this dividend while meeting all its various duties and obligations.

Following the early repayment of its previous term loan facility on 23 March 2017 (See section 5.1.10), and under the conditions of the new bank loan facility in which the Group entered on 18 July 2017, Euronext is no longer restricted to distributions, share repurchases or share redemptions. Repurchase of shares for the needs of the Employee Offering and employee shareholding and management incentive programs that Euronext may implement from time to time, which may be offered for free or at a discount and repurchase of shares in accordance with liquidity or market making programmes are not restricted within the Facilities Agreement.

Euronext may make a distribution of dividends to its shareholders only after the adoption of Euronext’s statutory annual accounts demonstrating that such distribution is legally permitted. The profit, as this appears from the adopted annual accounts, shall be at the free disposal of the General Meeting, provided that the General Meeting may only resolve on any reservation of the profits or the distribution of any profits pursuant to and in accordance with a proposal thereto of the Supervisory Board or a proposal of the Managing Board, which has been approved by the Supervisory Board. Resolutions of the General Meeting with regard to a distribution at the expense of the reserves shall require the approval of the Managing Board and the Supervisory Board.

The Managing Board is permitted to resolve to make interim distributions to Euronext shareholders, subject to approval of the Supervisory Board. The General Meeting may also resolve to make interim distributions to Euronext shareholders, pursuant to and in accordance with a proposal thereto by the Managing Board, which has been approved by the Supervisory Board.

The Managing Board may decide that, subject to approval of the Supervisory Board, a distribution on shares shall not be made in cash or not entirely made in cash but other than in cash, including but not limited in the form of shares in the Company or decide that shareholders shall be given the option to receive a distribution either in cash or other than in cash. The Managing Board shall, subject to approval of the Supervisory Board, determine the conditions under which such option can be given to Euronext’s shareholders.

Shareholders are entitled to share the profit *pro rata* to their shareholding. Claims to dividends and other distributions not made within five years from the date that such dividends or distributions became payable will lapse, and any such amounts will be considered to have been forfeited to Euronext (*verjaring*).

For the previous years, the following amounts of dividend per share were paid:

For the year 2014	€ 0.84
For the year 2015	€ 1.24
For the year 2016	€ 1.42
For the year 2017	€ 1.73
For the year 2018	€ 1.54

6.13 2020 FINANCIAL CALENDAR

First Quarter 2020 Results	13 May 2020
Annual General Meeting	14 May 2020
Second Quarter and First Half 2020 Results	29 July 2020
Third Quarter 2020 Results	5 November 2020

7 OPERATING AND FINANCIAL REVIEW DR

The following review relates to Euronext historical financial condition and results of operations for the years ended 31 December 2019, 2018 and 2017. This “Operating and Financial Review” is based on the audited Financial Statements for the years ended 31 December 2019, 2018 and 2017, which are included and incorporated by reference in this Registration Document and should be read in conjunction with “General description of the Company” and “Financial Statements”. Prospective investors should read the entire Registration Document and not just rely on the information set out below. The financial information included in this “Operating and Financial Review” has been extracted from the audited Consolidated Financial Statements.

The following discussion of Euronext results of operations and financial condition contains forward-looking statements. Euronext actual results could differ materially from those that are discussed in these forward-looking statements. Factors that could cause or contribute to such differences include those discussed below and elsewhere in this Registration Document, particularly under “Risk Factors”.

7.1 OVERVIEW

Euronext is a pan-European exchange group, offering a diverse range of products and services and combining transparent and efficient equity, fixed income securities and derivatives markets in Amsterdam, Bergen, Brussels, Dublin, Lisbon, London, Oslo and Paris. Euronext businesses comprise: listing, cash trading, derivatives trading, spot FX trading, investor services, advanced data services, post-trade and technologies & other.

Euronext management reviews the performance of the business, and makes decisions on allocation of resources, only on a company-wide basis. Therefore, Euronext has one reportable segment.

Euronext has been operating as an independent, publicly traded company since 20 June 2014. Prior to June 2014, Euronext’s businesses were part of ICE as a result of ICE’s acquisition of NYSE Euronext on 13 November 2013.

7.1.1 Definitions

The following defined terms are used in this Operating and Financial Review:

“Legacy Euronext” means the historical operations of the former Euronext N.V. (existing prior to 15 March 2014) and its subsidiaries, including LIFFE.

Segments are reported in a manner consistent with how the business is operated and reviewed by the chief operating decision maker (“CODM”), who is responsible for allocating resources and assessing performance of the operating segments. The chief operating decision maker of the Group is the Managing Board. The organisation of the Group reflects the high level of mutualisation of resources across geographies and product lines. Operating results are monitored on a group-wide basis and, accordingly, the Group represents one operating segment and one reportable segment. Operating results reported to the Managing Board are prepared on a measurement basis consistent with the reported Consolidated Statement of Profit or Loss.

In presenting and discussing the Group’s financial position, operating results and net results, management uses certain Alternative performance measures not defined by IFRS. These Alternative performance measures (APMs) should not be viewed in isolation as alternatives to the equivalent IFRS measures and should be used as supplementary information in conjunction with the most directly comparable IFRS measures. Alternative performance measures do not have standardised meaning under IFRS and therefore may not be comparable to similar measures presented by other companies. The Group measures performance based on EBITDA₁, as management believes that this measurement is most relevant in evaluating the operating results of the Group. This measure is included in the internal management reports that are reviewed by the CODM.

Reference is made to one of the below definitions, whenever the term ‘EBITDA’ is used throughout this Universal Registration Document:

- EBITDA₁: Operating profit before (i)exceptional items and (ii)depreciation and amortization, taking into account the lines described in the Consolidated Statement of Profit or Loss, and defined in Chapter 5;
- EBITDA₂: Profit before (i)interest expense, (ii)tax, (iii)any share of the profit of any associated company or undertaking, except for dividends received in cash by any member of the Group, (iv)exceptional items; and (v) depreciation and amortization;
- EBITDA₃: EBITDA as defined in the Share Purchase Agreement of any applicable acquisition.

7.1.2 Establishment of Euronext as an Independent, Publicly Traded Company

The legal entities of the Group have been owned by Euronext N.V. since the date that the internal reorganisation was finalised in March 2014. The Consolidated Financial Statements as of and for financial years ended 31 December 2019, 2018 and 2017 have been prepared as described further in Note 3 to the Consolidated Financial Statements (see “Financial Statements”). All transactions and balances between subsidiaries have been eliminated on consolidation.

7.1.3 Sources of Revenues

Listing

Admission fees comprise fees paid by companies to list and admit to trading equity and debt securities on Euronext markets. Corporate activity and other fees primarily consist of fees charged for centralising securities in connection with new listings and tender offers, they also include delisting fees. In addition, companies whose securities are listed or admitted to trading on Euronext markets pay annual fees.

Other than for Euronext Dublin and Oslo Børs which have separate fee schedules, Euronext has adopted a common set of admission and annual fees for the Euronext and Euronext Growth™ markets. Companies having equity securities listed or admitted to trading on Euronext or Euronext Growth™ markets are subject to the following types of fees:

- initial admission fee charged based on the market capitalisation at first admission and calculated on a cumulative scale with decreasing rates and capped;
- subsequent admission fees charged based on the amount of capital raised and calculated on a cumulative scale with decreasing rates and capped; this also applies for other corporate events related fees;
- annual fees based on a variable decreasing percentage of the number of outstanding securities and a fixed fee based on the issuer's market capitalisation beyond a defined threshold. The annual fee is capped.

Companies having equity securities listed or admitted to trading on Oslo Børs, Oslo Axess or Merkur Market are subject to the following types of fees:

- Initial admission fee based on a fixed fee and market capitalization at first admission capped at minimum and maximum fee depending on type of listing process;
- subsequent admission fees charged based on the amount of capital raised and calculated on a cumulative scale and capped; other corporate events related fees are generally fixed fees;
- annual fees based on market capitalization and capped at minimum and maximum fee

Oslo Børs is the Norwegian takeover authority and charges a fixed fee and market capitalization up to a maximum amount for the inspection of offer documents. Further fees related to inspection of offer documents may also apply.

Euronext Dublin has debt fee schedules for its regulated market and its Global Exchange Market. For other Euronext markets, admission fees for debt securities, issued both on a stand-alone basis or under a note program, are based on the maturity and principal amount admitted to trading, and, in respect of long-term debt (maturity over one year), number of years to maturity. Euronext offers lower admission fees for issuers that access the debt capital markets frequently and for issuers qualifying as SMEs.

Oslo Børs has debt fee schedules for both its regulated market and its Nordic ABM. Annual fee for listing and registration for debt securities are based on the registered capital admitted to trading. Prices are the same for stand-alone basis or under a note program. The prices are the same for both markets with a minimum and maximum fee.

Oslo Børs has a registration fee based on the type and the security of the bond. For municipal bonds listed on Oslo Børs and for bonds listed on Nordic ABM there will also be an inspection fee. The inspection fee is based on the type of the bond. For new issuers there will also be charged an additional inspection fee for the description of the issuer or the issuer's business activities.

Euronext offers centralisation services for orders in connection with a public offer, a public tender offer or a sales facility, in respect of securities admitted or to be admitted to any Euronext markets whether regulated or not.

A common set of admission and annual fees apply to ETPs. Issuers of ETPs listed and/or admitted to trading on Euronext markets are subject to the following types of fees:

- for warrants & certificates traded *via* the quote driven model, issuers are invoiced listing fees based on the average size of their products range (grouped in packages). There are several discounts available for which issuers can qualify in order to reduce their listing fees. A one-time admission fee is charged to issuers of structured notes and certificates not traded *via* the quote driven model, as well as a market access fee per instrument;
- primary and secondary listings of ETFs, exchange traded vehicles and exchange traded notes are charged initial admission fees. Additional admission fees are charged per cross and multi-currency listing; charges are also applicable on delisting and merger of instruments. An annual fee is charged each entire calendar year based in part on the value of the total shares outstanding under each ISIN;
- fund issuers are charged a one-time admission fee and a flat annual fee per listed open-end investment fund. A monthly service fee is also charged per fund traded on the net asset value trading facility. A flat delisting fee is charged per open-end investment fund.

For Oslo Børs, warrants, ETNs and Structured products are charged admission fees and a periodic (monthly or quarterly) fee per ISIN. Periodic fees are subject to rebates based on the total number of products listed by the same issuer during that calendar year. The aggregate monthly and quarterly fees for Warrants, ETNs and Structured Products has a combined annual cap. ETF listings are charged with admission and annual fees, per listed ETF and capped.

Corporate Services:

Euronext Corporate Services offers innovative solutions and tailor-made advisory services articulated around the four following pillars : Governance (iBabs), Compliance (InsiderLog), Communication (Company Webcast), and Investor Relations (Advisory and IR Solutions).

A major part of these Corporate Services products are Software-as-a-Services (SaaS) solutions generating recurring revenues through annual subscriptions. In addition, Euronext Corporate Services also generate revenues on renewable advisory mandates or on one-off missions and events.

Cash, Derivatives and spot FX Trading

Revenues from Euronext cash trading and derivatives trading businesses consist of transaction-based fees for executing trades on Euronext cash markets and derivatives markets. These transaction fees are charged per executed order and based on value traded in cash equities and are charged per lot in derivatives. Trading volume in equity products is primarily driven by price volatility in equity markets and indices. The level of trading activity for all products is also influenced by market conditions and other factors.

Derivatives trading revenues received from transactions conducted on Euronext markets are variable, based on the volume and value of traded contracts, and recognised when executed. The principal types of derivative contracts traded are equity and index products and commodities products.

Spot FX trading revenues consist of transaction-based fees for executing trades. These transaction fees are charged per executed order and based on value traded.

Investor Services

Investor services primarily encompass the activity of Commcise, that offers cloud-based research commission management, evaluation and accounting solutions and whose revenue model is based on recurring software licence fees

Advanced Data Services

The Group charges data vendors and end users, taking data *via* a direct feed, on a per-user basis for the access to its real-time data and Enterprise licenses are charged for non-display use, including advanced analytic products, and access to historic and reference data products. The Group also collects periodic license fees from vendors for the right to distribute the Group data to third parties. These fees are recognised on a monthly basis as services are rendered. The Group charges an index licence fee to trading desks, investment banks and asset managers for the creations of Structured Products (SP), Exchange Traded Products (ETPs) and exchange traded funds (ETFs) on Euronext owned (trademark) indices. The Group also collects fees for third party index calculations, iNAV calculation and partnerships stakes. The fees are recognized to the applicable period of the products.

Post-Trade

Custody and Settlement

Euronext operates two national CSDs.

The Group operates Interbolsa, the Portuguese national CSD, and receives fees mainly with respect to the settlement instructions and the custody of securities registered/deposited in the centralised securities systems, namely listed and non-listed securities in Portugal.

Euronext also operates VPS, the Norwegian national CSD and primarily receives fees with respect to the settlement instructions and the custody of securities registered/deposited in the centralised securities systems, namely listed and non-listed securities in Norway, as well as from ancillary services.

Clearing

Euronext also receives a share of clearing income based on treasury services resulting from placement of collateral and the number of cleared derivatives trades cleared through LCH SA, in exchange for which Euronext pays LCH SA a fixed fee plus a variable fee based on derivatives trading volume.

Euronext Technology Solutions & Other

Euronext Technologies & other revenue includes license fees and professional services fees for Optiq® software deployment, for managed IT services provided to third-party market operators (Optiq® as a Service), and for connection and data centre co-location services provided to market participants. Fees for software customisation and deployment services are recognised either on a time and materials basis or under the percentage completion method, depending upon the nature of the contract with the client. Percentage of completion is calculated based on the number of man days incurred to date as a percentage of the total estimated number of man days to complete the work. License fees, maintenance fees and support fees for deployed software are recognized pro rata over the life of the relevant contract. For Optiq® as a Service, setup fees and annual support fees are recognised pro rata over the life of the service contract. Connection and colocation service fees are recognised pro rata over the life of the client commitment.

7.1.4 Components of Expenses

Euronext's operating expenses include salaries and employee benefits, depreciation and amortisation, and other operational expenses, which include systems and communications, professional services, accommodation and other expenses.

Salaries and Employee Benefits

Salaries and employee benefits expenses include employee salaries, incentive compensation (including stock-based compensation) and related benefits expenses, including pension and medical charges.

Depreciation and Amortisation

Depreciation and amortisation expenses consist of costs from depreciating fixed assets (including computer hardware and capitalised software) and amortising intangible assets over their estimated useful lives.

Systems and Communications

Systems and communications expenses include costs for development, operation and maintenance of trading, regulatory and administrative systems; investments in system capacity, reliability and security; and cost of network connectivity between customers and data centres, as well as connectivity to various other market centres. Systems and communications expenses also include fees paid to third-party providers of networks and information technology resources, including fees for consulting, research and development services, software rental costs and licenses, hardware rental and related fees paid to third-party maintenance providers.

Professional Services

Professional services expenses include consulting charges related to various technological and operational initiatives as well as legal and audit fees.

Accommodation

Accommodation expenses include costs of leasing the properties used by the Group, as well as utilities, maintenance and security costs to maintain the properties used by the Group.

Other Expenses

Other expenses include marketing, taxes, insurance, travel, professional membership fees and other expenses.

7.1.5 Key Factors Affecting Businesses and Results of Operations

The economic and business environment in which Euronext operates directly affects Euronext's results of operations. The results have been and will continue to be affected by many factors, including the factors set out below. Euronext continues to focus its strategy to broaden and diversify its revenue streams, as well as on its company-wide expense reduction initiatives in order to mitigate these uncertainties.

Trading Activity

A large proportion of Euronext's business is transaction-based. For the year ended 31 December 2019, Euronext derived 40% of its revenue from its cash trading, derivatives and spot FX trading businesses. Accordingly, fluctuations in the trading volumes directly affect Euronext revenues. During any period, the level of trading activity in Euronext markets is significantly influenced by factors such as general market conditions, market volatility, competition, regulatory changes, capital maintenance requirements, market share and the pace of industry consolidation.

A reduction in trading activity could make Euronext's markets less attractive to market participants as a source of liquidity, which in turn could further discourage existing and potential market participants and thus accelerate a decline in the level of trading activity in these markets. Because Euronext's cost structure is largely fixed, if the trading volumes and the resulting transaction fee revenues decline, Euronext may not be able to adjust its cost structure to counteract the associated decline in revenues, which would adversely affect its net income. Euronext's largely fixed cost structure also provides operational leverage, such that an increase in its trading volumes and the resulting transaction fee revenues would have a positive effect on its margins.

Targeted Operating Optimisation

From its origination, Euronext has identified various ways to streamline its processes and enhance its operational efficiency. As such Euronext had identified the potential for pre-tax operating optimisation and net efficiencies of approximately €85 million by the end of 2016 on a run-rate basis, *i.e.* taking into account the full-year impact of any cost saving measure to be undertaken before the end of this period. This target was reached in a reduced timeline, by the end of Q1 of 2016.

As part of the Agility for Growth strategic plan released in May 2016, an additional cost reduction program was announced, aiming to deliver €22 million additional savings (€15 million, net of inflation) by the end of 2019, through infrastructure optimisation and further streamlining of the organisation. In February 2019, Euronext announced it achieved €23.8 million of savings, against the €22 million previously expected.

As part of its Let's grow together 2022 strategic plan, Euronext aims at pursuing operating efficiency while maintaining a best-in-class cost discipline and investing in operational excellence

Infrastructure optimisation: Euronext makes continuous efforts to improve its asset utilisation. Together with a rationalisation of the number of sites and the set-up of Euronext's IT team in Porto, it continues its effort to reinforce the culture of efficiency.

Expenses incurred to realise the efficiencies described above are classified as "Exceptional items" in the Income statement, for a total of €5.7 million in 2019 (2018: €8.1 million). This expense is included in the total amount of exceptional items of €21.9 million in 2019 (2018: €21.5 million), disclosed in Note 12 of the Consolidated Financial Statements.

Derivatives Clearing Agreement

On 14 October 2013, Euronext entered into the Derivatives Clearing Agreement with LCH SA in respect of the clearing of trades on its continental Europe derivatives markets. Under the terms of the Derivatives Clearing Agreement, effective starting 1 April 2014, Euronext has agreed with LCH SA to share revenues. Euronext receives a share of clearing income based on treasury services and the number of derivatives trades cleared through LCH SA, in exchange for which Euronext pays LCH SA a fixed fee plus a variable fee based on derivatives trading volume.

The term of the existing Derivatives Clearing Agreement was through 31 December 2018. On November 2017, Euronext announced the signing of the renewal of its agreement with LCH SA on the continued provision of derivatives and commodities clearing services for a period of 10 years.

For the year ended 31 December 2017, revenues derived from the Derivatives Clearing agreement are €51.1 million and the associated expense is €27.2 million. For the year ended 31 December 2018, those revenue are €55.3 million and the associated expense is €28.3 million. For the year ended 31 December 2019, those revenue are €55.2 million and the associated expense is €28.1 million.

Facilities Agreements and Bonds

On 6 May 2014, Euronext entered into a syndicated bank loan facilities agreement ("the Facilities Agreement"), with BNP Paribas and ING Bank N.V. as Lead Arrangers, providing for a (i) a €250 million term loan facility and (ii) a €250 million revolving credit facility, both maturing or expiring in three years. On 20 February 2015, Euronext entered into the amended and extended facilities agreement. Based on this agreement, effectively on 23 March 2015 (i) the undrawn revolving credit facility has been increased with €140 million to €390 million and (ii) €140 million has been repaid as an early redemption of the €250 million term loan facility. The facilities agreement mature in three years on 23 March 2018, with a two times one year extension possibility, resulting in (i) a €390 million undrawn revolving credit facility and (ii) a net non-current borrowing of €108 million as of 31 December 2015. On 23 September 2016, Euronext repaid €40 million as an early redemption of the €110 million term loan facility, resulting in a net non-current borrowing of €69 million as of 31 December 2016.

On 23 March 2017, the Group repaid the remaining outstanding non-current borrowing of €70 million, enabling the Group to terminate its term loan facility, which was supposed to mature on 23 March 2018. The Group also terminated its €390 million revolving credit facility agreement and entered into a new €250 million revolving credit facility ("The Facility") on 12 April 2017.

The Group signed a new bank loan facility ("The Bank Loan facility") as per 18 July 2017 with five banks to the amount of €175 million and accorcion of €125 million. The new bank loan facility was used to fund the acquisitions of iBabs B.V. and FastMatch Inc., resulting in the recognition of a non-current borrowing of €165.0 million as per 31 December 2017.

On 18 April 2018, the Group issued a €500 million Bond ("Senior Unsecured Note #1") to refinance its 2017 and 2018 acquisitions and diversify its financing mix. The Bond has a seven year maturity, with an annual coupon of 1%. On 18 April 2018 the Bond, rated "A" by Standard & Poor's rating agency, was listed on Euronext Dublin. Following receipt of the proceeds of the issued Bond, the Group repaid the €165.0 million "Bank Loan facility". The existing €250.0 million "Facility" agreement remained unchanged and matures on 12 April 2022, with a two times one year extension possibility.

On 8 April 2019, the Group signed a supplemental agreement with nine banks to amend the €250 million "Facility" agreement originally dated 12 April 2017. This new agreement enabled the Group to increase the "Facility" to €400.0 million and set a new maturity of 5 years plus a two-year extension possibility.

On 4 June 2019, the Group issued another €500 million Bond ('Senior Unsecured Note #2') to (i) pre-finance the outstanding shares of Oslo Børs VPS Holding ASA not already owned by the Group and (ii) for general corporate purposes in line with the Group's strategy. The Bond has a ten year maturity, with an annual coupon of 1.125%. On 12 June 2019 the Bond, rated "A-" by S&P Global Ratings Limited, was listed on Euronext Dublin.

Reference is made to section 7.1.10 for more details on the Facility and the Bonds.

Acquisitions of subsidiaries

The following acquisitions of subsidiaries were made in 2019:

▪ Acquisition of Oslo Børs VPS Holding ASA

On 14 June 2019, the Group acquired a majority stake in Oslo Børs VPS, the Norwegian Stock Exchange and national CSD operator, increasing its ownership to 97.8% as per that date. The total purchase consideration of the transaction amounted to €693.4 million. Subsequent to the transaction, the Group acquired the remaining 2.2% minority stake, making the Group the beneficial owner of 100% of the Oslo Børs VPS shares as per 4 July 2019.

▪ Acquisition of Finance Web Working SAS (Euronext Funds360)

On 9 July 2019, the Group acquired 60% of Finance Web Working SAS, a leading fund data provider in France, operating under the business name Euronext Funds360 (formerly OPCVM360), with an option to acquire the remaining capital in 2023.

The following acquisitions of subsidiaries were made in 2018:

▪ Acquisition of The Irish Stock Exchange Plc.

On 27 March 2018, the Group announced the completion of the acquisition of 100% of the shares and voting rights of the Irish Stock Exchange Plc., Ireland's incumbent stock exchange operator and a leading global debt and fund listing venue. The total purchase consideration of the transaction amounted to €174.5 million. The Irish Stock Exchange Plc. will operate under the business name Euronext Dublin.

▪ Acquisition of InsiderLog AB

On 17 January 2018, the Group acquired 80% of the capital of InsiderLog AB, a Stockholm-based leading player in the field of insider list management, for a cash consideration of €5.8 million, plus a contingent earn-out payment depending on future financial performance.

▪ Acquisition of Commcise Ltd

On 20 December 2018, the Group acquired 78% of the shares and voting rights of Commcise Ltd., a Software as a Service ("SaaS") provider of research evaluation and commission management solutions for financial services firms, from its founders for an initial cash consideration of £27 million.

▪ Acquisition of additional interest in FastMatch Inc.

On 1 February 2019, a settlement was reached between FastMatch Inc, Euronext US Inc and the former CEO of FastMatch Inc. Between the parties it was agreed that \$0.8 million would be paid to the former CEO in settlement of claims of alleged breach by FastMatch of his employment agreement, and an amount of \$8.1 million as additional consideration for the 1,437,575 shares of common stock of FastMatch Inc. (representing 7.52% of interest) that were transferred by the former CEO to Euronext US Inc. for \$.001 per share on 10 August 2018.

The following acquisitions of subsidiaries were made in 2017:

▪ Acquisition of Company Webcast B.V.

On 14 February 2017, the Group acquired a 51% majority stake in Company Webcast B.V., a Dutch company specialised in professional webcast and webinar services. The transaction includes an initial cash payment of €3.6 million and a deferred payment estimated at €1.8 million. Call- and put options were granted by minority shareholders and the Group, with similar conditions. When executed, the Group acquires the minority stake of 49%, in 2020 at the earliest. A redemption liability is recorded at fair value of €8.2 million reflecting this commitment.

▪ Acquisition of iBabs B.V.

On 7 July 2017, the Group acquired a 60% majority stake in iBabs B.V., a Dutch provider of dematerialised board portal solutions for corporate and public organisations, for an initial consideration of €30.1 million. iBabs' solutions will be integrated into the Euronext Corporate Services offering. The founding management team of iBabs B.V. will remain in place.

▪ Acquisition of FastMatch Inc.

On 14 August 2017, the Group acquired a 90% majority stake in FastMatch Inc., a US-based Electronic Communication Network in the spot Foreign Exchange market. The acquisition includes an initial cash payment of \$153 million (on a cash-free and debt-free basis), a contingent earn-out payment for an additional \$10 million and customary minority rights for the management of FastMatch Inc. that will remain committed to the development of the business and stay invested with a 10% interest.

More details on the 2019 acquisitions can be found in Note 5 "Business Combinations" of the Consolidated Financial Statements (Section 8).

Investments in Associates and Joint Ventures

▪ Tredzone

On 22 July 2016, Euronext acquired a 34.04% stake in Tredzone S.A.S., a highly specialised low latency software developer, as part of its innovation strategy. Euronext has assessed the high level of performance of the Tredzone technology by using it to develop the next generation trading platform "Optiq®". This agreement will enable Tredzone to strengthen its leading edge technology and will allow Euronext to benefit from future developments made by Tredzone. Software development tools from Tredzone allow Euronext to fully leverage multi-core processing, hence enabling substantial savings in use of hardware, simplifying and securing IT infrastructure. Designed by a team of experts from financial markets software design, these tools are specifically adapted to handle large amounts of data in real time within a complex environment. The €1.4 million investment was recognised as an investment in associate as at 31 December 2016. As per 31 December 2017 the investment amounted to €1.1 million. As per 31 December 2018, following a review for impairment of its associates and joint ventures, the Group recognised an impairment of its interest in Tredzone S.A.S., bringing its value down to zero. There were no changes to this value as per 31 December 2019.

▪ European Central Counterparty N.V. ("EuroCCP")

In August 2016, Euronext announced it had signed a definitive agreement to acquire a 20% stake in European Central Counterparty N.V. ("EuroCCP"), the leading CCP for pan-European equity markets, providing clearing and settlement services. This deal will enable Euronext to offer user choice in clearing for the equity markets within the Eurozone, through the implementation of a preferred CCP model followed by a fully interoperable service, which will be open to other CCPs in due course. Following regulatory approvals, the completion of the transaction was finalised on 15 December 2016 for an amount of €13.4 million. The investment in EuroCCP has been recognised as an investment in associate as at 31 December 2016. As per 31 December 2017 the investment amounted to €14.1 million. As per 31 December 2018 the investment amounted to €14.4 million.

On 10 December 2019, Euronext announced that it entered into a binding agreement to sell its 20% minority stake in EuroCCP to CBOE Global Markets, alongside the other current EuroCCP shareholders. The transaction is expected to close in the first half of 2020, subject to receipt of required regulatory clearances and the arrangement of a supporting liquidity facility at the EuroCCP clearing entity level. The Group expects to receive net proceeds of approximately €8.8 million from the sale of its minority stake. As a result of this agreement, the Group impaired the value of its investment by approximately €6.0 million, and classified the investment as an asset held for sale as per 31 December 2019.

▪ **Algonext Ltd**

In November 2016, Euronext announced a 10 year partnership with fixed income technology provider Algomi to create a long-term joint venture. This joint venture, capitalised by Euronext, would have deployed Algomi's technology to a new multilateral trading facility ("MTF") "Synapse". Dealers would have been able to access the trading interface either directly through their existing Algomi technology or through their stand-alone systems. The platform would have used algorithmic smart matching processes to create an auction between dealers to improve liquidity and search for best execution. Algonext was incorporated on 16 December 2016 and, based on shared ownership, Euronext has an interest of 50%. The investment in Algonext amounting to €1.2 million has been recognised as an investment in joint ventures as at 31 December 2016. As per 31 December 2018, following a review for impairment of its associates and joint ventures, the Group recognised an impairment of its interest in Algonext Ltd., bringing its value down to zero (see also "Algomi investment" within the "Equity investments" section). There were no changes to this value as per 31 December 2019.

▪ **LiquidShare S.A.**

On 10 July 2017 the Group, together with six other leading financial institutions, incorporated LiquidShare S.A., a fintech joint venture with the objective to improve SME's access to capital markets and improving the transparency and security of post-trading operations using blockchain technology. The Group shares joint control with the other founders and has an interest of 16.23% in LiquidShare (2018 and 2017: 13.57%). In 2019, the Group made a capital contribution of €1.2 million in LiquidShare S.A. The investment amounted to €1.9 million as per 31 December 2019 (31 December, 2018 and 2017: €0.9 million).

▪ **LCH S.A.**

In the second half of 2017, the Group announced its intentions to swap its 2.31% stake in LCH Group for a 11.1% stake in LCH SA, subject to regulatory approvals and other customary conditions. The transaction was finalised on 29 December 2017 and will strengthen the long-standing relationship between Euronext and LCH SA. Euronext will remain on the Board of LCH SA following completion of the share swap. Euronext will also nominate one representative to LCH SA Audit Committee and will continue to be represented at LCH SA Risk Committee. A new Consultative Committee dedicated to Euronext derivatives business will be created. The parties have agreed that Euronext will have certain minority protection rights connected with its new shareholding in LCH SA.

As the Group concluded it has significant influence, the 11.1% stake in LCH SA amounting to €58.0 million was recognised in investments in associates and joint ventures as per 31 December 2017. As per 31 December 2019 the investment amounted to €60.0 million (31 December 2018: €57.4 million).

▪ **Investment in Tokeny Solutions**

On 28 June 2019, the Group acquired a 23.5% stake in Tokeny Solutions, a tokenization platform that provides users end-to-end solutions to issue, manage and transfer tokenized securities on public blockchain. The Group recognised the acquired interest as an investment in associate. As per 31 December 2019 the investment amounted to €4.8 million.

Equity Investments

▪ **Euroclear Investment**

On 30 April 2014, ICE contributed to the Group a 2.75% ownership interest into Euroclear plc., an unlisted company involved in the settlement of securities transaction and related banking services. The fair value of the investment at that time was €63 million. Due to share buy-backs by Euroclear plc. in 2015 the direct investment in Euroclear plc. increased from 2.75% to 3.26% as per 31 December 2015. The fair value of the investment in Euroclear plc. was measured at €67.1 million as per 31 December 2015.

In 2016 this share buy-back program did not continue, however other valuation approaches were applied in a consistent manner to 2015, leading to an adjustment of fair value through Other Comprehensive Income of €0.5 million in 2016, bringing the fair value of the 3.26% direct investment in Euroclear plc. to €67.6 million as per 31 December 2016.

Due to share buy-backs by Euroclear plc. in 2017 the direct investment in Euroclear plc. increased from 3.26% to 3.34% as per 31 December 2017. The Group also holds an 1.53% indirect investment in Euroclear plc., through its 9.60% ownership interest in Sicovam Holding S.A.

Following the outcome of EU referendum in the UK and elections in the US, euro-zone was facing additional political pressure at the end of 2016. Increased political risk in economies long considered bastions of political stability were expected to affect risk-free rates, potentially reviving the euro crisis and raising the risk of an EU break-up scenario. In the first part of the year, this risk of destabilization in Europe was reduced by the results of elections in the Netherlands, France and Germany. The economic sentiment and outlook significantly improved and funds are flowing back to the euro-zone and translated into a robust share price performance across listed financial institutions within the EU.

This changing environment had an impact on the valuation of the Group's available-for-sale financial assets, especially on investments in financial institutions with a significant EU exposure, such as Euroclear plc. The sentiment in Europe, that had a dampening effect on the value of our direct- and indirect (through Sicovam Holding S.A.) equity investment in Euroclear plc at the end of 2016, positively impacted this value as per 31 December 2017. This ultimately led to an increase in fair value of the Group's investments in Euroclear plc and Sicovam S.A. in 2017 of €40.2 million.

As per 31 December 2017, following the above, the fair value of the investment in Euroclear plc. was measured at €96.2 million and the fair value of the investment in Sicovam Holding S.A. was measured at €41.7 million.

In 2018, the Group increased its interest in Euroclear plc from 3.34% to 3.53%, which was due to the acquisition of the Irish Stock Exchange Plc., that holds an 0.19% ownership interest in Euroclear plc. valued at €5.5 million on acquisition.

In 2018, as part of the fair value estimation of its investment in Euroclear plc. the Group considered two observable transactions for the determination of the fair value in addition to its primary valuation technique and applied a weighted approach taken into account a illiquidity discount for the limited number of transactions. This ultimately led to an increase in fair value of the Group's investments in Euroclear plc and Sicovam S.A. of €45.0 million in 2018. This revaluation was recorded in Other Comprehensive Income.

As per 31 December 2018, following the above, the fair value of the investment in Euroclear plc. was measured at €133.8 million and the fair value of the investment in Sicovam Holding S.A. was measured at €54.5 million.

In 2019, the Group considered the two transactions observed in 2018 for the determination of the fair value in addition to its primary valuation technique and applied a weighted approach taking into account an illiquidity discount accounting for the limited number of transactions. This ultimately led to an increase in fair value of the Group's investments in Euroclear plc and Sicovam S.A. of €9.1 million in 2019. This revaluation was recorded in Other Comprehensive Income.

As per 31 December 2019, following the above, the fair value of the investment in Euroclear plc. was measured at €140.4 million and the fair value of the investment in Sicovam Holding S.A. was measured at €57.1 million.

▪ **Algomi Limited Investment ("Algomi")**

In November 2016, Euronext announced a 10-year partnership with would have used fixed-income technology provider Algomi Limited ("Algomi") to create a long-term joint venture "Algonext". This JV, initially capitalised by Euronext for \$2.3 million, would have deployed Algomi's technology to a new multilateral trading facility ("MTF"), owned and operated by Euronext. Based on shared ownership and governance, Euronext has recognised its 50% shareholding in Algonext as an "Investment in associates and joint ventures" from the date of incorporation.

On 2 March 2017, Euronext acquired a 7.59% stake in JV partner Algomi for \$10 million. This investment is recognized as an "Financial asset at fair value through OCI" from acquisition date. As part of the purchase agreement, Euronext was granted a warrant, allowing it to purchase 88,384 additional Algomi shares, that was exercised in the second half of 2017. The investment was recognized as an available-for-sale financial asset at fair value for €9.6 million as per 31 December 2017.

The management of Algomi decided to change its strategic course of direction in the second half of 2018, by focusing on their "Alpha" product, rather than further maintaining the "Honeycomb/Synchronicity" network. This has resulted in many banks terminating their contracts with Algomi. The Honeycomb/Synchronicity network is the major source of data to feed the MTF and without this data the MTF is not expected to generate any trade. The Group expects that this change in focus will have an adverse impact on the financial situations on both Algomi and Algonext, as these entities will not be generating license fee revenues going forward.

Considering this, the Group recorded a downward revaluation of its investment in Algomi to reflect its revised estimated fair value (to zero), which is recognized in Other Comprehensive Income as per 31 December 2018. Further in 2018, it recognized an impairment of its investment in joint venture Algonext bringing its carrying value to zero. Certain assets that were recognized for Algomi exclusivity rights and prepaid expenses for the joint venture have been impaired for which a charge has been recorded in Exceptional items. In 2019, fair value (zero) did not change for this investment.

▪ **Oslo Børs VPS Holding ASA ("Oslo Børs VPS")**

On 24 December 2018, Euronext announced it had approached the board of directors of Oslo Børs VPS Holding ASA ("Oslo Børs VPS") to seek its support for a €625m cash tender offer for all the outstanding shares of Oslo Børs VPS, the Norwegian Stock Exchange and national CSD operator, headquartered in Oslo. As per 31 December 2018, following share purchases made by the Group at end of 2018, the Group held a 5.1% ownership interest in Oslo Børs VPS amounting to €31.7 million. The Group irrevocably elected to classify the 5.1% investment in Oslo Børs VPS as an equity investment at fair value through other comprehensive income. The Group considered the purchase price of NOK 145 per share to be best proxy for fair value as per 31 December 2018, supported by prices of Oslo Børs VPS shares traded at the end of December 2018 and beginning of 2019.

During 2019, the Group made additional share purchases for €22.1 million, increasing its ownership in Oslo Børs VPS to 8.3%, before acquiring the majority stake on 14 June 2019. Immediately before obtaining the majority stake and as part of the total purchase consideration, the equity investment was revaluated to its acquisition-date fair value of €57.4 million (at NOK 158 per share plus interest payments) resulting in a gain of €3.6 million, which was recognised in Other Comprehensive Income. As a consequence of the transaction, the equity investment in Oslo Børs VPS was fully derecognised and its historical revaluation gain, recognised in Other Comprehensive Income, was transferred to retained earnings on the date of acquiring the majority stake.

▪ **LCH Group Investment**

As per 31 December 2016, the Group held an 2.31% ownership in LCH Group Limited ("LCH Group") (2015: 2.31%). LCH Group is a multi-asset international clearing house managing and mitigating counterparty risks in market transactions. Management determined fair value for its stockholding in LCH Group based on updated information available as of 31 December 2016. The updated information provided Management with sufficient input to record a change in fair value for its investment in LCH Group of €1.7 million in 2016 (2015: €0.0 million) to €19.2 million as per 31 December 2016 (31 December 2015: €17.5 million).

In 2017, the Group entered into a share swap transaction of its 2.31% interest in LCH Group for an 11.1% interest in LCH SA, which was finalised on 29 December 2017. The share swap transaction led to a change in fair value of €38.4 million and subsequent de-recognition in available-for-sale financial assets with carrying value of €57.6 million, in relation to the 2.31% stake in LCH Group Ltd. leaving no value for this investment as per 31 December 2017. The share swap transaction resulted in a capital gain recognised in results from equity investments of €40.6 million, from the recycling to profit or loss of cumulative historical revaluations that were recognised in Other Comprehensive Income.

7.1.6 Goodwill

Goodwill recorded includes the entire goodwill that arose from the acquisition of the Amsterdam and Brussels stock exchanges in 2000 and the Lisbon stock exchange in 2002. It also includes an allocation of the goodwill that arose from the acquisition of Atos Euronext Market Solutions ("AEMS"), Euronext's preferred IT service provider, in 2008. In 2017, additional goodwill was recorded in relation to the acquisitions of Company Webcast, iBabs and FastMatch. In 2018, additional goodwill was recorded in relation to the acquisitions of InsiderLog, the Irish Stock Exchange and Commcise. In 2019, additional goodwill was recorded in relation to the acquisitions of Oslo Børs VPS and Finance Web Working SAS.

7.1.7 Financial and trading position

Other than as described below, there has been no significant change in Euronext's financial or trading position since 1 January 2020.

■ Acquisition of Nord Pool Group

On 5 December 2019, the Group announced it entered into binding agreements to acquire 66% of the share capital and voting rights of the Nord Pool Group, which runs a leading physical power market in Europe, operating from its headquarters in Oslo and offices in Helsinki, Stockholm, Tallinn, Berlin and London. The enterprise value on a debt-free cash-free basis for 100% is NOK850 million (€84 million). The transaction was subject to regulatory and competition approvals and was completed on 15 January 2020.

With the acquisition of Nord Pool Group, the second largest power market in Europe, Euronext diversifies its revenue mix by entering the power market, and reinforces its commodity franchise. This transaction also contributes to the Group's ambition to grow its presence in the Nordic region and further strengthens Oslo as Euronext's main hub in the Nordics. The Nordic and Baltic Transmission System Operators (TSOs) that formerly owned Nord Pool Group, will retain a 34% stake.

■ Payment of contingent consideration payable and exercise of call option for remaining shares in InsiderLog AB

During the first quarter of 2020, the Group paid the €3.6 million contingent consideration payable to InsiderLog AB, as part of the 80% majority stake that was acquired on 17 January 2018. In addition, the Group exercised its call option for the remaining 20% of the shares in InsiderLog AB for an amount of €5.7 million. Consequently, the Group now has an ownership of 100% in InsiderLog AB.

■ Payment of contingent consideration payable and exercise of put option for remaining shares in Company Webcast B.V.

During the first quarter of 2020, the Group paid the €5.0 million contingent consideration payable to Company Webcast B.V., as part of the 51% majority stake that was acquired on 14 February 2017. In addition, the minority shareholders exercised their put option for selling the remaining 49% of the shares in Company Webcast B.V. for an amount of €22.2 million. Consequently, the Group now has an ownership of 100% in Company Webcast B.V.

■ Sale of investment in Algomi Ltd.

During the first quarter of 2020, the Group entered into binding agreements to sell its 7.74% minority stake in Algomi Ltd. to BGC Partners. The transaction is expected to close in the course of 2020. The Group expects to receive net proceeds of approximately \$3.0 million from the sale of its minority stake.

7.1.8 Results of Operations

YEAR ENDED 31 DECEMBER 2019 COMPARED TO YEAR ENDED 31 DECEMBER 2018 AND 31 DECEMBER 2017

The table below sets forth Euronext's results of operations for the years ended 31 December 2019, 2018 and 2017.

<i>In thousands of euros</i>	Year ended		
	31 December 2019	31 December 2018	31 December 2017
Revenue	679,108	615,033	532,294
Total revenue	679,108	615,033	532,294
Salaries and employee benefits	(153,145)	(118,488)	(104,363)
Depreciation and amortisation	(43,676)	(23,400)	(16,932)
Other operational expenses	(126,543)	(142,295)	(130,149)
Operating profit before exceptional items	355,744	330,850	280,850
Exceptional items	(21,871)	(21,474)	(14,787)
Operating profit	333,873	309,376	266,063
Finance costs	(11,851)	(5,481)	(3,553)
Change in fair value of financial liabilities	(13,275)	(3,200)	-
Other net financing income/(expense)	7,711	3,421	(47)
Results from equity investments	7,270	5,984	48,325
Share of net profit/(loss) of associates and joint ventures accounted for using the equity method, and impairments thereof	1,844	1,612	287
Profit before income tax	325,572	311,712	311,075
Income tax expense	(100,294)	(94,084)	(68,886)
PROFIT FOR THE YEAR	225,278	217,628	242,189
Profit attributable to:			
■ Owners of the parent	221,966	215,968	241,297
■ Non-controlling interests	3,312	1,660	892

Total Revenue

Euronext's total revenue for the year ended 31 December 2019 was €679.1 million, an increase of €64.1 million compared to €615.0 million for the year ended 31 December 2018.

The table below sets forth Euronext's revenue for the years ended 31 December 2019, 2018 and 2017.

<i>In thousands of euros</i>	2019	2018	2017
Listing	128,951	106,490	84,247
Trading revenue	272,810	276,572	237,854
<i>of which</i>			
▪ Cash trading	205,565	210,947	190,276
▪ Derivatives trading	44,324	43,910	40,339
▪ FX trading	22,921	21,715	7,239
Investor Services	5,735		
Advanced data services	128,756	118,298	104,673
Post-trade	104,831	77,381	71,698
<i>of which</i>			
▪ Clearing	55,237	55,331	51,132
▪ Custody & Settlement and other	49,594	22,050	20,566
Euronext Technology Solutions & other revenue	37,805	36,063	33,465
Other income	220	229	357
TOTAL REVENUE	679,108	615,033	532,294

Listing

For the year ended 31 December 2019¹:

Listing revenue was €129.0 million in 2019, an increase of +21.1% compared to 2018, driven by the strong performance of Euronext's Corporate Services (+€7.2 million) and the consolidation of Oslo Børs VPS for 6.5 months and Euronext Dublin for 3 months (Euronext Dublin was consolidated for 9 months in 2018) collectively contributing €18.3 million. On a like-for-like basis, listing revenue increased by +3.9%.

Primary equity issuances were mixed over the year with a subdued activity in the first half followed by the return of large caps listings across Euronext markets in the second half of the year. This solid listing activity demonstrated the attractiveness of Euronext value proposition to both international and domestic large capitalisations from all sectors, such as Marel, la Française Des Jeux, Prosus, Verallia and Adevinata which altogether added 110 billion of market cap. In addition, Euronext welcomed 41 new listings on its markets in 2019, of which 39 SME listings. In 2019, €5.1 billion was raised on primary markets on Euronext, compared to €5.0 billion in 2018.

The secondary market saw a similar trend over 2019, with follow-ons activity improving through the second half of 2019 reflecting a slight improvement in the economic environment. In 2019, €34.2 billion was raised in secondary equity issues, compared to €64.2 billion in 2018, which was marked by significant large-cap M&A activities in Europe.

In total, €1.3 trillion in equity and debt was raised on Euronext's markets in 2019, compared to €1.1 trillion in 2018.

Corporate Services reported a strong performance throughout 2019, generating €24.4 million in revenue, including €0.6 million of contribution from Oslo Børs VPS, compared to €16.6 million in 2018, reflecting strong client traction across all the services offered.

For the year ended 31 December 2018:

Listing revenue was €106.5 million in 2018, an increase of 26.4% compared to 2017. This good performance was driven by the integration of Euronext Dublin (+€16.7 million) from Q2 2018 and incremental revenue from Corporate services (+€7.5 million). Excluding the adjustment on deferred revenue due to IFRS 15, listing revenue would have been €97.6 million in 2018.

Primary equity issues activity was impacted by market volatility over 2018 and reduced investors' appetite. However, Euronext value proposition notably attracted flagship innovative companies, such as Adyen and Neoen, for their listings. Euronext also welcomed on its markets listings of family businesses, such as Roche Bobois, and Tech SMEs, such as Acacia Pharma or Media Lab. In 2018, Euronext recorded 33 new listings, including 27 SME deals, compared to 29 listings (of which 18 SME deals) in 2017. This translated into €3.6bn raised in 2018, compared to €4.2bn last year.

Activity on the secondary market was stable in 2018 vs. 2017, supported by SME projects raising financing for their development as well as large M&A activities in Europe, including the Unibail-Rodamco-Westfield, Worldline-SIX and Essilor-Luxottica deals. Over 2018, €60.7bn were raised in secondary equity issues, compared to €62.3bn in 2017.

In total, €1.0 trillion in equity and debt were raised on Euronext's markets in 2018, compared to €789.4 billion in 2017².

Corporate services generated €16.6 million in revenue in 2018, compared to €9.1 million in 2017.

¹ 2018 figures has been restated to include Oslo Bør VPS

² Historical data for 2017 differ due to the retroactive inclusion of Euronext Dublin data and reclassification to comply with updated FESE methodology.

Trading

Cash Trading

For the year ended 31 December 2019:

Cash trading revenue decreased by -2.6% in 2019, to a total of €205.6 million, resulting from a decline in trading volumes in a low volatility environment with average daily volume for cash trading decreasing to €7.8 billion in 2019, down -3.8% compared to 2018. On a like-for-like basis, cash trading revenue decreased by -5.8%. The average yield over the year was 0.52bps, and amounted to 0.53bps on a like-for-like basis, compared to 0.51bps in 2018. The cash trading market share throughout 2019 averaged 68.8% like-for-like, an increase from 66.1% in 2018.

The average daily transaction value of ETFs on the electronic order book was €216 million over 2019, down -18.8% compared to 2018, driven by low volatility levels. The total number of ETFs listed on Euronext was 1,236 at end of December 2019.

For the year ended 31 December 2018:

Average daily volume for cash trading increased to €8.1 billion in 2018, up +5.7% compared to 2017(1). With volumes supported by volatility peaks through the year, and thanks to effective yield management, cash trading revenue increased by +10.9% in 2018, to a total of €210.9 million, thanks to an average yield over the year of 0.51bps, up +4.9% compared to 2017.

Euronext strengthened its cash trading market share throughout 2018, averaging 66.1% in 2018, compared to 64.4% in 2017.

The average daily transaction value of ETFs on the electronic order book was €266 million over 2018, up +7.0% compared to 2017, supported by market volatility. The total number of ETFs listed on Euronext was 1,150 at the end of December 2018.

Derivatives Trading

For the year ended 31 December 2019:

Derivatives trading revenue increased +0.9% in 2019, to €44.3 million, compared to €43.9 million in 2018. On a like-for-like basis, derivatives trading revenue was down -1.8%. Average daily volume on individual equity derivatives was down -4.2% at 295,227 contracts, while the average daily volume on equity index derivatives was down -2.0% to 240,550 contracts.

Commodity products recorded an decrease in average daily volumes in 2019, down -7.3% to 53,224 contracts compared to 2018.

Yield on derivatives averaged €0.30 in 2019, up +1.7% compared to 2018, resulting from enhanced yield management.

For the year ended 31 December 2018:

Derivatives trading revenue increased in 2018, to €43.9 million, compared to €40.3 million in 2017. Average daily volume on individual equity derivatives was up +7.4% at 297,012 contracts, while the average daily volume on equity index derivatives was up +4.1% to 231,107 contracts.

Commodity products recorded increasing average daily volumes in 2018, up +10.8% to 57,191 contracts.

Yield on derivatives averaged 0.29bps in 2018, stable compared to 2017.

Yield on derivatives averaged 0.29 bps over 2017, a decrease from 0.32 bps in 2016, due to the special Dutch circumstances stated above.

Spot FX Trading

For the year ended 31 December 2019:

Spot FX trading activity on the Euronext FX spot foreign exchange market recorded average daily volumes of \$18.3 billion in 2019, down -9.2% compared to \$20.1 billion in 2018, impacted by a low volatility environment through 2019. Spot FX trading generated €22.9 million of revenue in 2019, up +5.6% compared to €21.7 million in 2018, thanks to improved yield management.

For the year ended 31 December 2018:

Spot FX trading activity on FastMatch's spot foreign exchange market recorded average daily volumes of \$20.1 billion, up +9.3% compared to 2017, supported by markets volatility through the year. As a result, spot FX trading generated €21.7 million of revenue in 2018. In 2017, spot FX trading generated €7.2 million of revenue for 4.6 months of consolidation.

Investor Services

For the year ended 31 December 2019:

Investor Services, created in 2019, encompassing primarily the activities of Commcise, of which Euronext acquired 78% of the capital in December 2018, as well as Investor Services activities from Oslo Børs VPS, reported €5.7 million of revenue in 2019 as the business benefited from Euronext's commercial reach and expertise throughout the year.

Advanced data services

For the year ended 31 December 2019:

Advanced Data Services reported revenue up +8.8% to €128.8 million in 2019 due to the good performance of index activities, particularly on ESG products and structured products, and the consolidation of Oslo Børs VPS. On a like-for-like basis, Advanced Data Services revenues were up +1.1% compared to 2018, thanks to the good performance of the indices business, offset by the decrease of market data revenue.

For the year ended 31 December 2018:

Advanced data services reported a strong 2018 performance, with revenue up +13.0% to €118.3 million in 2018, resulting from new market data agreements, good traction from indices business, and reflecting the consolidation of Euronext Dublin activities.

Post-Trade

Clearing

For the year ended 31 December 2019:

Clearing revenue was stable in 2019, at €55.2 million, slightly down -0.2% compared to 2018, as lower derivatives trading volumes were partially offset by higher treasury income.

For the year ended 31 December 2018:

Clearing revenue increased in 2018, to €55.3 million, +8.2% compared to 2017, reflecting a dynamic commodities activity during the year, and higher treasury income.

Settlement & Custody

For the year ended 31 December 2019:

Revenue from Custody, Settlement and other post-trade activities, notably encompassing Interbolsa and VPS activities, increased by +124.9% to €49.6 million in 2019, resulting mainly from the consolidation of Oslo Børs VPS. Both VPS and Interbolsa reported a good performance driven by an increased activity in both custody and settlement. On a like-for-like basis, revenue from Custody, Settlement and other post-trade was up +1.0%.

For the year ended 31 December 2018:

Revenue from Interbolsa in Portugal and other post trade activities increased by +7.2%, to €22.1 million in 2018, driven by an increase in equities and public debt under custody and settlement activity compared to 2017.

Euronext Technology Solutions

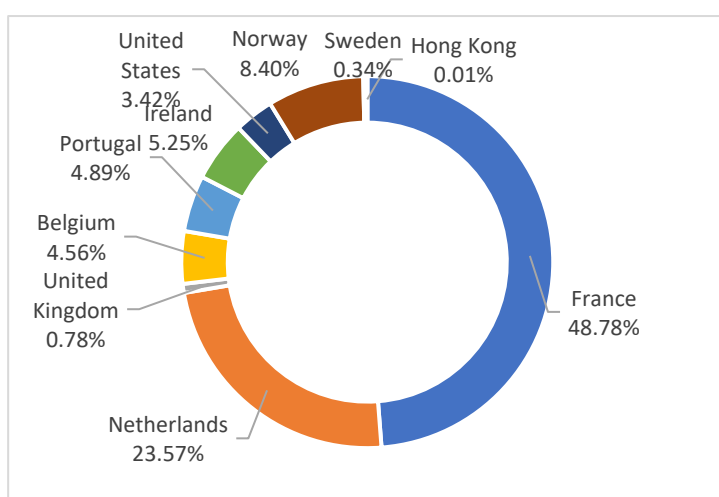
For the year ended 31 December 2019:

Euronext Technology Solutions & Other revenue increased by +4.8% in 2019, to €37.8 million, as a result of good performance of SFTI/Colocation services, hosted services, connection fees and the consolidation of Oslo Børs VPS. On a like-for-like basis, revenue was up +0.6% compared to last year.

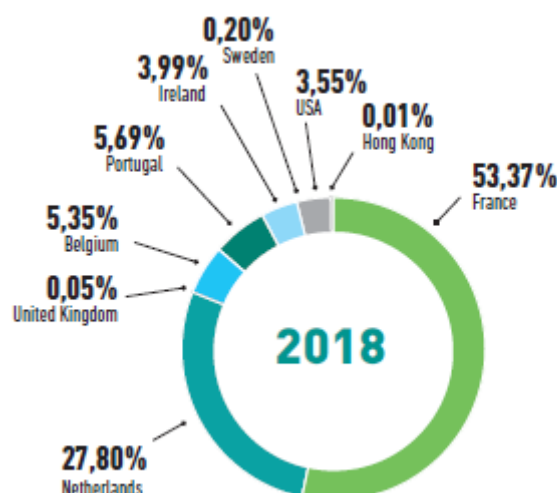
For the year ended 31 December 2018:

Euronext Technology Solutions revenue increased by +7.8% in 2018, to €36.1 million as the activity continued to benefit from Optiq® project work on commercial releases for international clients, as well as an increased activity in Managed Services solutions and in SFTI/Colocation services.

EURONEXT 2019 THIRD PARTY REVENUE BY GEOGRAPHY



EURONEXT 2018 THIRD PARTY REVENUE BY GEOGRAPHY



Operating Expenses

In thousands of euros	Year ended		
	2019	2018	2017
Salaries and employee benefits	(153,145)	(118,488)	(104,363)
Depreciation and amortisation	(43,676)	(23,400)	(16,932)
Other operational expenses	(126,543)	(142,295)	(130,149)
TOTAL OPERATING EXPENSES	(323,364)	(284,183)	(251,444)

For the year ended 31 December 2019:

Euronext operating expenses in 2019 were €323.4 million, compared to €284.2 million in 2018, an increase of €39.2 million or 13.8%. The overall cost increase in 2019 was due to:

- the acquisitions of Oslo Børs VPS, Commcise and OPCVM360 in 2019, and the full year cost impact from the acquisitions of Euronext Dublin;
- PPA and earn-out adjustment, related to the acquisitions mentioned above.

Euronext operating expenses comprise salaries and employee benefits, depreciation and amortisation, and other operational expenses.

For the year ended 31 December 2018:

Euronext operating expenses in 2018 were €284.2 million, compared to €251.4 million in 2017, an increase of €32.7 million or 13.0%. The overall cost increase in 2018 was due to:

- the acquisitions of InsiderLog and Euronext Dublin; in 2018, and the full year cost impact from the acquisitions of iBabs and FastMatch;
- PPA and earn-out adjustment, related to the acquisitions mentioned above.

Euronext operating expenses comprise salaries and employee benefits, depreciation and amortisation, and other operational expenses.

Salaries and Employee Benefits

For the year ended 31 December 2019:

Salaries and Employee Benefits increased by €34.7 million, or 29.2%, to €153.1 million in 2019, compared to €118.5 million in 2018. This increase is mainly attributable to the increase in headcount following the incorporation of newly acquired businesses and to increased performance based payments.

For the year ended 31 December 2018:

Salaries and Employee Benefits increased by €14.1 million, or 13.5%, to €118.5 million in 2018, compared to €104.4 million in 2017. This increase is attributable to the increase in headcount following the incorporation of newly acquired businesses.

Depreciation and Amortisation

For the year ended 31 December 2019:

Depreciation and amortisation accounted for €43.7 million in 2019, up +86.6%, resulting primarily from the consolidation of Oslo Børs VPS PPA and one additional quarter of Euronext Dublin PPA accounting for €6.3 million and the adoption of IFRS 16. On a like-for-like basis, depreciation & amortisation was up +39.6% to €32.7 million, mainly due to the impact of IFRS 16.

For the year ended 31 December 2018:

Depreciation and Amortisation increased by €6.5 million, or 38.2%, to €23.4 million in 2018, compared to €16.9 million in 2017. This increase is mainly related to the acquisition of Company Webcast, iBabs and FastMatch in 2017, InsiderLog and Euronext Dublin in 2018, and their respective PPA.

Other Operational Expenses

<i>In thousands of euros</i>	2019	2018	2017
Systems and communications	(26,385)	(26,208)	(22,354)
Professional services	(37,070)	(47,011)	(45,545)
Clearing expenses	(29,402)	(29,846)	(27,925)
Accommodation	(5,467)	(10,430)	(9,961)
Other expenses	(28,219)	(28,800)	(24,364)
TOTAL	(126,543)	(142,295)	(130,149)

For the year ended 31 December 2019:

System and Communications increased by €0.2 million, or 0.7%, to €26.4 million in 2019, compared to €26.2 million in 2018. This increase is attributable to the integration of Oslo Børs VPS and Commcise, offsetting a decrease in licenses fees and the impact of IFRS 16.

Professional Services decreased by €9.9 million, or 21.1%, to €37.1 million in 2019, compared to €47.0 million in 2018. This decrease is mainly attributable to a decrease in consulting and advisory costs and the impact of IFRS 16

Clearing expenses decreased by €0.4 million, or 1.5%, to €29.4 million in 2019, compared to €29.8 million in 2018. This decrease is linked to the lower Clearing revenues in 2019.

Accommodation decreased by €5.0 million, or 47.6%, to €5.5 million in 2019, compared to €10.4 million in 2018. This decrease is attributable to the impact of IFRS 16.

Other Expenses decreased by €0.6 million, or 2.0%, to €28.2 million in 2019 when compared to €28.8 million in 2018. This decrease mainly reflects a decrease in tax expenses, as 2018 was notably impacted by €1.7 million of one-off stamp duty tax relating to the acquisition of Euronext Dublin, and a decrease in other costs, offsetting the consolidation of costs from newly acquired businesses previously mentioned.

For the year ended 31 December 2018:

System and Communications increased by €3.9 million, or 17.2%, to €26.2 million in 2018, compared to €22.4 million in 2017. This increase is mainly attributable to the integration of Euronext Dublin.

Professional Services increased by €1.5 million, or 3.2%, to €47.0 million in 2018, compared to €45.5 million in 2017. This increase is mainly attributable to the integration of Euronext Dublin and FastMatch.

Clearing expenses increased by €1.9 million, or 6.9%, to €29.8 million in 2018, compared to €27.9 million in 2017. This increase is linked to the higher Clearing revenues in 2017.

Accommodation increased by €0.5 million, or 4.7%, to €10.4 million in 2018, compared to €10.0 million in 2017. This increase is mainly attributable to additional accommodation costs resulting from the integration of Euronext Dublin and FastMatch.

Other Expenses increased by €4.4 million, or 18.2%, to €28.8 million in 2018 when compared to €24.4 million in 2017. This increase mainly reflects the integration of Euronext Dublin, including €1.7 million of one-off stamp duty tax relating to the acquisition of Euronext Dublin in the second quarter of 2018.

Operating Profit Before Exceptional Items

For the year ended 31 December 2019:

Euronext operating profit before exceptional items for the year ended 31 December 2018 was €355.7 million, compared to €330.9 million for the year ended 31 December 2017, an increase of €24.9 million.

For the year ended 31 December 2018:

Euronext operating profit before exceptional items for the year ended 31 December 2018 was €330.9 million, compared to €280.9 million for the year ended 31 December 2017, an increase of €50.0 million.

Exceptional Items

<i>In thousands of euros</i>	2019	2018	2017
Restructuring costs	(5,671)	(8,126)	(2,159)
ICE Clear Netherlands termination fee	-	-	(5,000)
Acquisition costs	(11,730)	(2,088)	(5,280)
DB contract termination	-	(4,752)	-
Impairment Algomi	(1,341)	(3,226)	-
Termination of sales contract	(2,245)	(2,000)	-
Portuguese pension plan settlement	-	-	(1,565)
Refund pre-retirement plan Paris	-	-	2,208
Litigation provisions/settlements	-	(520)	(388)
Impairment w/o intangible assets	(857)	(893)	(2,621)
Other	(27)	131	18
TOTAL	(21,871)	(21,474)	(14,787)

For the year ended 31 December 2019:

In 2019, exceptional items included:

- €5.7 million of restructuring costs mainly related to expenses for employee termination benefits in the various Euronext locations;
- €11.7 million of costs incurred for contemplated acquisitions of major significance to the Group, potentially changing the Group's form or character (transformational acquisitions), which primarily relate to the acquisition of Oslo Børs VPS (see Note 5);
- €1.3 million of settlement payment related to the investment in Algomi Ltd.;
- €2.2 million related to the early termination of various IT contracts within Oslo Børs VPS;
- €0.9 million of costs related to onerous commercial contracts.

For the year ended 31 December 2018:

In 2018, exceptional items included:

- €8.1 million of restructuring costs mainly related to expenses for employee termination benefits in the various Euronext locations;
- €2.1 million of costs incurred for contemplated acquisitions of major significance to the Group, potentially changing the Group's form or character (transformational acquisitions);
- €4.8 million of impact related to the early termination of the trading services contract provided by Deutsche Börse AG to the Irish Stock Exchange;
- €3.2 million of items related to the revaluation of the investment in Algomi Ltd., of which €1.5 million related to impaired intangible assets in 2018;
- €2.0 million of costs related to the termination of contract with a reseller within corporate services business;
- €0.5 million of litigation provisions/settlements attributable to individual legal cases, including the \$0.8 million settlement with former FastMatch CEO.
- €0.9 million of onerous maintenance contract costs related to the impaired intangible assets that were reflected in last year's exceptional items.

Operating Profit

For the year ended 31 December 2019:

Euronext operating profit for the year ended 31 December 2019 was €333.9 million, compared to €309.4 million for the year ended 31 December 2018, an increase of €24.5 million or 7.9%.

For the year ended 31 December 2018:

Euronext operating profit for the year ended 31 December 2018 was €309.4 million, compared to €266.1 million for the year ended 31 December 2017, an increase of €43.3 million or 17.8%.

Change in fair value of financial liabilities

In 2019, change in fair value of financial liabilities the Company Webcast and InsiderLog deferred payment and buy options were revaluated,

resulting in a €13.3 million expense (see note 35 of the Consolidated Financial Statements).

Net Financing Income / (Expense)

For the year ended 31 December 2019:

Euronext's net financing income / (expense) for the year ended 31 December 2019 was a net expense of €17.4 million, compared to a net expense of €5.3 million for the year ended 31 December 2018, an increase in net expense of €12.2 million. In details, in 2019, interest expenses increased following the second Bond issued in June 2019 (see Note 29 of the Consolidated Financial Statements) and other net financing income was positively impacted by income from interest rate swaps, as a result of the Group entering into interest rate swap agreements related to the first issued bond (see Note 23 of the Consolidated Financial).

For the year ended 31 December 2018:

Euronext's net financing income / (expense) for the year ended 31 December 2018 was a net expense of €5.3 million, compared to a net expense of €3.6 million for the year ended 31 December 2017, an increase in net expense of €1.7 million. This increase reflects mainly the revaluation of earn-outs related to Company Webcast and InsiderLog. In details, in 2018, interest expenses increased following the Bond issued in April 2018 (see Note 29 of the Consolidated Financial Statements), non-current financial liabilities were remeasured by €3.2 million (see Note 35 of the Consolidated Financial Statements) and other net financing income was positively impacted by income from interest rate swaps, as a result of the Group entering into interest rate swap agreements (see Note 23 of the Consolidated Financial Statements).

<i>In thousands of euros</i>	2019	2018	2017
Interest expense (effective interest method)	(11,632)	(5,558)	(2,373)
Interest in respect of lease liabilities	(555)		
Other finance costs	336	77	(1,180)
Finance costs	(11,851)	(5,481)	(3,553)
Contingent liabilities	(1,310)	(1,200)	-
Redemption liabilities	(11,965)	(2,000)	-
Change in fair value of financial liabilities	(13,275)	(3,200)	-
Interest income (effective interest method)	1,879	487	314
Interest income from interest rate swaps	4,971	3,534	-
Hedging result	124	(638)	-
Gain / (loss) on disposal of treasury investments	198	(220)	(5)
Net foreign exchange gain/(loss)	539	258	(356)
Other net financing income/(expense)	7,711	3,421	(47)
TOTAL	(17,415)	(5,260)	(3,600)

Result from equity investments

For the year ended 31 December 2019:

In 2019, the €9.1 million of results from equity investments mainly related to the following items:

- €7.3 million of dividends received from Euroclear plc and Sicovam Holding S.A.;
- €1.8 million of investment in associates resulting from the impairment of EuroCCP stake sold in 2019, offset by €7.7 million of investments in associates reflecting the 11.1% stake in LCH SA.

For the year ended 31 December 2018:

In 2018, the €7.6 million of results from equity investments mainly related to the following items:

- €6.0 million of dividends received from Euroclear plc and Sicovam Holding S.A.;
- €1.6 million of investments in associates.

Profit before Income Tax

For the year ended 31 December 2019:

Euronext profit before income tax for the year ended 31 December 2019 was €325.6 million, compared to €311.7 million for the year ended 31 December 2018, an increase of €13.9 million or +4.4%.

For the year ended 31 December 2018:

Euronext profit before income tax for the year ended 31 December 2018 was €311.7 million, compared to €311.1 million for the year ended 31 December 2017, an increase of €0.6 million or +0.2%.

Income Tax Expense

For the year ended 31 December 2019:

Euronext's income tax expense for the year ended 31 December 2019 was €100.3 million, compared to €94.1 million for the year ended 31 December 2018, an increase of €6.2 million or 6.6%. Euronext's effective tax rate was 30.8% for the year ended 31 December 2019 compared to 30.2% for the year ended 31 December 2018. The increase of the effective tax rate in 2019 is primarily attributable to:

- Non-deductible acquisition costs
- The impact of the rate decrease on the deferred tax assets in France and a tax rate increase in the Netherlands impacting the deferred liability
- Non-deductible expenses linked to the recognition of earn out liabilities in connection with the buy out of Company Webcast and Insiderlog

For the year ended 31 December 2018:

Euronext's income tax expense for the year ended 31 December 2018 was €94.1 million, compared to €68.9 million for the year ended 31 December 2017, an increase of €25.2 million or 36.6%. Euronext's effective tax rate was 30.2% for the year ended 31 December 2018 compared to 22.1% for the year ended 31 December 2017. The increase of the effective tax rate in 2018 is primarily attributable to:

- the release of a €20.4 million tax provision due to the lapse of the statute of limitations recorded in 2017, while in 2018 €4.0 of tax provisions were release.

Profit for the Year

For the year ended 31 December 2019:

Euronext reported profit for the year ended 31 December 2019 was €225.3 million, compared to €217.6 million for the year ended 31 December 2018, an increase of €7.6 million or 3.5%. Of this profit, €222.0 million was attributable to the shareholders of the parent.

For the year ended 31 December 2018:

Euronext reported profit for the year ended 31 December 2018 was €217.6 million, compared to €242.2 million for the year ended 31 December 2017, an decrease of €24.6million or 10.1%. Of this profit,€216.0 million was attributable to the shareholders of the parent.

7.1.9 Cash flow

The table below summarises Euronext consolidated cash flow for the years ended 31 December 2019, 2018 and 2017:

<i>In thousands of euros</i>	Year ended		
	31 December 2019	31 December 2018	31 December 2017
Net cash provided by operating activities	253,771	223,512	207,003
Net cash (used in) investing activities	(607,307)	(215,152)	(185,093)
Net cash provided by/(used in) financing activities	327,678	202,012	(8,524)
NET INCREASE/(DECREASE) IN CASH AND CASH EQUIVALENTS	(25,858)	210,372	13,386

Net Cash Provided by Operating Activities

Net cash provided by operating activities increased by €30.3 million, to €253.8 million for year ended 31 December 2019, compared to €223.5 million for the year ended 31 December 2018. This increase was mainly attributable to:

- an increase of profit before tax for the period;
- an increase in D&A expenses, following the adoption of IFRS 16 'Leases' and the impact of PPA amortisation from newly acquired companies during the last twelve months;
- the impact from revaluation of financial instruments, related to earn-out provisions for Company Webcast and InsiderLog.
- Net cash provided by operating activities increased by €16.5 million, to €223.5 million for year ended 31 December 2018, compared to €207.0 million for the year ended 31 December 2017. This increase was mainly attributable to:
- an increase of profit before tax for the period;
- an increase in D&A expenses, following the impact of PPA amortisation from newly acquired companies during the last twelve months;
- the impact from gain on disposal of the investment in LCH Group in 2017, following the share swap of 2.31% interest in LCH Group for an interest of 11.1% in LCH SA.

Net Cash (Used in) Investing Activities

Net cash used in investing activities increased by €392.2 million, to €607.3 million for the year ended 31 December 2019, compared to €215.2 million for the year ended 31 December 2018. This increase was mainly attributable to the impact from the acquisition of the majority stake in Oslo Børs VPS.

Net cash used in investing activities increased by €30.1 million, to €215.2 million for the year ended 31 December 2018, compared to €191.2 million for the year ended 31 December 2017. This increase was mainly attributable to the impact from the acquisition of 5.1% stake in Oslo Børs VPS.

Net Cash Provided by /(Used in) Financing Activities

Net cash provided by financing activities increased by €125.7 million, to €327.7 million for the year ended 31 December 2019, compared to a net cash provided by financing activities of €202.0 million for the year ended 31 December 2018. The main financing activity that led to

cash inflows in 2019 was the proceed of the Bond issued in June 2019. The main financing activity that led to cash outflows in 2018 was the repayment of the Bank Loan facility agreement to fund the acquisitions of iBabs and FastMatch.

Net cash provided by financing activities increased by €210.5 million, to €202.0 million for the year ended 31 December 2018, compared to a net cash used in financing activities of €-8.5 million for the year ended 31 December 2017. The main financing activities that led to cash inflows in 2018 was the proceed of the Bond issued in April 2018. The main financing activity that led to cash inflow in 2017 was the proceed of the new Bank Loan facility agreement to fund the acquisitions of iBabs and FastMatch.

7.1.10 Facilities Agreement and Bonds

On 12 April 2017, the Group entered into a new revolving loan facility agreement ("the Facility") amounting to €250 million, with BNP Paribas and ABN AMRO BANK N.V. as Lead Arrangers. This new Facility has replaced the revolving credit facility of €390 million.

On 18 July 2017, the Group entered into a syndicated bank loan facility ("the Bank Loan") with BNP Paribas and ABN AMRO BANK N.V. as Lead Arrangers, providing for €175 million. The Bank Loan has been drawn in the amount of €165 million on 9 August 2017 in order to (i) fund the acquisition of 89.8% of the shares and voting rights in FastMatch Inc and (ii) refinance the acquisition of 60% of the shares and voting rights in iBabs B.V. previously financed through the Facility. The Bank Loan and Facility are together referred to as Instruments. As per 31 December 2017 a non-current borrowing of €165.0 million was recognised related to the Bank Loan.

On 18 April 2018, the Group issued a €500 million Bond ("Senior Unsecured Note #1") to refinance its 2017 and 2018 acquisitions and diversify its financing mix. The Bond has a seven year maturity, with an annual coupon of 1%. On 18 April 2018 the Bond, rated "A" by Standard & Poor's rating agency, was listed on Euronext Dublin. The Bond issue included €2.9 million of Bond discount and €0.5 million of issue costs, which are subsequently accounted for under the Effective Interest Rate method. Following receipt of the proceeds of the issued Bond, the Group repaid the €165.0 million Bank Loan.

On 4 June 2019, the Group issued a €500 million Bond ("Senior Unsecured Note #2") to (i) pre-finance the outstanding shares of Oslo Børs VPS Holding ASA not already owned by the Group and (ii) for general corporate purposes in line with the Group's strategy. The Bond has a ten year maturity, with an annual coupon of 1.125%. On 12 June 2019 the Bond, rated "A-" by S&P Global Ratings Limited, was listed on Euronext Dublin. The Bond issue included €6.1 million of Bond discount and issue costs, which are subsequently accounted for under the Effective Interest Rate method.

On 8 April 2019, the Group signed a supplemental agreement with nine banks to amend the €250 million Facility originally dated 12 April 2017. This new agreement enabled the Group to increase the Facility to €400.0 million and set a new maturity of 5 years plus a two-year extension possibility.

The revolving credit facility agreement allows the Group to apply all amounts borrowed by it towards (i) general corporate and/or working capital purposes of the Group, (ii) satisfaction of the consideration payable for an acquisition and/or (iii) the payment of fees, costs and expense incurred in relation to an acquisition. The revolving credit facility bears an interest rate of EURIBOR plus a margin initially set at 0.25%, which increased to 0.30% on 31 May 2019, based on the "A-" rating. It should be noted that as at 31 December 2019, no advances have been drawn under the revolving credit facility. During the year, the Group had temporarily drawn €45.0 million which it used for repayment of the bond loan, that was included in the acquisition of Oslo Børs VPS. The Group repaid this €45.0 million at the end of 2019.

Euronext is required to maintain compliance with a maximum leverage ratio if the credit rating would drop below BBB+. The maximum leverage ratio measures Euronext total gross debt to EBITDA¹ (as such terms are defined in the Facilities Agreement). Euronext is required to maintain a leverage ratio of no more than 3.5x.

Term, Repayment and Cancellation

The Facility matures in five years, respectively and initially included a two times one year extension possibility. In 2019, the Group signed a supplemental agreement, which set a new maturity of five years plus a two-year extension possibility. Euronext has the possibility to voluntarily cancel the Facility in whole or part or prepay amounts drawn.

Interest Rates and Fees

The Facility has borne an interest rate of EURIBOR plus a margin initially set at 0.25%, which increased to 0.30% on 31 May 2019. It should be noted that as at 31 December 2019, there was no outstanding advance drawn under the Facility. EURIBOR is floored at 0%.

An extension fee of (i) 0.05% of the full amount is payable if Euronext requests that the initial maturity date be extended to the first relevant anniversary date or, (ii) 0.10% of the full amount of the relevant Instrument is payable if Euronext requests that the initial maturity date be extended to the second relevant anniversary date.

A utilisation fee accrues on a daily basis at the following applicable rate per annum to be applied on the amount drawn:

- if less than 33.33% of the total commitment under the Facility has been drawn at the relevant date, 0.10%;
- if 33.33% or more (but less than 66.67%) of the total commitment under the Facility has been drawn at the relevant date, 0.20%; or
- if 66.67% or more of the total commitment under the Facility has been drawn at the relevant date, 0.40%.

Euronext must also pay customary commitment fees at a rate per annum equal to 35% of the then applicable margin for the relevant Instrument on each lender's available commitment under the relevant Instrument during its availability period.

Certain Covenants and Undertakings

The Facility contains a number of additional undertakings and covenants that, among other things, restrict, subject to certain exceptions, Euronext ability to:

- grant security interests over their assets;
- sell, transfer or dispose of certain assets;
- make certain loans or grant certain credit;

¹ As defined in section 7.1.1 as EBITDA2

- enter into any amalgamation, demerger, merger or corporate reconstruction, unless the Company remains the surviving entity;
- make any substantial change to the general nature of Euronext business.

Euronext is permitted, among other things, to dispose of assets in the ordinary course of trading on arm's length terms for full market value without restriction, and otherwise where the aggregate fair value of the assets disposed of does not exceed 5% of Euronext consolidated total assets in any financial year.

In case of a downgrading event of Euronext, below BBB+ or equivalent by rating agencies, Euronext shall ensure that the leverage ratio as defined in the Bank Loan Agreement would not be greater than 3.5x.

Events of Default

The Facility contains customary events of default, in each case with customary and appropriate grace periods and thresholds, including, but not limited to:

- non-payment of principal or interest;
- violation of financial covenants or other obligations;
- representations or statements being materially incorrect or misleading;
- cross-default and cross-acceleration relating to indebtedness of at least €50.0 million;
- certain liquidation, insolvency, winding-up or bankruptcy events;
- creditors' process and attachment having an aggregate value of more than €25.0 million;
- invalidity and unlawfulness;
- cessation of business;
- loss of any license required to carry on the Company's or any material subsidiary's business; and
- repudiation by the Company of a finance document.

The fair value of the Facility approximates its carrying value.

7.1.11 Contractual Obligations

The table below summarises Euronext debt, future minimum payment lease obligations under non-cancellable leases and capital expenditure commitments as at 31 December 2019:

<i>In thousands of euros</i>	Payments due by year				Notes of the consolidated financial statements
	Total	2020	2021-2024	Thereafter	
Debt (principal and accrued interest obligations)	1,006,750	6,750	-	1,000,000	Note 37.1 - Liquidity risk
Debt (future interest obligations)	79,500	3,875	42,500	33,125	Note 37.1 - Liquidity risk
Lease liabilities – minimum payments	55,150	13,970	40,000	1,180	Note 37.1 - Liquidity risk
Capital expenditure commitments	10,929	10,740	189	-	Note 39.1 – Capital Commitments
TOTAL	1,152,329	35,335	82,689	1,034,305	

Capital Expenditures

Euronext's capital expenditures were €26.1 million and €22.3 million for the years ended 31 December 2019 and 2018, respectively. Capital expenditures increased in 2019 when compared to 2018, which is primarily driven by investments done last year for the Armoury building in Dublin. Euronext's capital expenditure requirements depend on many factors, including the rate of its trading volume growth, strategic plans and acquisitions, required technology initiatives, regulatory requirements, the timing and introduction of new products and enhancements to existing products, the geographic mix of Euronext's business, and the continuing market acceptance of its electronic platform.

For the year ending 31 December 2019, Euronext has made operational capital expenditures as well as incurred capitalised software development costs. These expenditures were aimed at enhancing Euronext technology and supporting the continued expansion of Euronext's businesses. In 2019, Euronext spent approximately €14.7 million on hardware and investments in properties and €11.4 million on development efforts and acquisition of third party licenses.

7.1.12 Off-Balance Sheet Arrangements

Euronext is not a party to any off-balance sheet arrangements that have, or are reasonably likely to have, a current or future material effect on Euronext's financial condition, results of operations, liquidity, capital expenditure or capital resources, other than the €400 million revolving credit facility under the Facilities Agreement and the commitments described in Note 39 of the Consolidated Financial Statements.

7.1.13 Quantitative and Qualitative Disclosures about Market Risk

As a result of its operating and financing activities, the Group is exposed to market risks such as interest rate risk, currency risk and credit risk. The Group has implemented policies and procedures designed to measure, manage, monitor and report risk exposures, which are regularly reviewed by the appropriate management and supervisory bodies. The Group's central treasury team is charged with identifying risk exposures and monitoring and managing such risks on a daily basis. To the extent necessary and permitted by local regulation, the Group's subsidiaries centralise their cash investments, report their risks and hedge their exposures in coordination with the Group's central treasury team. The Group performs sensitivity analyses to determine the effects that may result from market risk exposures. The Group uses

derivative instruments solely to hedge financial risks related to its financial position or risks that are otherwise incurred in the normal course of its commercial activities. The Group does not use derivative instruments for speculative purposes.

Interest Rate Risk

Substantially all interest-bearing financial assets and liabilities of the Group are either based on floating rates or based on fixed rates with an interest term of less than one year, except for the fixed-rated Bonds #1 and #2 with an aggregated notional amount of €1,000 million, which have maturities of respectively seven and ten years. The Group entered into interest rate swap contracts in order to hedge the interest rate risk inherent to the fixed-rate Bond #1. As a result, the Group is exposed to fair value risk affecting fixed-rate financial assets and liabilities only through its fixed-rate Bond #2. As at 31 December 2019, the Group had an aggregated notional of €500 million fixed-to-floating interest rate swaps outstanding in relation to the fair value hedge of the €500 million Bond #1.

The Group is exposed to cash-flow risk arising from net floating-rate positions. The Group was a net borrower in Euros at 31 December, 2019 and 2018. The sensitivity of net interest income to a parallel shift in the interest curves is that a 0.5% increase/decrease of the rate would have resulted in an increase/decrease of net interest income of €1.5 million based on the positions at 31 December 2019 (2018: €1.3 million). The Group was a net lender in Pound Sterling at 31 December, 2019 and 2018. The sensitivity of net interest income to a parallel shift in the interest curves is that a 0.5% increase/decrease of the rate would not have had a material impact on the net interest income based on the positions at 31 December, 2019 and 2018. The Group was a net lender in US Dollar at 31 December, 2019 and 2018. The sensitivity of net interest income to a parallel shift in the interest curves is that a 0.5% increase/decrease of the rate would not have had a material impact on net interest income based on the positions at 31 December, 2019 and 2018. The Group was a net lender in Norwegian Kroner at 31 December 2019. The sensitivity of net interest income to a parallel shift in the interest curves is that a 0.5% increase/decrease of the rate would have resulted in an increase/decrease of net interest income of €0.3 million based on the positions at 31 December 2019.

Liquidity Risk

The Group would be exposed to a liquidity risk in the case where its short-term liabilities become, at any date, higher than its cash, cash equivalents, short-term financial investments and available bank facilities and in the case where the Group is not able to refinance this liquidity deficit, for example, through new banking lines.

Cash, cash equivalents and short-term financial investments are managed as a global treasury portfolio invested in non-speculative financial instruments, readily convertible to cash, such as bank balances, money market funds, overnight deposits, term deposits and other money market instruments, thus ensuring a very high liquidity of the financial assets. The Group's policy is to ensure that cash, cash equivalents and available bank facilities allow the Group to repay its financial liabilities at all maturities, even disregarding incoming cash flows generated by operational activities, excluding the related party loans granted by the Group's subsidiaries to its Parent.

The net position of current financial assets, financial liabilities and available credit facilities, excluding working capital items, as of 31 December 2019 and 2018 is described in the table below:

<i>In thousands of euros</i>	2019	2018
Cash, cash equivalents and short term financial investments	369,822	398,018
Available credit facilities	400,000	250,000
Financial debt	(1,018,277)	(508,685)
NET POSITION	(248,455)	139,333

The movement in financial debt primarily relates to the issuing of a second €500 million Bond ("Senior Unsecured note #2") in June 2019, whereas the increase in available credit facilities was due to a supplemental agreement in April 2019.

References are made to section 5.1.10 for more details on the Bond #2 and the supplemental agreement.

<i>In thousands of euros</i>	Maturity < 1 year	Maturity between 1 and 5 years	Maturity > 5 years	Total
2019				
Trade and other payables	117,298	-	-	117,298
Other current financial liabilities	30,675	-	-	30,675
Borrowings	10,625	42,500	1,033,125	1,086,250
Lease liabilities	13,970	40,000	1,180	55,150
Other non-current financial liabilities	-	-	-	-
2018				
Trade and other payables	115,332	-	-	115,332
Other current financial liabilities	6,986	-	-	6,986
Borrowings	5,000	20,000	510,000	535,000
Other non-current financial liabilities	-	17,400	-	17,400

Currency Risk

The Group's net assets are exposed to the foreign currency risk arising from the translation of assets and liabilities of subsidiaries with

functional currencies other than the Euro. The following table summarises the assets and liabilities recorded in GBP functional currency and the related impact of a 10% in/decrease in the currency exchange rate on balance sheet:

<i>In thousands</i>	2019	2018
Assets	£58,755	£46,911
Liabilities	£(7,561)	£(5,141)
Net currency position	£51,194	£41,770
Net currency position after hedge	£24,052	£15,043
Absolute impact on equity of 10% in /decrease in the currency exchange rate	€2,841	€1,674

The following table summarises the assets and liabilities recorded in USD functional currency and the related impact of a 10% in/decrease in the currency exchange rate on balance sheet:

<i>In thousands</i>	2019	2018
Assets	\$194,824	\$196,579
Liabilities	\$(12,322)	\$(20,087)
Net currency position	\$182,502	\$176,492
Absolute impact on equity of 10% in /decrease in the currency exchange rate	€16,253	€15,411

The following table summarises the assets and liabilities recorded in NOK functional currency and the related impact of a 10% in/decrease in the currency exchange rate on balance sheet:

<i>In thousands</i>	2019	2018
Assets	kr 8,489,992	-
Liabilities	kr (1,161,871)	-
Net currency position	kr 7,328,121	-
Absolute impact on equity of 10% in /decrease in the currency exchange rate	kr 74,322	-

Most operating revenue and expenses in the various subsidiaries of the Group are denominated in the functional currency of each relevant subsidiary. The Group's consolidated income statement is exposed to foreign currency risk arising from receivables and payables denominated in currencies different from the functional currency of the related entity.

Credit Risk

The Group is exposed to credit risk in the event of a counterparty's default. The Group is exposed to credit risk from its operating activities (primarily trade receivables), from its financing activities and from the investment of its cash and cash equivalents and short-term financial investments. The Group limits its exposure to credit risk by rigorously selecting the counterparties with which it executes agreements. Most customers of the Group are leading financial institutions that are highly rated. Investments of cash and cash equivalents in bank current accounts and money market instruments, such as short-term fixed and floating rate interest deposits, are governed by rules aimed at reducing credit risk: maturity of deposits strictly depends on credit ratings, counterparties' credit ratings are permanently monitored and individual counterparty limits are reviewed on a regular basis. In addition to the intrinsic creditworthiness of counterparties, the Group's policies also prescribe the diversification of counterparties (banks, financial institutions, funds) so as to avoid a concentration of risk. Derivatives are negotiated with leading high-grade banks.

The Group's trade and contract receivables, and other debt financial assets at amortised cost are exposed to credit risk. The maximum exposure to credit risk at the reporting date is the carrying value of each class of these financial assets.

The Group evaluates the concentration of credit risk with respect to trade and contract receivables as low, as most of its customers are leading financial institutions that are highly rated.

The other debt financial assets at amortised cost, primarily consist of short-term deposits with a maturity over three months. In 2018, non-current financial assets at amortised costs, included two loans with a total amount of €6.0 million, bearing an interest rate of Euribor 6 months plus an average margin of 4.5%. In 2019, these loans were fully repaid before the maturity date. All of the entity's other debt financial assets at amortised cost are considered to have low credit risk, as the issuers of the instruments have a low risk of default evidenced by their strong capacity to meet their contractual cash flow obligations in the near term.

7.1.14 Significant Accounting Policies

Euronext Consolidated Financial Statements included in this Registration Document have been prepared and presented in accordance with International Financial Reporting Standards (IFRS), issued by the International Accounting Standards Board (IASB) and adopted by the European Union. See also Note 3 of the Consolidated Financial Statements, on 'Significant accounting policies and judgements'.

7.1.15 Critical Accounting Estimates and Judgments

In the application of the Group's accounting policies, management is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are

based on historical experience and other factors that are considered to be relevant. All assumptions, expectations and forecasts used as a basis for certain estimates within Euronext Financial Statements represent good faith assessments of its future performance for which Euronext management believes there is a reasonable basis. These estimates and assumptions represent Euronext's view at the times they are made, and only then. They involve risks, uncertainties and other factors that could cause Euronext actual future results, performance and achievements to differ materially from those estimated or forecasted. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and future periods if the revision affects both current and future periods. The estimates and assumptions that may have a risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are described below. Euronext has discussed the development and selection of these critical accounting policies and estimates with its independent auditors.

Significant judgments made in the preparation of the Consolidated Financial Statements include the following:

Impairment of Goodwill

Goodwill represents the excess of the consideration transferred in a business combination over the Group's share in the fair value of the net identifiable assets and liabilities of the acquired business at the date of acquisition. Goodwill is not amortised but is tested at least annually for impairment, or whenever an event or change in circumstances indicate a potential impairment.

For the purpose of impairment testing, goodwill arising in a business combination is allocated to the cash-generating units ("CGUs") or groups of CGUs that are expected to benefit from the synergies of the combination. Each CGU or CGU Group to which goodwill is allocated represents the lowest level within the Group at which the goodwill is monitored for internal management purposes.

The carrying value of a CGU Group is compared to its recoverable amount, which is the higher of its value in use and its fair value less costs of disposal. Impairment losses on goodwill are not subsequently reversed. Value in use is derived from the discounted future free cash flows of the CGU Group. Fair value less costs of disposal is based on discounted cash flows and market multiples applied to forecasted earnings. Cash flow projections are based on budget and business plan approved by management and covering a 2-year period in total. Cash flows beyond the business plan period are extrapolated using a perpetual growth rate. Key assumptions used in goodwill impairment test are described in Note 18 of the Consolidated Financial Statements.

Income Taxes

Due to the inherent complexities arising from the nature of the Group's business, from conducting business and being taxed in a substantial number of jurisdictions, significant judgments and estimates are required to be made for income taxes. The Group computes income tax expense for each of the jurisdictions in which it operates. However, actual amounts of income tax due only become final upon filing and acceptance of the tax return by relevant authorities, which may not occur for several years subsequent to issuance of the Consolidated Financial Statements.

The estimation of income taxes also includes evaluating the recoverability of deferred income tax assets based on an assessment of the ability to use the underlying future tax deductions against future taxable income before they expire. This assessment is based upon existing tax laws and estimates of future taxable income. To the extent estimates differ from the final tax return, earnings may be affected in a subsequent period.

The Group operates in various countries with local tax regulations. New tax legislation being issued in certain territories as well as transactions that the Group enters into regularly result in potential tax exposures. The calculation of Euronext's tax liabilities involves uncertainties in the application of complex tax laws. Euronext's estimate for the potential outcome of any uncertain tax position is highly judgmental. However, Euronext believes that it has adequately provided for uncertain tax positions. Settlement of these uncertainties in a manner inconsistent with Euronext's expectations could have a material impact on its results of operations, financial condition and cash flows. The Group recognises a liability for uncertain tax positions when it is not probable that a taxation authority will accept an uncertain tax treatment.

Fair Value of Equity Investments

The Group holds investments in unlisted equity securities which are carried at fair value in the balance sheet. The valuation methodology and critical assumptions are described in Note 20 of the Consolidated Financial Statements.

Classification of investments in associates

The Group classifies the interest in LCH SA as an investment in associate suggesting significant influence even though it owns less than 20% of the voting rights (see Note 7 of the Consolidated Financial Statements included in this Registration Document). The Group concludes it has significant influence over this investment, which is derived from the governance structure that was put in place and the Group's position as the largest customer and sole minority shareholder of LCH SA.

Contingent consideration and buy options resulting from business combinations

The Group may structure its business combinations in a way that leads to recognition of contingent consideration to selling shareholders and/or buy options for equity held by non-controlling interests. Contingent consideration and buy options are recognized at fair value on acquisition date. When the contingent consideration or buy option meets the definition of a financial liability or financial instrument, it is subsequently re-measured to fair value at each reporting date. The determination of fair value is based on the expected level of EBITDA¹ over the last 12 months that precede the contractual date (in case of contingent consideration) or exercise date of the underlying call- and put options (in case of buy option). The Group monitors the expected EBITDA¹ based on updated forecast information from the acquired companies involved.

Purchase price allocation

The cost of other intangible assets that are acquired in the course of business combinations, corresponds to their acquisition date fair values. Depending on the nature of the intangible asset, fair value is determined by application of:

- market approach (by reference to comparable transactions);
- income approach (Relief-from-Royalty- or Multi-period Excess Earnings Method;
- cost approach.

¹ As defined as EBITDA3 in section 7.1.1

Assets with a finite useful life are amortized using the straight-line method over their expected useful life. Assets with an indefinite useful life are tested for impairment at least once a year.

Revenue from contracts with customers

The Group applied the following judgments that significantly affect the determination of the amount and timing of revenue from contracts with customers:

(i) Identifying performance obligations and determining the timing of revenue recognition of Listing admission fees

The Group provides services related to the initial (and subsequent) listing of securities on its markets and hereto directly related corporate action services, and ongoing services related to the continuous listing.

The Group determined that the admission services around initial (and subsequent) admission and its directly related corporate action services do not transfer a good or service to the customer, but are considered activities that the Group needs to undertake to enable the customer to be listed. The Group concluded that these activities should be combined with the ongoing listing services and should be used as inputs to produce the combined output, which is the service of being listed. As the service of being listed is satisfied over a period of time, as the customer simultaneously receives and consumes the benefits from the service, the related revenues are therefore recognised over a period of time.

The Group determined that the period of time that best reflects the satisfaction of listing admission services is the period over which the customer actually benefits from the admission. An average lifetime of companies being listed on Euronext's markets would serve as best proxy for the period that a listing customer benefits from an admission. Based on historic evidence, the Group has defined the following average lifetimes for the relevant groupings of listed securities:

- Equity admissions: 5 years
- Bond- and fund admissions: 3 years
- Equity subsequent admissions ("follow-on's"): 3 years

Revenue from the listing admission services is therefore recognised over those periods of time.

(ii) Cost to obtain or fulfil a contract related to listing admission services

The Group has considered the type of cost that is directly associated to a listing contract and that can be separately identifiable. Such cost would typically concern staff cost incurred by the Listings team involved in admission- and subsequent listing of an issuer. There is no correlation between number of listings and staff cost associated to the Listings team.

The majority of the cost to obtain and fulfil the contract is incurred in the period before the actual admission. The remaining cost associated to an admission and subsequent listing that is recorded post-admission, and its impact on the Group's income statement, would be marginal, therefore the Group has decided not to capitalize cost incurred to obtain- or fulfil listing contracts.

(iii) Principal versus agent considerations

On 14 October 2013, the Group entered into a clearing agreement with LCH SA in respect of the clearing of trades on our continental Europe derivatives markets (the "Derivatives Clearing Agreement"). Under the terms of this Derivatives Clearing Agreement Euronext agreed with LCH SA to share revenues and receives clearing fee revenues based on the number of trades on these markets cleared through LCH SA. In exchange for that, we have agreed to pay LCH SA a fixed fee plus a variable fee based on revenues.

The definition of the accounting treatment of this agreement requires significant management judgment for the valuation and weighting of the indicators leading the principal versus agent accounting analysis. Based on all facts and circumstances around this arrangement, management has concluded that Euronext is 'principal' in providing Derivatives clearing services to its trading members. Therefore Euronext recognizes (i) the clearing fees received are classified as post trade revenues, and (ii) the fixed and variable fees paid to LCH SA as other operational expenses.

Provision for expected credit losses of trade and contract receivables

The Group uses a provision matrix to calculate ECLs for trade and contract receivables. To measure expected credit losses, trade and contract receivables have been grouped based on shared credit risk characteristics and the days past due. The historical loss rates are based on the payment profiles of the sales over a period of 24 months before reporting date and the corresponding historical credit losses experience within this period. The historical loss rates are adjusted to reflect current and forward-looking factors specific to the debtors and economic environment.

The provision matrix is initially based on the Group's historical observed default rates. The Group will calibrate the matrix to adjust the historical credit loss experience with forward-looking information. At every reporting date, the historical observed default rates are updated and changes in the forward-looking estimates are analysed.

The assessment of the correlation between historical observed default rates, forecast economic conditions and ECLs is a significant estimate. The amount of ECLs is sensitive to changes in circumstances and of forecast economic conditions. The Group's historical credit loss experience and forecast of economic conditions may also not be representative of customer's actual default in the future. The information about the ECLs on the Group's trade and contract receivables is disclosed in note 37.4 of the Consolidated Financial Statements included in this Registration Document.

Determining the lease term of contract with extension and termination options

In determining the lease term, management assesses the period for which the contract is enforceable. It considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated). If the Group concludes that the contract is enforceable beyond the notice period of a cancellable lease (or the initial period of a renewable lease), it then needs to assess whether the Group is reasonably certain not to exercise the option to terminate the lease. However in general, the Group's lease portfolio contains very limited leases that include renewal -or termination options.

Estimating the incremental borrowing rate (IBR)

The Group cannot readily determine the interest rate implicit in the lease, therefore, it uses its incremental borrowing rate (IBR) to measure lease liabilities. The IBR is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The IBR therefore reflects what the Group 'would have to pay', which requires estimation when no observable rates are available or when they need to be adjusted to

reflect the terms and conditions of the lease. The Group estimates the IBR using the observable inputs (such as market interest rates) when available and makes certain entity-specific estimates if needed.

7.2 MATERIAL CONTRACTS AND RELATED PARTY TRANSACTIONS

7.2.1 Material contracts

The major contracts for Euronext, entered into the ordinary course of business, but essential for its activity as a regulated markets operator, are:

- the clearing agreements signed with LCH SA;
- the clearing agreements signed with SIX following OB VPS acquisition;
- the clearing agreements signed with NASDAQ following OB VPS acquisition;
- the post-trade services agreement signed with EuroCCP following the acquisition of Euronext Dublin;
- the clearing agreements signed with EuroCCP following OB VPS acquisition;
- the clearing agreements signed with LCH Ltd following OB VPS acquisition;
- the Technology Services agreement signed with London Stock Exchange plc following OB VPS acquisition;
- the Data Centre Services agreement signed with ICE;
- the Enterprise agreement signed with Amazon Web Services;

The Clearing Agreements are referred to in section 1.3.6 “Description of the Business / Post Trade / LCH SA” and 5.1.5 “Key Factors Affecting Businesses and Results of Operation / Derivatives Clearing Agreement”.

7.2.2 Related party transactions

Euronext has related party relationships with its associates and joint ventures, as disclosed in Note 31 of the Consolidated Financial Statements. The other related parties disclosure relates entirely to the key management of Euronext. For the transactions with its key management personnel, see section 4.4 Remuneration Report.

From the IPO on 20 June 2014, the transactions with ICE do not qualify as “related party transactions” under IAS 24. Nevertheless the agreements between Euronext and ICE were in force after the IPO. Some of them are long term agreements. Some of these services have been progressively terminated and replaced over the period 2014-2016.

Over the year 2019, services received from or rendered to ICE include the use of Data centre service, Colocation, Connectivity, UTP and other intellectual property rights as well as ancillary services. As at 31 December 2019, the following agreements remain active

- data Centre Services Agreement;
- colocation Agreement;
- connectivity Agreement;
- UTP and Trading Technology Licence Deed;
- intellectual Property Agreement;
- Euronext Equity Index Trademark Licence Agreement;

Data Centre Services Agreement

ICE provides data centre services to Euronext from the Basildon site. Specifically, ICE houses the data centre equipment in the Data Centre and provides sub-services, such as power, access, physical security, environment, fire protection, connectivity, monitoring, support, remote hands, installation, receiving and warehouse space.

The agreement will subsist for an initial term of five years, starting 1 April 2014, with automatic renewal for a further five-year period, unless notice of termination is provided by either party at least twelve months before expiry of the initial term but no earlier than 24 months before the end of the initial term. ICE will guarantee to continue providing the services for a further two-year period from the date on which notice of non-renewal is received. Accordingly, the minimum period for this service is five years. In the course of 2015, the agreement has been renegotiated, leading to, under certain conditions, a lower price structure, to come into effect on 1 January 2016.

In December 2018, the contract has been renewed for a 5 years period, and adjusted on some specific clauses (e.g. exit clause, Data Protection)

Colocation Agreement

ICE provides co-location services directly to Euronext members on terms that are no worse than the terms on which ICE currently provides equivalent co-location services to its members. As the service is provided to members, there is no services agreement between ICE and Euronext but rather a commitment and payment of commission to Euronext by ICE for the right to provide the services.

This agreement will remain in force for a period of five years, starting 1 April 2014, unless terminated earlier with mutual agreement. ICE will commit not to increase the pricing, nor reduce the service or performance levels of colocation for the initial two-year period to ensure that Euronext customers receive colocation services at an equal (or better) standard to that currently provided by Euronext without any adverse price impact. Euronext is free to build its own colocation facility after the end of this two-year period if it wishes to do so, and in that case ICE will have the right to terminate the agreement on six months' notice.

ICE pays to Euronext commission in respect of the fees received under the colocation contracts as follows: 35% of the colocation hosting fee; 35% of any Liquidity Centre Network ("LCN") fees; and 100% of any subscription fees (for specific Euronext exchanges).

In December 2018, the contract has been renewed for a 5 years period, and adjusted on some specific clauses (e.g. exit clause, Data Protection)

Connectivity Agreement

Euronext's customers are connected to the SFTI® network either *via* an SFTI® managed connection, a direct connection, or a third-party connection. ICE provides application services, including logical connections to the relevant Euronext products between the subscriber and host infrastructure. ICE agrees to provide the SFTI® services to Euronext customers on terms (including pricing, service, and performance) that, in the aggregate, are no worse than the standard terms on which ICE provides equivalent connectivity services to its customers.

This agreement will remain in force for five years, starting on 1 April 2014, unless terminated earlier with mutual agreement. This agreement contains substantially the same terms as the colocation agreement, including a general commitment not to raise fees or reduce services for two years. Euronext receives a commission based on 50% of the revenue earned from the access/subscription fees to Euronext markets *via* SFTI®.

In December 2018, the contract has been renewed for a 5 years period, and adjusted on some specific clauses (e.g. exit clause, Data Protection)

UTP and Trading Technology Licence Deed

The intellectual property in the UTP and other trading technology, including core software and technology ("Core Items") and related support items ("Support Items") that are currently being used for the continental Euronext market is licensed by ICE (through NYSE Arca, LLC) to Euronext (through one of its subsidiaries) for the operation of the Euronext trading platforms.

Under the licence agreement, Euronext has been granted a perpetual, irrevocable, worldwide, non-exclusive, royalty-free and fully paid-up licence in respect of the use, modification and maintenance of the Core Items for any purpose and in respect of the use, modification and maintenance of the Support Items for the sole purpose of enabling the use of the Core Items. The licence includes any improvements or enhancements to the Core Items and the Support Items that are made before the IPO on 20 June 2014. Euronext owns improvements or enhancements that it makes or have made to the Core Items and the Support Items after the IPO, and Euronext and ICE are not obliged to share their respective improvements or enhancements after the IPO.

Euronext may sub-licence its rights, including through multiple tiers of sub-licences. However, for a period of two years from the IPO, neither Euronext nor ICE is entitled to permit a defined list of exchange operators or owners of registered swap execution facilities or their affiliates to use UTP (though this will not affect any licences that were already in place as at 13 November 2013). The restricted list includes any of Nasdaq OMX, CME Group, Inc., BM&F Bovespa, London Stock Exchange Group Plc, Singapore Exchange Limited, Hong Kong Stock Exchange, Deutsche Börse Group, BATS Global Markets, Inc., Direct Edge, or Chi-X Global Holdings LLC; any person that acquires all or substantially all of the business of any of these entities; any person that at the time of the assignment or licence operates a registered swap execution facility; and any affiliate of any such persons. This restriction terminated in June 2016.

There are no circumstances in which the licence may be terminated by ICE.

Except where there is a breach of warranty by the indemnified parties, Euronext will indemnify NYSE Arca and its affiliates within ICE for all liability incurred under a third-party claim in connection with use of the UTP by Euronext or any of its sub-licensees after the IPO.

In the event of any infringement of the licensed rights, ICE will have the right to determine what enforcement action to take. ICE will offer Euronext the right to participate in any action it takes. If ICE does not take any enforcement action, Euronext will have the sole right to determine what enforcement action to take. If Euronext or any sub-licensee of Euronext is sued for infringement, ICE will provide all such information and assistance as Euronext may reasonably require.

Intellectual Property Agreement

Under this agreement, Euronext is granted a perpetual, irrevocable, worldwide, non-exclusive, royalty-free and fully paid-up licence to use and sub-licence the name "Euronext UTP" in connection with its use of the UTP technology. The licence is not supported by any warranties from ICE. There are no circumstances in which the licence may be terminated by ICE.

To the extent that ICE wishes to use the name "UTP" in connection with its version of the UTP technology, ICE has agreed that it will use the name "NYSE UTP".

Also under this agreement, Euronext and ICE have permitted each other's groups to have until 1 June 2015 to cease current uses of each other's trademarks. From that date onwards, Euronext and ICE have ceased using each other's trademarks.

Euronext Equity Index Trademark Licence Agreement

Under the licence agreement, LIFFE is granted a worldwide and non-exclusive licence in relation to the trademarks and associated logos for the indices generated by the Euronext Regulated Markets. The licence permits the use of these trademarks and associated logos in connection with the marketing, listing and trading of any tradable contract. However, until 1 January 2016, the licensed use is limited to LIFFE's current tradable contracts for listings on Bclear and only in respect of equity indices for AEX®, BEL 20®, CAC 40®, and PSI 20®. This limitation will terminate early in case a third-party infrastructure provider acquires control of any Euronext company, or is granted a licence by Euronext company to use any of the trademarks for any of the indices generated by the Euronext Regulated Markets. Subject to appropriate limitations, LIFFE may sub-licence the rights to ICE.

For its use of the licensed trademarks and associated logos, LIFFE pays the greater of (i) €0.05 per traded contract and (ii) 15% of the exchange and clearing fees on the traded contracts.

LIFFE will indemnify Euronext and its affiliates for all liability incurred under a third-party claim in connection with ICE's use of the licensed trademarks, other than where the third-party claim is for trademark infringement.

The licence agreement recognises that the parties may need to renegotiate the terms where Euronext is required, by a change in the law, to grant licences at market rates and on a non-discriminatory basis albeit such renegotiation shall take due account for the fact that ICE has already provided value for the use of the equity indices as part of the acquisition of NYSE Euronext by ICE.

Also, in connection with the separation of Euronext from ICE, Euronext and ICE entered into a series of transitional services agreements ("SLAs"). There were some ancillary services provided by ICE to Euronext ("ICE Ancillary Services") and ancillary services provided by Euronext to ICE ("Euronext Ancillary").

Crossfinder licence agreement

FastMatch's operating system for its matching engine is based on the Crossfinder(R) software licensed by FastMatch from Credit Suisse pursuant to a perpetual license. The license granted by Credit Suisse is limited in scope to use by FastMatch in its operations as an electronic exchange for the trading of foreign exchange. Pursuant to that license, FastMatch has exclusive and unrestricted ownership of all modifications made to the Crossfinder code by FastMatch, as well as to any software developed by FastMatch independently.

7.3 LEGAL PROCEEDINGS

The Group is involved in a number of legal proceedings that have arisen in the ordinary course of its business. Other than as discussed below, management does not expect these pending or threatening legal proceedings to have a significant effect on the Group's financial position or profitability. The outcome of legal proceedings, however, can be extremely difficult to predict and the final outcome may be materially different from management's expectations.

7.3.1 Euronext Amsterdam pension fund

Approximately 120 retired and/or former Euronext Amsterdam employees, united in an association, served summons on Euronext Amsterdam on 3 April 2014. The claim is based on the fact that Euronext Amsterdam terminated its pension agreement with the pension fund Mercurius ("PMA") and transferred the pension of the current employees of Euronext to Delta Lloyd Asset Management ("Delta Lloyd"). The pension entitlements of the retired and/or former employees of Euronext Amsterdam have also been transferred by PMA to Delta Lloyd. The retired and/or former employees have been informed by PMA that the transfer of their entitlements to Delta Lloyd will result in a nominal pension entitlement without indexation in the future. The association claims that Euronext Amsterdam should guarantee the same pension entitlements of the retired Euronext Amsterdam employees under the same or similar conditions as those in the agreement between Euronext Amsterdam and PMA with the considerations that (i) the administration fee will be covered, (ii) the liability ratio will be covered and (iii) the loyalty and solidarity between retired and current employees is provided for. The amount will need to be calculated by an actuary.

After Euronext Amsterdam filed a statement of defence on 27 June 2014, the Subdistrict (Kanton) Division of the Court of Amsterdam on 11 July 2014 granted the retired and/or former employees Euronext Amsterdam a term until 8 August 2014 in order to file a rejoinder. On that date the counterparty was granted a postponement until 5 September 2014 for its statement of reply.

Both parties have filed all documents and statements and an oral hearing took place on 11 June 2015. The judge asked both parties to explore a settlement and Euronext currently assesses the costs of potential out of court solutions. The Court has been informed that no agreement on such a settlement could be reached.

On 24 June 2016 the judge delivered a decision. The claim is rejected that Euronext Amsterdam should guarantee the same pension entitlements of the retired Euronext Amsterdam employees under the same or similar conditions as those in the agreement between Euronext Amsterdam and PMA. However, the judge did hold that there has been an attributable breach by Euronext Amsterdam in the performance of the pension agreements with the members of the association. Euronext Amsterdam is ordered to pay for damages resulting from the loss of indexation perspective incurred by the claimants other than the association. The association is not eligible to claim damages. The amount of the damages needs to be determined in a separate procedure (a "schadestaatprocedure"). Management believes that the decision is insufficiently motivated. On 21 September 2016 Euronext Amsterdam has filed for appeal against the decision. The grounds for appeal were filed on 6 December 2016. On 14 February 2017 the claimants filed their responses and also filed for appeal against certain parts of the decision of 24 June 2016. Euronext has responded to the grounds for appeal raised by claimants on 25 April 2017. An oral hearing took place on 24 November 2017.

On 25 April 2019, Euronext Amsterdam unexpectedly received an interlocutory judgment. The higher court intends to confirm the verdict of the judgement of 24 June 2016. However, the higher court needs further information to assess if Euronext can be sentenced to enter into a new implementation agreement (uitvoeringsovereenkomst) with a pension provider who can provide the same or at least equal rights and warranties as set out in the implementation agreement 2007-2012, or the implementation agreement 2013; or subsidiary if Euronext can be sentenced to, as substitution for the implementation agreement, pay an amount of money to a pension provider to make sure that the pensioners will be placed in the same position as they would have been in the event the implementation agreement would have been continued unaltered. Euronext has provided the information. The actuaries of Euronext had already calculated that the pensioners would have lower pension rights in the event that the implementation agreement would have been continued. These calculations are based on all the financial obligations of the implementation agreement and the financial position of the pension fund. Furthermore the calculations are based on the legal parameters of the Pension Act 2007. Therefore, Euronext has called for rejection of the claims of the pensioners because there is no financial loss. The pensioners have responded to this information on 23 July 2019. There is no possibility to appeal at this stage. The final judgement of the higher court is expected 19 May 2020, but it is possible that the judgment will be postponed until later in 2020. Once there is a final decision Euronext shall consider if it should lodge an appeal in cassation. No provision has been booked in connection with this case.

7.4 INSURANCE

Euronext maintains a comprehensive insurance program with the assistance of an insurance broker allowing Euronext to make an assessment of its risks, take out the proper insurance policies and deal with insurance management as smoothly as possible.

The main characteristics of the insurance program are the following:

- the main insurance policies are consolidated at the Euronext group level in order to ensure consistency of coverage across the Euronext group and to benefit from lower premiums;
- the scope of risks covered is determined by reference to Euronext's activities (listing, trading, market data, post-trade and technologies & other); and
- all insurance carriers are analysed from a credit rating perspective.

The main risks covered by Euronext's insurance program are the following:

- **directors' & officers' liability:** this policy covers losses related to an alleged wrongful Act committed by members of Euronext Managing Board, Euronext Supervisory Board and other senior management. Under this policy, any of Euronext past, present or future directors or officers will be insured against liability for negligence, default or breach of duty or other liability, other than cases of willful misconduct or gross negligence (opzet of grove nalatigheid);
- **professional indemnity & crime:** this policy provides first party coverage and indemnification against third-party claims arising out of negligence, errors or omissions in connection with professional services or failure to meet contractual obligations in the conduct of exchange activities and exchange related activities. This policy also covers first party losses resulting directly from dishonest or fraudulent acts committed by Euronext employees or third parties working with Euronext employees;
- **cyber:** this policy provides coverage for an Euronext's business interruption following malicious action on an IT system. Coverage is provided for claims arising from the interruption of systems or other failures of IT Security caused by damage to computer programs or data that results from a computer attack or unauthorised access or use of system. This policy also covers claims for the failure to protect personality identifiable information or unauthorised disclosure of confidential corporate information in any form;
- **property damage & business interruption:** this policy provides first party coverage for losses to Euronext's property or business interruption. The coverage includes tenant's liability and liability to third parties;
- **terrorism;** and
- **commercial general liability:** this policy provides coverage for negligent acts and/or omissions resulting in bodily injury, property damage, consequential losses and pure financial losses to third parties, their reputation, or their property as a result of using Euronext products and services.

In addition to the insurance program, risk management and business continuity plan policy and procedures are implemented in a complementary manner. Euronext believes that its existing insurance coverage, including the amounts of coverage and the conditions, provides reasonable protection, taking into account the costs for the insurance coverage and the potential risks to business operations.

7.5 LIQUIDITY AND CAPITAL RESOURCES

7.5.1 Liquidity

Euronext's financial policy seeks to finance the growth of the business, remunerate shareholders and ensure financial flexibility, while maintaining strong creditworthiness and liquidity.

Euronext primary sources of liquidity are cash flows from operating activities, current assets and existing bank facilities. Euronext's principal liquidity requirements are for working capital, capital expenditures and general corporate use.

Euronext business is highly dependent upon the levels of activity in its exchanges, and in particular upon the volume of financial instruments traded, the number of shares outstanding of listed issuers, the number of new listings, the number of traders in the market and similar factors. Euronext has no direct control over these activities, which have historically resulted in volatility. While Euronext activities are not subject to significant seasonal trends, cash flows vary from month to month due to Euronext billing and collection efforts (most notably the annual billings for listed companies during the first quarter).

Euronext business has historically generated significant cash flow from operating activities to meet its cash requirements as well as to distribute dividends to its shareholders. Euronext expects future cash flow from operating activities to be sufficient to fund its capital expenditures, distribute dividends as well as repay its debts as they become due. In addition, Euronext has access to a €400 million revolving credit facility (see section 7.1.10 "Facilities Agreement").

More information on Euronext's cash flows is provided in section 7.1.9 "Cash Flow"

Because of its strict financial policy of maintaining strong creditworthiness and liquidity, and its significant operating cash flow generation capacities, Euronext N.V. considers its financial position as at 31 December 2019 as solid, both from a solvency and a liquidity perspective.

The financial resources ultimo 2019 can be summarised as follows:

<i>In thousands of euros</i>	Financial resources
Cash & cash equivalent	369,822
Revolving credit facility	400,000
TOTAL FINANCIAL RESOURCES	769,822

7.5.2 Consolidated Regulatory Capital Requirements

Euronext N.V. is subject to regulatory capital requirements. These requirements were first set out in the Exchange License that was issued by the Dutch Minister of Finance in June 2014. Following discussion with the Dutch Minister of Finance in 2015 and 2016 a new exchange license was granted on 23rd of May 2016, including new capital requirements for both Euronext consolidated and Euronext Amsterdam N.V.

As from 23 May 2016 the following capital requirements apply to Euronext.

Euronext N.V. is subject to minimum regulatory capital requirements defined by the Minister of Finance and the AFM, under which Euronext is required:

- to ensure that its shareholders equity, liquidity and solvency satisfy what is required with a view to the interests which the Dutch Act on Financial Supervision (Wet op het financieel toezicht –Wft) aims to protect;
- Euronext shall have a minimum shareholders equity on a consolidated basis of at least Euro 250 million;
- Euronext shall take care of a stable financing. To that end, the total of long term assets of Euronext will to the satisfaction of the AFM be financed with shareholders equity and long term liabilities;

- Euronext shall have a positive regulatory capital on a consolidated basis. The regulatory capital is calculated according to the following formula: the paid up share capital plus the freely available reserves, less the items listed in section 36 of Regulation (EU) no. 575/2013. The standards drawn up by the European Banking Authority as referred to in section 36, second paragraph, of the Capital Requirements Regulation are taken into account in relation hereto;
- in deviation of the calculation set out in bullet point 4 of the regulatory capital, the value of the intangible fixed assets in connection with the acquiring of a controlling influence through an acquisition will be deducted in ten equal amounts from the regulatory capital, starting in the year that the acquisition has taken place (the year of acquisition pro rata for the number of months). If the value of the intangible assets is higher than factor ten times the most recent profits of the acquired business, the grow-in term can after approval from the AFM be based on a higher, reasonable factor (= grow-in term), taking into account a prudent and consistent dividend policy proposed by Euronext. If the grow-in term and the related dividend policy provide for a negative regulatory capital for a limited number of years of the grow-in term, than this fact will not prevent the execution of the consistent and prudent dividend policy of Euronext in those years;
- if Euronext foresees or reasonably can foresee that its shareholders equity or regulatory capital does not satisfy or will not satisfy the prescribed prudential requirements, it will notify the AFM thereof immediately. If at any moment Euronext does not comply with the prescribed requirements with respect to the minimum shareholders equity, the regulatory capital or the grow-in of the regulatory capital is behind the grow-in term as determined on beforehand, Euronext will provide the AFM with a prognosis of how it expects to again comply with the prescribed prudential requirements. Dividend distributions will be possible in such a situation, unless the AFM is of the opinion that the future development of the shareholders equity or the regulatory capital of Euronext do not allow for this. If necessary, the AFM can prescribe within which term and in which manner Euronext will need to comply with the prudential requirements.

In addition, Euronext is required to obtain the prior approval of the AFM in the following circumstances:

- the granting of personal and in rem security for debts of other enterprises or the assumption of debts and security by Euronext, to the extent this is or can be of influence on the functioning of the regulated markets held by Euronext or possibly can result in Euronext or one or more of its regulated subsidiaries no longer satisfying the prescribed prudential requirements;
- to the extent there is a reorganisation, operational or legal separations of the license holders or merger which can be of material influence of the functioning of the regulated markets in the Netherlands operated by the license holders;
- proposed resolutions of Euronext which can be of significant influence on the financial soundness of Euronext.

Euronext is also required to ensure that, in the event of a possible insolvency of Euronext N.V., the local exchanges can continue to function operationally.

The AFM may impose further requirements with respect to the shareholders equity position, liquidity and solvency of Euronext, to the extent necessary for the compliance with the requirements of the regulated markets.

In addition, each of the Group's subsidiaries that is an operator of a regulated market and subsidiaries that are investment firms are subject to regulatory capital requirements relating to their general financial soundness, which include certain minimum capital requirements.

As of 31 December 2019, Euronext shareholders equity and regulatory equity was the following:

<i>In thousands of euros</i>	31 Dec 2019	31 Dec 2018
Shareholders equity	918,140	791,093
Less		
Intangible assets and deferred tax	429,019	381,071
Investments in financial sector	208,461	250,787
REGULATORY EQUITY	280,660	159,235

7.6 TANGIBLE FIXED ASSETS

The main tangible fixed assets of the Group consist of the following categories:

- land & buildings;
- hardware & IT equipment;
- other Property & Equipment.

7.6.1 Principal properties

Euronext's headquarters are located in Amsterdam, the Netherlands at Beursplein 5, and in Paris, France, at La Défense (92054), 14 Place des Reflets. Euronext's registered office is located at Beursplein 5, 1012 JW Amsterdam, the Netherlands.

Real estate Euronext – per 31 December 2019

Location / Building	Address	ZIP	City	Country	Lease commence	Lease expiry	Surfaces (sqm)	Owned / Leased
Amsterdam, BEURSPLEIN 5	5 Beursplein	1012 JW	Amsterdam	Netherlands	N/A	N/A	14450	Owned

London	110 Cannon Street	EC4N6EU	London	UK	2017	2022	540	Leased
Brussels / LE MARQUIS	1 rue de Marquis	1000	Brussels	Belgium	2014	2030	860	Leased
Lisbon / VICTORIA-Seuros vida	196-7 avenida da Liberdade	1250-147	Lisbon	Portugal	2018	2021	554	Leased
Porto- Interbolsa / ENX Technologies	3433 avenida da Boavista	410-138	Porto	Portugal	2016	2021	3136	Leased
Paris / PRAETORIUM	14 place des Reflets	92054	Paris Cedex	France	2015	2024	10217	Leased
ZI Rosny sous Bois	17 rue Montgolfier	93110	Rosny sous Bois	France	2012	2022	328	Leased
Enternext Nantes	6 rue Bisson	44000	Nantes	France	2017	2020	15	Leased
Enternext Lyon	3 place de la Bourse	69002	Lyon	France	2017	2020	15	Leased
Enternext Bordeaux	17 place de la Bourse	33076	Bordeaux Cedex	France	2017	2020	15	Leased
Enternext Marseille	10 place de la Jollette	13567	Marseille Cedex	France	2017	2020	13	Leased
Suisse / TECHNOPARK	1 Technoparkstrasse	CH-8005	Zurich	Switzerland	2017	2020	24	Leased
Espagne / REGUS / Cuzco IV	141 Paseo de Castellana – 5 floor	28046	Madrid	Spain	2017	2020	12	Leased
Italy / Thurma Business Center	1 Corso Italia	20122	Milan	Italy	2017	2020	16	Leased
Munich / Design Offices	4 Mies-van-der-Rohe-Str.	80807	Munich	Germany	2017	2020	15	Leased
Hong Kong	14 Taiko Wan Road Quarry Bay		Hong Kong	Hong Kong	2017	2020	2	Leased
New York	180 Maiden Lane	NY10038	New York	USA	2016	2026	854	Leased
Bengalore/ Obeya	17 Cross Road, AJ Forte	560102IN	Bengalore	India	2018	2020	120	Leased
Dublin/ Calaghan House	13-16 Dame street		Dublin	Ireland	2017	2020	209	Leased
Dublin Exchange building	Foster Place 2		Dublin	Ireland	N/A	N/A	1525	Owned
London/ Francis House	Francis street	SW1P1DE	London	UK	2017	2020	124	Leased
Stock Exchange	Anglesea Street		Dublin	Ireland	N/A	N/A	1330	Owned
Dublin	Foster Place 5/6		Dublin	Ireland	2013	2021	508	Leased
Oslo Børs	Tollbugata 2		Oslo	Norway	N/A	N/A	3004	Owned
Oslo VPS building	Fred Olsensgate 1		Oslo	Norway	2018	2023	3221	Leased
Fishpool Bergen	Fantoftvegen 38		Bergen	Norway	2019	2023	140	Leased
Centevo Stockholm	Sveavagen 52		Stockholm	Sweden	2019	2022	15	Leased

8 FINANCIAL STATEMENTS

8.1 Consolidated Statement of Profit or Loss

<i>In thousands of euros (except per share data)</i>	Note	Year ended	
		31 December 2019	31 December 2018
Revenue	8	679,108	615,033
Total revenue		679,108	615,033
Salaries and employee benefits	9	(153,145)	(118,488)
Depreciation and amortisation	10	(43,676)	(23,400)
Other operational expenses	11	(126,543)	(142,295)
Operating profit before exceptional items		355,744	330,850
Exceptional items	12	(21,871)	(21,474)
Operating profit		333,873	309,376
Finance costs	13	(11,851)	(5,481)
Change in fair value of financial liabilities	13	(13,275)	(3,200)
Other net financing income/(expense)	13	7,711	3,421
Results from equity investments	14	7,270	5,984
Share of net profit/(loss) of associates and joint ventures accounted for using the equity method, and impairments thereof	7	1,844	1,612
Profit before income tax		325,572	311,712
Income tax expense	15	(100,294)	(94,084)
Profit for the period		225,278	217,628
Profit attributable to:			
– Owners of the parent		221,966	215,968
– Non-controlling interests		3,312	1,660
Basic earnings per share	27	3.19	3.10
Diluted earnings per share	27	3.17	3.09

The above Consolidated Statement of Profit or Loss should be read in conjunction with the accompanying notes.

8.2 Consolidated Statement of Comprehensive Income

<i>In thousands of euros</i>	Note	Year ended	
		31 December 2019	31 December 2018
Profit for the period		225,278	217,628
Other comprehensive income			
Items that may be reclassified to profit or loss:			
– Exchange differences on translation of foreign operations		(2,206)	5,963
Items that will not be reclassified to profit or loss:			
– Change in value of equity investments at fair value through other comprehensive income	20	12,500	35,399
– Income tax impact on change in value of equity investments at fair value through other comprehensive income	19	(2,159)	(5,529)
– Remeasurements of post-employment benefit obligations	30	(1,410)	1,677
– Income tax impact on remeasurements of post-employment benefit obligations	19	(223)	(67)
Other comprehensive income for the period, net of tax		6,502	37,443
Total comprehensive income for the period		231,780	255,071
Comprehensive income attributable to:			
– Owners of the parent		228,294	253,348
– Non-controlling interests		3,486	1,723

The above Consolidated Statement of Comprehensive Income should be read in conjunction with the accompanying notes.

8.3 Consolidated Balance Sheet

<i>In thousands of euros</i>	Note	As at 31 December 2019	As at 31 December 2018
Assets			
Non-current assets			
Property, plant and equipment	16	58,890	38,884
Right-of-use assets	17	51,751	-
Goodwill and other intangible assets	18	1,458,760	705,636
Deferred tax assets	19	21,025	20,932
Investments in associates and joint ventures	7	67,025	72,685
Financial assets at fair value through other comprehensive income	20	197,821	220,100
Financial assets at amortised cost	37.4	1,503	7,021
Other non-current assets		1,559	812
Total non-current assets		1,858,334	1,066,070
Current assets			
Trade and other receivables	21	125,376	101,082
Other current assets	22	12,057	9,240
Income tax receivables		1,395	2,532
Derivative financial instruments	23	19,353	7,361
Other current financial assets	24	12,118	14,160
Cash and cash equivalents	25	369,822	398,018
Total current assets		540,121	532,393
Assets held for sale	22	8,760	-
Total assets		2,407,215	1,598,463
Equity and liabilities			
Equity			
Issued capital	26	112,000	112,000
Share premium		116,560	116,560
Reserve own shares		(11,194)	(17,816)
Retained earnings		625,545	509,483
Other reserves		75,229	70,866
Shareholders' equity		918,140	791,093
Non-controlling interests		15,686	11,231
Total equity		933,826	802,324
Non-current liabilities			
Borrowings	29	1,011,527	504,940
Lease liabilities	17	41,180	-
Other non-current financial liabilities	35	-	17,400
Deferred tax liabilities	19	78,754	21,429
Post-employment benefits	30	25,958	10,666
Contract liabilities	33	45,795	41,461
Provisions	31	15,079	5,994
Total non-current liabilities		1,218,293	601,890
Current liabilities			
Borrowings	29	6,750	3,745
Lease liabilities	17	13,970	-
Other current financial liabilities	35	30,675	6,986
Derivative financial instruments	23	141	85
Current income tax liabilities		23,333	11,240
Trade and other payables	32	117,298	115,332
Contract liabilities	33	62,825	55,487
Provisions	31	104	1,374
Total current liabilities		255,096	194,249

Total equity and liabilities	2,407,215	1,598,463
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The above Consolidated Balance Sheet should be read in conjunction with the accompanying notes.

8.4 Consolidated Statement of Cash Flows

<i>In thousands of euros</i>	Note	Year ended	
		31 December 2019	31 December 2018
Profit before income tax		325,572	311,712
Adjustments for:			
• Depreciation and amortisation	10	43,676	23,400
• Share based payments	9	6,943	3,979
• Change in fair value of financial liabilities	13	13,275	3,200
• Share of profit from associates and joint ventures, and impairments thereof	7	(1,844)	(1,612)
• Changes in working capital and provisions		(35,418)	(18,875)
Cash flow from operating activities		352,204	321,804
Income tax paid		(98,433)	(98,292)
Net cash generated by operating activities		253,771	223,512
Cash flow from investing activities			
Acquisition of associates and joint ventures	7	(6,031)	(853)
Acquisition of subsidiaries, net of cash acquired	5	(581,825)	(176,101)
Purchase of financial assets at FVOCI	20	(22,091)	(31,684)
Purchase of other current financial assets		(4,082)	(14,300)
Redemption of other current financial assets		20,300	18,820
Purchase of property, plant and equipment	16	(14,663)	(10,958)
Purchase of intangible assets	18	(11,394)	(11,307)
Dividends received from equity investments	14	7,270	5,984
Dividends received from associates	7	5,167	4,884
Proceeds from sale of property, plant and equipment and intangible assets		42	363
Net cash (used in) investing activities		(607,307)	(215,152)
Cash flow from financing activities			
Proceeds from borrowings, net of transaction fees	29	538,925	496,595
Repayment of borrowings, net of transaction fees	29	(90,674)	(165,000)
Interest paid		(6,252)	(643)
Interest received		5,131	274
Dividends paid to the company's shareholders	26	(107,239)	(120,441)
Dividends paid to non-controlling interests		(1,452)	(1,600)
Payment of lease liabilities	17	(9,744)	-
Transactions in own shares	26	896	(5,787)
Employee Share transactions		(1,913)	(1,386)
Net cash (used in) financing activities		327,678	202,012
Net (decrease)/increase in cash and cash equivalents		(25,858)	210,372
Cash and cash equivalents - Beginning of the period		398,018	187,785
Non-cash exchange (losses)/gains on cash and cash equivalents		(2,338)	(139)
Cash and cash equivalents - End of the period		369,822	398,018

The above Consolidated Statement of Cash Flows should be read in conjunction with the accompanying notes.

8.5 Consolidated Statement of Changes in Equity

							Other reserves				
		Issue d capita l	Share premiu m	Reserv e own shares	Retaine d Earning s	Foreign currency translatio n reserve	Fair value reserve of financia l assets at FVOCI	Total other reserve s	Total Shareholder s' equity	Non-controllin g interests	Total equity
<i>In thousands of euros</i>	Note										
Balance as at 1 January 2018	112,000	116,560	(17,269)	418,585	(2,549)	37,645	35,096		664,972	14,211	679,183
Profit for the year	-	-	-	215,968	-	-	-		215,968	1,660	217,628
Other comprehensive income for the year	-	-	-	1,610	5,900	29,870	35,770		37,380	63	37,443
Total comprehensive income for the year	-	-	-	217,578	5,900	29,870	35,770		253,348	1,723	255,071
Share based payments	-	-	-	3,979	-	-	-		3,979	-	3,979
Dividends paid	-	-	-	(120,441)	-	-	-		(120,441)	(1,600)	(122,041)
Acquisitions of own shares	-	-	(5,787)	-	-	-	-		(5,787)	-	(5,787)
Acquisition of non-controlling interest	-	-	-	(3,575)	-	-	-		(3,575)	(3,575)	(7,150)
Non-controlling interests on acquisition of subsidiary	-	-	-	-	-	-	-		-	472	472
Other movements	-	-	5,240	(6,644)	-	-	-		(1,404)	-	(1,404)
Balance as at 1 January 2019	112,000	116,560	(17,816)	509,483	3,351	67,515	70,866		791,093	11,231	802,324
Profit for the year	-	-	-	221,966	-	-	-		221,966	3,312	225,278
Other comprehensive income for the year	-	-	-	(1,633)	(2,380)	10,341	7,961		6,328	174	6,502
Total comprehensive income for the year	-	-	-	220,333	(2,380)	10,341	7,961		228,293	3,486	231,780
Transfer of revaluation result to retained earnings	20	-	-	3,597	-	(3,597)	(3,597)		-	-	-
Share based payments	-	-	-	6,943	-	-	-		6,943	-	6,943
Dividends paid	-	-	-	(107,239)	-	-	-		(107,239)	(1,452)	(108,691)
Transactions in own shares	-	-	896	-	-	-	-		896	-	896
Non-controlling interests on acquisition of subsidiary	-	-	-	-	-	-	-		-	2,420	2,420
Other movements	-	-	5,726	(7,572)	-	-	-		(1,846)	-	(1,846)
Balance as at 31 December 2019	112,000	116,560	(11,194)	625,545	970	74,259	75,229		918,140	15,686	933,826

The above Consolidated Statement of Changes in Equity should be read in conjunction with the accompanying notes.

Notes to the Consolidated Financial Statements

1. General information

Euronext N.V. ("the Group" or "the Company") is a public limited liability company incorporated and domiciled at Beursplein 5, 1012 JW Amsterdam in the Netherlands under Chamber of Commerce number 60234520 and is listed at all Continental Euronext local markets i.e. Euronext Amsterdam, Euronext Brussels, Euronext Lisbon and Euronext Paris.

The Group operates securities and derivatives exchanges in Continental Europe, Ireland and Norway. It offers a full range of exchange- and corporate services, including security listings, cash and derivatives trading, and market data dissemination. It combines the Amsterdam, Brussels, Dublin, Lisbon, Oslo and Paris exchanges in a highly integrated, cross-border organisation.

The Group also has a securities exchange in London (Euronext London Ltd.), operates Interbolsa S.A. and Verdipapirsentralen ASA ("VPS") (respectively the Portuguese and the Norwegian national Central Securities Depositories ("CSD")) and has a majority stake in Euronext FX Inc., a US-based Electronic Communication Network in the spot foreign exchange market. The Group's in-house IT function supports its exchange operations. In addition, the Group provides software licenses as well as IT development, operation and maintenance services to third-party exchanges.

These Consolidated Financial Statements were authorised for issuance by Euronext N.V.'s Supervisory Board on 1 April 2020 and will be submitted for adoption by the Annual General Meeting (AGM) of Shareholders on 14 April 2020.

2. Significant events and transactions

The financial position and performance of the Group was particularly affected by the following events and transactions that have occurred during the year:

Acquisition of Oslo Børs VPS Holding ASA ("Oslo Børs VPS")

On 14 June 2019, the Group acquired a majority stake in Oslo Børs VPS, the Norwegian Stock Exchange and national CSD operator, increasing its ownership to 97.8% as per that date. The total purchase consideration of the transaction amounted to €693.4 million. Subsequent to the transaction, the Group acquired the remaining 2.2% minority stake, making the Group the beneficial owner of 100% of the Oslo Børs VPS shares as per 4 July 2019 (see Note 5).

Bond issue

On 4 June 2019, the Group launched a €500.0 million, 10-year Bond issue, rated "A-" by S&P, with an annual coupon of 1.125% and listed on Euronext Dublin. The proceeds of the issue were used to (i) finance the acquisition of Oslo Børs VPS and (ii) for general corporate purposes in line with the Group's strategy (see Note 29).

Amendment to the Revolving Credit Facility ("RCF")

On 8 April 2019, the Group signed a supplemental agreement with nine banks aiming to amend the €250 million RCF originally dated 12 April 2017. This new agreement enabled the Group to increase the RCF to €400.0 million and set a new maturity of 5 years plus a two-year extension possibility. As per 31 December 2019, no amounts were drawn under the RCF (see Note 29).

Long-Term Incentive Plan 2018 and share repurchase program

On 17 May 2019, a Long-Term Incentive plan ("LTI 2019") was established under the revised Remuneration Policy that was approved by the AGM on 6 May 2015. The LTI cliff vests after 3 years whereby performance criteria will impact the actual number of shares at vesting date. The share price for this grant at grant date was €63.70 and 132,053 Restricted Stock Units (RSU's) were granted. The total share based payment expense at the vesting date in 2022 is estimated to be €8.5 million. Compensation expense recorded during the year for this LTI 2019 plan amounted to €1.6 million (see Notes 9 and 28).

Acquisition of Finance Web Working SAS

On 9 July 2019, the Group acquired 60% of Finance Web Working SAS, a leading fund data provider in France, with an option to acquire the remaining capital in 2023 (see Note 5).

Investment in Tokeny sàrl ("Tokeny Solutions")

On 28 June 2019, the Group acquired a 23.5% stake in Tokeny Solutions, a tokenization platform that provides users end-to-end solutions to issue, manage and transfer tokenized securities on public blockchain. The Group recognised the acquired interest as an investment in associate (see Note 7).

Acquisition of Nord Pool Group

On 5 December 2019, the Group announced it entered into binding agreements to acquire 66% of the share capital and voting rights of the Nord Pool Group, which runs a leading physical power market in Europe, operating from its headquarters in Oslo and offices in Helsinki, Stockholm, Tallinn, Berlin and London. The enterprise value on a debt-free

cash-free basis for 100% is NOK850 million (€84 million). The Nordic and Baltic Transmission System Operators (TSOs) that currently own Nord Pool Group, will retain a 34% stake. The transaction was subject to competition approvals and was closed on 15 January 2020. For more details on the acquisition, reference is made to Note 40 'Events after the reporting period'.

Sale of investment in associate EuroCCP

On 10 December 2019, Euronext announced that it entered into a binding agreement to sell its 20% minority stake in EuroCCP to CBOE Global Markets, alongside the other current EuroCCP shareholders. The transaction is expected to close in the first half of 2020, subject to receipt of required regulatory clearances and the arrangement of a supporting liquidity facility at the EuroCCP clearing entity level. The Group expects to receive net proceeds of approximately €8.8 million from the sale of its minority stake. As a result of this agreement, the Group impaired the value of its investment by approximately €6.0 million, and classified the investment as an asset held for sale as per 31 December 2019.

Changes in the Group's key management personnel during 2019

At the Annual General Meeting held on 16 May 2019, Isabel Ucha was officially appointed as a member of the Managing Board. On 20 August 2019, the Group announced that Maurice van Tilburg resigned from the Managing Board. Simone Huis in 't Veld was appointed as his successor at the Extraordinary General Meeting (EGM) that took place on 8 October 2019. At that same meeting Håvard Abrahamsen was officially appointed as a member of the Managing Board. On 29 January 2020, Euronext announced that Håvard Abrahamsen resigned from his role as member of the Managing Board of Euronext N.V. The Supervisory Board of Euronext N.V. has subsequently nominated Øivind Amundsen as member of the Managing Board of Euronext N.V., subject to formal appointment by an Annual Shareholders' Meeting of Euronext N.V. and the usual regulatory non-objections.

Immediately after the Annual General Meeting (AGM) held on 16 May 2019, Ramon Fernandez stepped down from the Supervisory Board. At the Extraordinary General Meeting (EGM) that took place on 8 October 2019, Nathalie Rachou and Morten Thorsrud were officially appointed as members of the Supervisory Board.

See Note 36, for more details on the Group's key management personnel.

3. Significant accounting policies and judgments

The significant accounting policies applied in the preparation of these Consolidated Financial Statements are set out below. These policies have been consistently applied to all the years presented, unless stated otherwise. The financial statements are for the Group consisting of Euronext N.V. and its subsidiaries.

A). Basis of preparation

The Consolidated Financial Statements of the Group have been prepared in accordance with International Financial Reporting Standards (IFRS) adopted by the European Union. They also comply with the financial reporting requirements included in Title 9 Book 2 of the Dutch Civil Code, as far as applicable.

The Consolidated Financial Statements have been prepared on a historical cost basis, unless stated otherwise.

B). Basis of consolidation

These Consolidated Financial Statements include the financial results of all subsidiaries in which entities in the Group have a controlling financial interest and it also incorporates the share of results from associates and joint ventures. The list of individual legal entities which together form the Group, is provided in Note 4. All transactions and balances between subsidiaries have been eliminated on consolidation. All transactions and balances with associates and joint ventures are reflected as related party transactions and balances (see Note 36).

(i) Subsidiaries

Subsidiaries are all entities controlled by the Group. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

The acquisition method of accounting is used to account for business combinations by the Group.

Intergroup transactions, balances and unrealised gains and losses on transactions between companies within the Group are eliminated upon consolidation unless they provide evidence of impairment. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

Non-controlling interest in the results and equity of subsidiaries are shown separately in the consolidated statement of profit or loss, statement of comprehensive income, statement of changes in equity and balance sheet respectively.

(ii) Associates and joint arrangements

Associates are entities over which the Group has the ability to exercise significant influence, but does not control. Generally, significant influence is presumed to exist when the Group holds 20% to 50% of the voting rights in an entity. Joint arrangements are joint operations or joint-ventures over which the Group, together with another party or several other

parties, has joint control. Investments in associates and joint ventures are accounted for using the equity method of accounting.

Under the equity method of accounting, the investments are initially recognised at cost and adjusted thereafter to recognise the group's share of the post-acquisition profits or losses of the investee in profit or loss, and the group's share of movements in other comprehensive income of the investee in other comprehensive income. Dividends received or receivable from associates and joint ventures are recognised as a reduction in the carrying amount of the investment. When the group's share of losses in an equity-accounted investment equals or exceeds its interest in the entity, including any other unsecured long-term receivables, the group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the other entity. Unrealised gains on transactions between the group and its associates and joint ventures are eliminated to the extent of the group's interest in these entities. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred. Accounting policies of equity accounted investees have been changed where necessary to ensure consistency with the policies adopted by the group. The carrying amount of equity-accounted investments is tested for impairment.

C). Business combinations

Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. On an acquisition by acquisition basis, the Group recognises any non-controlling interest in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets. The consideration transferred is measured at the fair value of any assets transferred, liabilities incurred and equity interests issued. The excess of the consideration transferred over the fair value of the Group's share of the identifiable net assets acquired is recorded as goodwill. To the extent applicable, any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree are added to consideration transferred for purposes of calculating goodwill. Contingent consideration is classified either as equity or as a financial liability. Amounts classified as a financial liability are subsequently re-measured to fair value with changes in fair value recognised in profit or loss.

D). Segment reporting

Segments are reported in a manner consistent with how the business is operated and reviewed by the chief operating decision maker ("CODM"), who is responsible for allocating resources and assessing performance of the operating segments. The chief operating decision maker of the Group is the Managing Board. The organisation of the Group reflects the high level of mutualisation of resources across geographies and product lines. Operating results are monitored on a group-wide basis and, accordingly, the Group represents one operating segment and one reportable segment. Operating results reported to the Managing Board are prepared on a measurement basis consistent with the reported Consolidated Statement of Profit or Loss.

In presenting and discussing the Group's financial position, operating results and net results, management uses certain Alternative performance measures not defined by IFRS. These Alternative performance measures (APMs) should not be viewed in isolation as alternatives to the equivalent IFRS measures and should be used as supplementary information in conjunction with the most directly comparable IFRS measures. Alternative performance measures do not have standardised meaning under IFRS and therefore may not be comparable to similar measures presented by other companies.

The Group measures performance based on EBITDA¹, as management believes that this measurement is most relevant in evaluating the operating results of the Group. This measure is included in the internal management reports that are reviewed by the CODM.

Reference is made to one of the below definitions, whenever the term 'EBITDA' is used throughout these Consolidated Financial Statements:

- EBITDA₁: Operating profit before (i)exceptional items and (ii)depreciation and amortization, taking into account the lines described in the Consolidated Statement of Profit or Loss;
- EBITDA₂: Profit before (i)interest expense, (ii)tax, (iii)any share of the profit of any associated company or undertaking, except for dividends received in cash by any member of the Group, (iv)exceptional items; and (v) depreciation and amortization;
- EBITDA₃: EBITDA as defined in the Share Purchase Agreements of the acquired companies involved.

E). Foreign currency transactions and translation

(i) Functional and presentation currency

These Consolidated Financial Statements are presented in Euro (EUR), which is the Group's presentation currency. The functional currency of each Group entity is the currency of the primary economic environment in which the entity operates.

(ii) Transactions and balances

Foreign currency transactions are converted into the functional currency using the rate ruling at the date of the transactions. Foreign exchange gains or losses resulting from the settlement of such transactions and from the translation at year-end rates of monetary assets and liabilities denominated in foreign currencies are recognised in the Income Statement.

Exceptions to this are where the monetary items form part of the net investment in a foreign operation or are designated as hedges of a net investment, in which case the exchange differences are recognised in Other Comprehensive Income.

(iii) Group companies

The results and financial position of Group entities that have a functional currency different from the presentation currency are converted into the presentation currency as follows:

- assets and liabilities (including goodwill) are converted at the closing balance sheet rate.
- income and expenses are translated at average exchange rates (unless this is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the dates of the transactions); and
- all resulting exchange differences are recognised as currency translation adjustments within Other Comprehensive Income.

F). Property, plant and equipment

Property, plant and equipment is carried at historical cost, less accumulated depreciation and any impairment loss. The cost of purchased property, plant and equipment is the value of the consideration given to acquire the assets and the value of other directly attributable costs. All repairs and maintenance costs are charged to expense as incurred.

Property, plant and equipment is depreciated on a straight-line basis over the estimated useful lives of the assets, except land and construction in process assets, which are not depreciated. The estimated useful lives, which are reviewed annually and adjusted if appropriate, used by the Group in all reporting periods presented are as follows:

Buildings (including leasehold improvements)	5 to 40 years
IT equipment	2 to 3 years
Other equipment	5 to 12 years
Fixtures and fittings	4 to 10 years

G). Leases

(i) Right-of-use assets

The Group recognises right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are measured at cost less any accumulated depreciation and if necessary any accumulated impairment. The cost of a right-of-use asset comprises the present value of the outstanding lease payments, any lease payments made at or before the commencement date less any lease incentives received, any initial direct costs and an estimate of costs to be incurred in dismantling or removing the underlying asset. If the lease transfers ownership of the underlying asset to the lessee at the end of the lease term or if the cost of the right-of-use asset reflects that the lessee will exercise a purchase option, the right-of-use asset is depreciated to the end of the useful life of the underlying asset. Otherwise the right-of-use asset is depreciated to the end of the lease term.

(ii) Lease liabilities

At the commencement date of the lease, the Group recognises lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable payments that depend on an index or rate and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments for penalties for terminating a lease, if the lease term reflects the Group exercising the option to terminate. Variable lease payments that do not depend on an index or a rate are recognised as expense in the period on which the event or condition that triggers the payment occurs. In this context, the Group also applies the practical expedient that the payments for non-lease components are generally recognised as lease payments. In calculating the present value of lease payments, the Group uses the incremental borrowing rate at the lease commencement date if the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the in-substance fixed lease payments or a change in the assessment to purchase the underlying asset.

(iii) Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option. It also applies the lease of low-value assets recognition exemption to leases of office IT equipment and other staff equipment that are of low value. Lease payments on short-term leases and leases of low-value assets are recognised as expense on a straight-line basis over the lease term.

(iv) Leases - (accounting policies applied until 31 December 2018)

The Group adopted IFRS 16 using the modified retrospective method of adoption, without restating comparative information. As a result the comparative information provided continues to be accounted for in accordance with the Group's previous accounting policy as described below.

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards to the lessee. When the Group is the lessee in a finance lease, the underlying asset is recognised in the balance sheet at the inception of the lease, at its fair value or at the present value of minimum lease payments, whichever is lower. The corresponding liability to the lessor is included within borrowings. Payments made under operating leases are recognised in the Income Statement on a straight-line basis over the term of the lease.

H). Goodwill and other intangible assets

(i) Goodwill

Goodwill represents the excess of the consideration transferred in a business combination over the Group's share in the fair value of the net identifiable assets and liabilities of the acquired business at the date of acquisition. Goodwill is not amortised but is tested at least annually for impairment, or whenever an event or change in circumstances indicate a potential impairment.

For the purpose of impairment testing, goodwill arising in a business combination is allocated to the cash-generating units ("CGUs") or groups of CGUs that are expected to benefit from the synergies of the combination. Each CGU or CGU Group to which goodwill is allocated represents the lowest level within the Group at which the goodwill is monitored for internal management purposes.

The carrying value of a CGU Group is compared to its recoverable amount, which is the higher of its value in use and its fair value less costs of disposal. Impairment losses on goodwill are not subsequently reversed. Value in use is derived from the discounted future free cash flows of the CGU Group. Fair value less costs of disposal is based on discounted cash flows and market multiples applied to forecasted earnings. Cash flow projections are based on budget and business plan approved by management and covering a 2-year period in total. Cash flows beyond the business plan period are extrapolated using a perpetual growth rate. Key assumptions used in goodwill impairment test are described in Note 18.

(ii) Internally generated intangible assets

Software development costs are capitalised only from the date when all of the following conditions are met:

- The technical feasibility of the development project is demonstrated
- It is probable that the project will be completed and will generate future economic benefits; and
- The project development costs can be reliably measured.

Capitalised software development costs are amortised on a straight-line basis over their useful lives, generally from 2 to 7 years. Other development expenditures that do not meet these criteria, as well as software maintenance and minor enhancements, are expensed as incurred.

(iii) Other intangible assets

Other intangible assets, which are acquired by the Group, are stated at cost less accumulated amortisation and impairment losses (if applicable). The estimated useful lives are as follows:

Purchased software and licenses: 2-8 years
Customer relationships: 11-40 years
Brand names: indefinite

I). Impairment of non-financial assets other than goodwill

Assets that are subject to amortisation and depreciation are reviewed for impairment whenever events or circumstances indicate that the carrying amount may not be recoverable. Assets that have an indefinite useful life are not subject to amortisation nor depreciation and are tested at least annually for impairment. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell or value in use. For purposes of assessing impairment, assets are grouped into Cash Generating Units ("CGUs"). A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent from other groups of assets. Non-financial assets, other than goodwill, that were previously impaired are reviewed for possible reversal of the impairment at each reporting date.

J). Derivative financial instruments and hedging activities

(i) Initial recognition and measurement

The Group uses derivative financial instruments, such as forward currency contracts and interest rate swaps, to hedge its foreign currency risk and interest rate risks. Such derivative financial instruments are initially recognised at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

For the purpose of hedge accounting, hedges are classified as fair value hedges when hedging the exposure to changes in the fair value of a recognised asset or liability or an unrecognised firm commitment.

At the inception of a hedge relationship, the Group formally designates and documents the hedge relationship to which it wishes to apply hedge accounting and the risk management objective and strategy for undertaking the hedge.

The documentation includes identification of the hedging instrument, the hedged item, the nature of the risk being hedged and how the Group will assess whether the hedging relationship meets the hedge effectiveness requirements (including the analysis of sources of hedge ineffectiveness and how the hedge ratio is determined). A hedging relationship qualifies for hedge accounting if it meets all of the following effectiveness requirements:

- There is 'an economic relationship' between the hedged item and the hedging instrument.
- The effect of credit risk does not 'dominate the value changes' that result from that economic relationship.
- The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Group actually hedges and the quantity of the hedging instrument that the Group actually uses to hedge that quantity of hedged item.

The hedges relevant to the Group, that meet all the qualifying criteria for hedge accounting are accounted for, as described below:

Fair value hedges

The change in the fair value of a hedging instrument is recognised in the statement of profit or loss. The change in the fair value of the hedged item attributable to the risk hedged is recorded as part of the carrying value of the hedged item and is also recognised in the statement of profit or loss.

For fair value hedges relating to items carried at amortised cost, any adjustment to carrying value is amortised through profit or loss over the remaining term of the hedge using the Effective Interest Rate (EIR) method. The EIR amortisation may begin as soon as an adjustment exists and no later than when the hedged item ceases to be adjusted for changes in its fair value attributable to the risk being hedged.

If the hedged item is derecognised, the unamortised fair value is recognised immediately in profit or loss.

When an unrecognised firm commitment is designated as a hedged item, the subsequent cumulative change in the fair value of the firm commitment attributable to the hedged risk is recognised as an asset or liability with a corresponding gain or loss recognised in profit or loss.

Hedges of a net investment

Hedges of a net investment in a foreign operation, including a hedge of a monetary item that is accounted for as part of the net investment, are accounted for as follows:

Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognised as Other Comprehensive Income while any gains or losses relating to the ineffective portion are recognised in the statement of profit or loss. On disposal of the foreign operation, the cumulative value of any such gains or losses recorded in equity is transferred to the statement of profit or loss.

The Group uses a foreign exchange forward contract as a hedge of its exposure to foreign exchange risk on its investments in foreign subsidiaries. Refer to Note 23 for more details.

K). Financial assets

The Group classifies its financial assets in the following measurement categories:

- Financial assets measured at amortised cost
- Financial assets measured at fair value through Other Comprehensive Income (FVOCI)
- Financial assets measured at fair value through profit or loss (FVPL)

The classification depends on the entity's business model for managing the financial assets and the contractual terms of the cash flows. For assets measured at fair value, gains and losses will either be recorded in profit or loss or Other Comprehensive Income. For investments in equity instruments that are not held for trading, this will depend on whether the group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through Other Comprehensive Income (FVOCI).

Except for trade receivables, at initial recognition the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss (FVPL), transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at FVPL are expensed in profit or loss. Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest. Trade receivables are initially measured at their transaction price if they do not contain a significant financing component in accordance with IFRS 15.

(i) Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. There are three measurement categories into which the Group classifies its debt instruments:

Amortised cost

Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortised cost. Interest income from these financial assets is included in finance income using the effective interest rate method. Any gain or loss arising on de-recognition is recognised directly in profit or loss and presented in other gains/(losses), together with foreign exchange gains and losses. Impairment losses are presented as separate line item in the statement of profit or loss. The Group's financial assets at amortised cost includes the Group's Trade and other receivables, loans and deposits included under (non-current) Financial assets at amortised cost, short-term deposits with a maturity of more than three months included under Other current financial assets and Cash and cash equivalents.

Fair value through Other Comprehensive Income

Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at FVOCI. Movements in the carrying amount are taken through Other Comprehensive Income, except for the recognition of impairment gains or losses, interest revenue and foreign exchange gains and losses which are recognised in profit or loss. When the financial asset is derecognised, the cumulative gain or loss previously recognised in Other Comprehensive Income is reclassified from equity to profit or loss and recognised in other gains/(losses). Interest income from these financial assets is included in finance income using the effective interest rate method. Foreign exchange gains and losses are presented in other gains/(losses) and impairment expenses are presented as separate line item in the statement of profit or loss.

Fair value through Profit or Loss

Assets that do not meet the criteria for amortised cost or FVOCI are measured at FVPL. A gain or loss on a debt investment that is subsequently measured at FVPL is recognised in profit or loss and presented net within other gains/(losses) in the period in which it arises.

The Group reclassifies debt investments when and only when its business model for managing those assets changes.

(ii) Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments in Other Comprehensive Income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the de-recognition of the investment. Dividends from such investments will be recognised in profit or loss as results from equity investments when the Group's right to receive payments is established, except when the Group benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in Other Comprehensive Income. The Group elected to classify irrevocably its unlisted equity securities that are held as long-term strategic investments that are not expected to be sold in the foreseeable future.

Changes in the fair value of financial assets at FVPL are recognised in other gains/(losses) in the statement of profit or loss as applicable. Impairment losses (and reversal of impairment losses) on equity investments measured at FVOCI are not reported separately from other changes in fair value.

(ii) Impairment of financial assets

The Group recognises an allowance for expected credit losses (ECLs) for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

ECLs are recognised in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

For trade and contract receivables, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

Further disclosures relating to impairment of financial assets are also provided in Note 37.4. The Group considers a financial asset in default when contractual payments are 90 days past due. However, in certain cases, the Group may also consider a financial asset to be in default when internal or external information indicates that the Group is unlikely to receive the outstanding contractual amounts. A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

L). Trade receivables

Trade receivables are amounts due from customers for services performed in the ordinary course of business. They are generally due for settlement within 30 days and therefore are all classified as current. Trade receivables are recognised initially at the amount of consideration that is unconditional unless they contain significant financing components, when they are recognised at fair value. The Group holds the trade receivables with the objective to collect the contractual cash flows and therefore measures them subsequently at amortised cost using the effective interest method, less loss allowance.

M). Cash and cash equivalents

Cash and cash equivalents comprise cash at banks, highly liquid investments with original maturities of three months or less and investments in money market funds that are readily convertible to known amounts of cash and are subject to insignificant risk of changes in value.

N). Borrowings

Borrowings are initially recorded at the fair value of proceeds received, net of transaction costs. Subsequently, these liabilities are carried at amortised cost, and interest is charged to profit or loss over the period of the borrowings using the effective interest method. Accordingly, any difference between the proceeds received, net of transaction costs, and the

redemption value is recognised in profit or loss over the period of the borrowings using the effective interest rate method. Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the draw down occurs. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalized as a prepayment for liquidity services and amortised over the period of the facility to which it relates.

O). Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events; it is probable that an outflow of resources will be required to settle the obligation; and the amount can be reliably estimated. Restructuring provisions primarily comprise employee termination payments. Provisions are not recognised for future operating losses, unless there is an onerous contract. Provisions are measured at the present value of the expenditures expected to be required to settle the obligation using a pre-tax risk-free discount rate. The increase in the provision due to passage of time is recognised as interest expense.

An onerous contract is a contract in which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it. The unavoidable costs under a contract reflect the least net cost of exiting from the contract, which is the lower of the cost of fulfilling it and any compensation or penalties arising from failure to fulfil it.

P). Trade and other payables

Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business. Trade and other payables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method.

Q). Post-employment benefits

The Group operates defined benefit pension schemes and defined contribution pension schemes. When the Group pays fixed contributions to a pension fund or pension insurance plan and the Group has no legal or constructive obligation to make further contributions if the fund's assets are insufficient to pay all pension benefits, the plan is considered to be a defined contribution plan. In that case, contributions are recognised as employee expense when they become due.

For the defined benefit schemes, the net asset or liability recognised on the balance sheet comprises the difference between the present value of the defined benefit pension obligation and the fair value of plan assets. A net asset is recognised only to the extent the Group has the right to effectively benefit from the plan surplus. The service cost, representing benefits accruing to employees in the period, and the net interest income or expense arising from the net defined benefit asset or liability are recorded within operating expenses in the Statement of Profit or Loss. Actuarial gains and losses arising from experience adjustments, changes in actuarial assumptions or differences between actual and expected returns on assets are recognised in equity as a component of Other Comprehensive Income. The impact of a plan amendment, curtailment or settlement is recognised immediately when it arises in profit or loss.

R). Share-based compensation

Certain employees of the Group participate in Euronext's share-based compensation plans. Awards granted by Euronext under the plans are restricted stock units ("RSUs"). Under these plans, Euronext receives services from its employees as consideration for equity instruments of the group. As the awards are settled in shares of Euronext N.V., they are classified as equity settled awards.

The share-based compensation reflected in the Statement of Profit or Loss relates to the RSUs granted by Euronext to the Group's employees. The equity instruments granted do not vest until the employee completes a specified period of service, typically three years. The grant-date fair value of the equity settled RSUs is recognised as compensation expense over the required vesting period, with a corresponding credit to equity.

Euronext has performance share plans, under which shares are conditionally granted to certain employees. The fair value of awards at grant date is calculated using market-based pricing, i.e. the fair value of Euronext shares. This value is expensed over their vesting period, with a corresponding credit to equity. The expense is reviewed and adjusted to reflect changes to the level of awards expected to vest, except where this arises from a failure to meet a market condition or a non-vesting condition in which case no adjustment applies.

S). Treasury shares

The Group reacquires its own equity instruments. Those instruments ('treasury shares') are deducted from equity. No gain or loss is recognised in profit or loss on the purchase, sale, issue or cancellation of an entity's own equity instruments. Such treasury shares may be acquired and held by the entity or by other members of the consolidated group. Consideration paid or received is recognised directly in equity.

T). Revenue from contracts with customers

The Group is in the business of providing a diverse range of products and services combining transparent and efficient equity, fixed income securities and derivatives markets. The Group's main businesses comprise listing, cash trading, derivatives trading, spot FX trading, market data and indices, post-trade and market solutions & other. Revenue from contracts with customers is recognised when control of the good and services are transferred to the customer at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services. The Group has generally concluded that, except for the revenue sharing agreement with Intercontinental Exchange (ICE), it is principal in its revenue arrangements because it typically controls the goods or services before transferring them to the customer.

The disclosures of significant accounting judgements, estimates and assumptions relating to revenue from contracts with customers are provided in section '*Critical accounting estimates and assumptions*'.

(i) Listing

Listing fees primarily consist of original listing fees paid by issuers to list securities on the various cash markets (admission fees), subsequent admission fees for other corporate actions (such as admission of additional securities) and annual listing fees paid by companies whose financial instruments are listed on the cash markets. The admission services around initial (and subsequent) admission and its directly related corporate action services are considered activities that the Group needs to undertake to enable the customer to be listed. These activities are combined with the ongoing listing services and are used as inputs to produce the combined output, which is the service of being listed. Consequently, revenue generated from this combined performance obligation is recognised based on time elapsed over the listing period, as this best reflects the continuous transfer of the listing services.

(ii) Trading

The Group earns cash trading fees for customer orders of equity securities, debt securities and other cash instruments on the Group's cash markets and earns derivative trading fees for the execution of trades of derivative contracts on the Group's derivative markets. Spot FX trading fees are earned for execution of trades of foreign exchange contracts on the FastMatch markets. Customers obtain control over the service provided at execution of the trade, which is the only performance obligation. Revenue is recognised at that point in time.

(iii) Advanced data services

The Group charges clients on a per-user basis for the access to its real-time and proprietary market data information services. The Group also collects periodic license fees from clients for the right to distribute the Group data to third parties. Customers obtain control over the market data service provided during the period over which it has access to the data. Consequently revenue is recognised based on time elapsed over the market data access period, as the Group meets its obligation to deliver data consistently throughout this period.

The Group generates indices revenues from Index licensing fees, which gives customers the right to apply Euronext Index Trademark names in their products and ETFs. The nature of an index-license is considered a distinct 'right-to-access' license as the customer can reasonably expect the Group to undertake ongoing activities to support and maintain the value of its trademark names. Revenue generated from these licenses are therefore recognised evenly over the contractual period of the license, as this best reflects the continuous benefit from the license by the customer throughout this period.

(iv) Post trade

Post-trade revenue primarily include clearing, settlement and custody fees. Clearing fees are recognised when the clearing of the trading transaction is completed. Customers obtain control over the service provided at completion of clearing the securities, which is the only performance obligation. Revenue is recognised at that point in time. As the Group does not own its own clearing operation, it has put in place an agreement with LCH S.A. in which the latter is providing clearing service as a service provider, executing the service under control of the Group. The nature of the promise is the execution of a cleared trade on the Group's trading platforms. The Group controls the services that are derived from that promise, before it is transferred to the customer. This makes the Group the principal in the transaction of providing clearing services to its customers and consequently the Group recognises its clearing revenue on a gross basis.

Settlement fees are recognised when the settlement of the trading transaction is completed. Customers obtain control over the service provided at completion of the settlement of the securities, which is the only performance obligation. Revenue is recognised at that point in time. Custody fees are recognised as the service of holding the customer's securities in custody is performed. Revenue is recognised based on time elapsed over that period of time, as this best reflects the continuous transfer of services.

(v) Euronext Technologies & other

Euronext Technologies and other revenue include software license and maintenance services, IT (hosting) services provided to third-party market operators, connection services and data center colocation services provided to market participants, and other revenue.

Software licenses that are distinct can be considered a 'right-to-use' license, given the significant stand-alone functionality of the underlying intellectual property. Consequently revenue will be recognised at the point in time of acceptance of the software and the source code by the customer. For software licenses that are combined with a significant modification service revenues are recognised over time, using the input method of labor hours spend during the significant modification period, as the Group has no alternative use for these combined performance obligations and would have an enforceable right to payment for performance completed to date. Revenue from software maintenance services are recognised evenly over the maintenance agreement period, as this best reflects the continuous transfer of maintenance services throughout the contract period.

The Group delivers hosting services to customers that are using the software installed in the Euronext data center to use the Group's trading platforms. Installation services provided before the start of a hosting service do not include significant client customisation of the software installed in the Euronext data center. The installation service itself does not transfer a good or service to the customer, but are required to successfully transfer the only performance obligation for which the customer has contracted, which is the hosting service. Revenue generated from this performance obligation is recognised evenly over the full service period of the hosting contract, as this best reflects the continuous transfer of hosting services to the customer.

Connection services and data center colocation services are provided under a revenue sharing agreement with Intercontinental Exchange (ICE). Euronext is providing ICE the right to provide services directly to Euronext customers, to which Euronext provides a continuous customer access to the relevant Euronext Group markets and as such, Euronext is arranging for the specified services to be provided by another party as an agent. Euronext customers connect to its markets via the ICE SFTI® network or rent colocation space in the ICE data centers that house Euronext's trading platforms. ICE receives fees from Euronext customers over the period of access to the SFTI® network and over the colocation rental period. The Group recognises its revenue share over that same period of time, using the practical expedient provided in IFRS 15.B16 that allows an entity to recognise revenue in the amount to which it has the right to invoice. The entitled amount that Euronext invoices to ICE corresponds directly with the value that Euronext's performance obligation has to ICE, which equals to the agreed commission.

The Group also generates revenue from other connection services that trading members are using primarily for the purpose of placing their cash and derivatives trading orders. Members enter into contracts that generate access availability for placing trading orders (the active logon session). Customers obtain control over the service provided during the period of access to their active logon session. Revenue is recognised evenly over that period of time, as this best reflects the continuous transfer of technology services.

(vi) Contract balances

Receivables

A receivable represents the Group's right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due from the customer). The Group refers to billed receivables as *trade receivables*, whereas unbilled receivables are referred to as *contract receivables* by the Group.

Contract assets

A contract asset is the conditional right to consideration in exchange for goods or services transferred to the customer. Contract assets are transferred to receivables when the entitlement to consideration becomes unconditional and only the passage of time is required before payment is due.

Contract liabilities

A contract liability is the obligation to transfer goods or services to a customer for which the Group has received consideration (or an amount of consideration is due) from the customer. If a customer pays consideration before the Group transfers goods or services to the customer, a contract liability is recognised when the payment is made or the payment is due (whichever is earlier). Contract liabilities are recognised as revenue when the Group performs under the contract.

(vii) Significant financing component

Generally, the Group does not expect to have any contracts where the period between the transfer of the promised goods or services to the customer and payment by the customer exceeds one year. The primary exception considers contracts containing listing services. As the payment for listing admission services appears upfront the start of the contract, the period between revenue recognition from listing admission services and payment by the customer can exceed one year. However the Group determined that the payment terms were structured not with the primary purpose of obtaining financing from the customer, but to minimize the risk of non-payment as there is not a stated duration of the period of the listing. As a consequence, the Group does not adjust any of the transaction prices for the time value of money.

(viii) Cost to obtain or fulfill a contract

The Group does not incur material costs to obtain contracts such as sales commissions. Costs to fulfill a contract are costs that relate directly to a contract or a specifically anticipated contract, generate or enhance resources of the Group that will be used to satisfy future performance obligations, and are recoverable. Costs to fulfill a contract are capitalised and amortised on a straight line basis over the term of the specific contract it relates to, consistent with the pattern of recognition of the associated revenue.

U). Exceptional items

Exceptional income and expense are identified based on their size, nature and incidence, and are disclosed separately in the Statement of Profit or Loss in order to provide further understanding of the financial performance of the Group. It includes clearly identifiable income and expense items which are infrequent and unusual by their size or by their nature.

V). Taxation

The income tax expense for the fiscal year is comprised of current and deferred income tax. Income tax expense is recognised in the Income Statements, except to the extent that it relates to items recognised in other comprehensive income or directly in equity. In this case, the income tax impact is also recognised in other comprehensive income or directly in equity.

(i) Current income tax

The current income tax expense is calculated on the basis of the tax laws enacted or substantively enacted at the balance sheet date in the countries where the Group operates and generates taxable income. The Group recognises liabilities for uncertain tax treatment when it is not probable that the tax authorities will accept the tax treatment. The liabilities are measured through one of the following methods depending on which method is expected to best predict the resolution of the tax uncertainty:

- a) The most likely amount – the single most likely amount in a range of possible outcomes. The most likely amount may better predict the resolution of the uncertainty if the possible outcomes are binary or are concentrated on one value.
- b) The expected value – the sum of the probability-weighted amounts in a range of possible outcomes. The expected value may better predict the resolution of the uncertainty if there is a range of possible outcomes that are neither binary nor concentrated on one value.

Estimated liabilities for uncertain tax treatments, along with estimates of interest and penalties, are presented within income taxes payable on the Balance Sheet and are included in current income tax expense in the Statement of Profit or Loss.

(ii) Deferred income tax

Deferred income tax is recognised on temporary differences arising between the tax basis of assets and liabilities and their carrying amounts in these Consolidated Financial Statements. However, deferred income tax liabilities are not recognised if they arise from the initial recognition of goodwill. Deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction, other than a business combination, that at the time of the transaction affects neither accounting nor taxable profit or loss and at the time of the transaction, does not give rise to equal amounts of taxable and deductible temporary differences. If a transaction that is not a business combination gives rise to equal amounts of taxable and deductible differences, deferred taxation on the taxable temporary difference and the deductible temporary differences will be accounted for, which at initial recognition are equal and offset to zero (i.e. leases).

Deferred income tax is determined using tax rates that have been enacted or substantively enacted at the balance sheet date and are expected to apply when the related deferred income tax asset is realised or the deferred income tax liability is settled. Deferred income tax assets are recognised only to the extent that it is probable that future taxable profit will be available against which the temporary differences or tax losses can be utilised. Deferred income tax is provided on temporary differences arising from investments in subsidiaries and associates, except where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority on the same taxable entity.

W). Non-current assets held for sale

The Group classifies non-current assets and disposal groups as held for sale if their carrying amounts will be recovered principally through a sale transaction rather than through continuing use. Non-current assets and disposal groups classified as held for sale are measured at the lower of their carrying amount and fair value less costs to sell. Costs to sell are the incremental costs directly attributable to the disposal of an asset (disposal group), excluding finance costs and income tax expense.

The criteria for held for sale classification is regarded as met only when the sale is highly probable and the asset or disposal group is available for immediate sale in its present condition. Actions required to complete the sale should indicate that it is unlikely that significant changes to the sale will be made or that the decision to sell will be withdrawn. Management must be committed to the plan to sell the asset and the sale expected to be completed within one year from the date of the classification.

Property, plant and equipment and intangible assets are not depreciated or amortised once classified as held for sale. Assets and liabilities classified as held for sale are presented separately as current items in the statement of financial position.

X). Critical accounting estimates and assumptions

In the application of the Group's accounting policies, management is required to make estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and future periods if the revision affects both current and future periods.

The following critical assumptions concerning the future, and other critical sources of estimation uncertainty at the end of the reporting period, have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year:

(i) Impairment of goodwill

The Group performs goodwill impairment reviews in accordance with the accounting policy described above in Note 18. The recoverable amount of a CGU Group is determined based on a discounted cash flow approach, which requires the use of estimates. The critical assumptions used and the related sensitivity analysis are described in Note 18.

(ii) Income taxes

Due to the inherent complexities arising from the nature of the Group's business, and from conducting business and being taxed in a substantial number of jurisdictions, critical assumptions and estimates are required to be made for income taxes. The Group computes income tax expense for each of the jurisdictions in which it operates. However, actual amounts of

income tax due only become final upon filing and acceptance of the tax return by relevant authorities, which may not occur for several years subsequent to issuance of these Consolidated Financial Statements.

The estimation of income taxes also includes evaluating the recoverability of deferred income tax assets based on an assessment of the ability to use the underlying future tax deductions against future taxable income before they expire. This assessment is based upon existing tax laws and estimates of future taxable income. To the extent estimates differ from the final tax return, earnings may be affected in a subsequent period.

The Group operates in various countries with local tax regulations. New tax legislation being issued in certain territories as well as transactions that the Group enters into regularly result in potential tax exposures. The calculation of our tax liabilities involves uncertainties in the application of complex tax laws. Our estimate for the potential outcome of any uncertain tax treatment is highly judgmental. However, the Group believes that it has adequately provided for uncertain tax treatments. Settlement of these uncertainties in a manner inconsistent with our expectations could have a material impact on our results of operations, financial condition and cash flows. The Group recognises a liability for uncertain tax treatments when it is not probable that a taxation authority will accept an uncertain tax treatment.

(iii) Fair value of equity investments

The Group holds investments in unlisted equity securities which are carried at fair value in the balance sheet. The valuation methodology and critical assumptions are described in Note 20.

(iv) Classification of investments in associates

The Group classifies the interest in LCH SA as an investment in associate suggesting significant influence even though it owns less than 20% of the voting rights (see Note 7). The Group concluded that it has significant influence over this investment, which is derived from the governance structure that was put in place, the Group's position as the largest customer and sole minority shareholder of LCH SA.

(v) Contingent consideration and buy options resulting from business combinations

The Group may structure its business combinations in a way that leads to recognition of contingent consideration to selling shareholders and/or buy options for equity held by non-controlling interests. Contingent consideration and buy options are recognized at fair value on acquisition date. When the contingent consideration or buy option meets the definition of a financial liability or financial instrument, it is subsequently re-measured to fair value at each reporting date. The determination of fair value is based on the expected level of EBITDA₃ over the last 12 months that precede the contractual date (in case of contingent consideration) or exercise date of the underlying call- and put options (in case of buy option). The Group monitors the expected EBITDA₃ based on updated forecast information from the acquired companies involved.

(vi) Purchase price allocation

The cost of other intangible assets that are acquired in the course of business combinations, corresponds to their acquisition date fair values. Depending on the nature of the intangible asset, fair value is determined by application of:

- Market approach (by reference to comparable transactions)
- Income approach (Relief-from-Royalty- or Multi-period Excess Earnings Method)
- Cost approach

Assets with a finite useful life are amortized using the straight-line method over their expected useful life. Assets with an indefinite useful life are tested for impairment at least once a year.

(vii) Revenue from contracts with customers

The Group applied the following judgments that significantly affect the determination of the amount and timing of revenue from contracts with customers:

Identifying performance obligations and determining the timing of revenue recognition of Listing admission fees

The Group provides services related to the initial (and subsequent) listing of securities on its markets and hereto directly related corporate action services, and ongoing services related to the continuous listing.

The Group determined that the admission services around initial (and subsequent) admission and its directly related corporate action services do not transfer a good or service to the customer, but are considered activities that the Group needs to undertake to enable the customer to be listed. The Group concluded that these activities should be combined with the ongoing listing services and should be used as inputs to produce the combined output, which is the service of being listed. As the service of being listed is satisfied over a period of time, as the customer simultaneously receives and consumes the benefits from the service, the related revenues are therefore recognised over a period of time.

The Group determined that the period of time that best reflects the satisfaction of listing admission services is the period over which the customer actually benefits from the admission. An average lifetime of companies being listed on Euronext's markets would serve as best proxy for the period that a listing customer benefits from an admission. Based on historic evidence, the Group has defined the following average lifetimes for the relevant groupings of listed securities:

Equity admissions:	5 years
Bond- and fund admissions:	3 years
Equity subsequent admissions ("follow-on's"):	3 years

Revenue from the listing admission services is therefore recognised over those periods of time.

Cost to obtain or fulfil a contract related to listing admission services

The Group has considered the type of cost that is directly associated to a listing contract and that can be separately identifiable. Such cost would typically concern staff cost incurred by the Listings team involved in admission- and subsequent listing of an issuer. There is no correlation between number of listings and staff cost associated to the Listings team.

The majority of the cost to obtain and fulfil the contract is incurred in the period before the actual admission. The remaining cost associated to an admission and subsequent listing that is recorded post-admission, and its impact on the Group's income statement, would be marginal, therefore the Group has decided not to capitalize cost incurred to obtain- or fulfil listing contracts.

Principal versus agent considerations

The Group entered into a clearing agreement with LCH SA in respect of the clearing of trades on our continental Europe derivatives markets (the "Derivatives Clearing Agreement"). Under the terms of this Derivatives Clearing Agreement Euronext agreed with LCH SA to share revenues and receives clearing fee revenues based on the number of trades on these markets cleared through LCH SA. In exchange for that, we have agreed to pay LCH SA a fixed fee plus a variable fee based on revenues.

The definition of the accounting treatment of this agreement requires significant management judgment for the valuation and weighting of the indicators leading the principal versus agent accounting analysis. Based on all facts and circumstances around this arrangement, management has concluded that Euronext is 'principal' in providing Derivatives clearing services to its trading members. Therefore Euronext recognizes (i) the clearing fees received are classified as post trade revenues, and (ii) the fixed and variable fees paid to LCH SA as other operational expenses.

(viii) Provision for expected credit losses of trade and contract receivables

The Group uses a provision matrix to calculate ECLs for trade and contract receivables. To measure expected credit losses, trade and contract receivables have been grouped based on shared credit risk characteristics and the days past due. The historical loss rates are based on the payment profiles of the sales over a period of 24 months before reporting date and the corresponding historical credit losses experience within this period. The historical loss rates are adjusted to reflect current and forward-looking factors specific to the debtors and economic environment.

The provision matrix is initially based on the Group's historical observed default rates. The Group will calibrate the matrix to adjust the historical credit loss experience with forward-looking information. At every reporting date, the historical observed default rates are updated and changes in the forward-looking estimates are analysed.

The assessment of the correlation between historical observed default rates, forecast economic conditions and ECLs is a significant estimate. The amount of ECLs is sensitive to changes in circumstances and of forecast economic conditions. The Group's historical credit loss experience and forecast of economic conditions may also not be representative of customer's actual default in the future. The information about the ECLs on the Group's trade and contract receivables is disclosed in Note 37.4.

(ix) Determining the lease term of contracts with extension and termination options

In determining the lease term, management assesses the period for which the contract is enforceable. It considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated). If the Group concludes that the contract is enforceable beyond the notice period of a cancellable lease (or the initial period of a renewable lease), it then need to assess whether the Group is reasonably certain not to exercise the option to terminate the lease. However in general, the Group's lease portfolio contains very limited leases that include renewal -or termination options.

(x) Estimating the incremental borrowing rate (IBR)

The Group cannot readily determine the interest rate implicit in the lease, therefore, it uses its incremental borrowing rate (IBR) to measure lease liabilities. The IBR is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. The IBR therefore reflects what the Group 'would have to pay', which requires estimation when no observable rates are available or when they need to be adjusted to reflect the terms and conditions of the lease. The Group estimates the IBR using the observable inputs (such as market interest rates) when available and makes certain entity-specific estimates if needed.

Y). Changes in accounting policies and disclosures

The International Accounting Standards Board (IASB) continues to issue new standards and interpretations, and amendments to existing standards. The Group applies these new standards when effective and endorsed by the European Union. The Group has not opted for early adoption for any of these standards.

(i) New and amended standards and interpretations

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing 1 January 2019. The Group had to change its accounting policies as a result of adopting IFRS 16. The nature and effect of the changes as a result of adoption of this new accounting standard are described below.

IFRS 16 'Leases'

IFRS 16 supersedes IAS 17 'Leases', IFRIC 4 'Determining whether an Arrangement contains a Lease' and other interpretations. The standard sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model. Lessor accounting has been taken over almost identically from IAS 17 into IFRS 16.

The Group adopted IFRS 16 using the modified retrospective method of adoption with the date of initial application of 1 January 2019. Under this method, the standard is applied retrospectively with the cumulative effect of initially applying the standard recognised at the date of initial application. The Group also elected to use the recognition exemptions for lease contracts that, at the commencement date, have a lease term of 12 months or less and do not contain a purchase option ('short-term leases') and lease contracts for which the underlying asset is of low value ('low-value assets').

The effect of adopting IFRS 16 as at 1 January 2019 (increase/(decrease)) is as follows:

<i>In thousands of euros</i>	Increase / (decrease)
Assets	
Right-of-use assets	54,252
Total assets	54,252
Non-current liabilities	
Lease liabilities	45,125
Other Provisions	1,919
Current liabilities	
Lease liabilities	11,092
Trade and other payables	(3,885)
Total liabilities	54,252
Equity	-

The Group's lease-portfolio comprises leases of office buildings in the various locations from which the Group operates its business, leases of IT -and other equipment for use by staff in its offices and leases of hardware IT equipment such as data servers, racks and mainframes used to operate the Euronext data center in Basildon and the settlement & custody business of Interbolsa. These leases were generally classified as operating leases by the Group under previous standards. Until the 2018 financial year, payments made for those leases were charged to profit or loss on a straight line basis over the period of the lease.

Upon adoption of IFRS 16, the Group recognised right-of-use assets and lease liabilities for those leases, except for short-term leases and leases of low-value assets. The right-of-use assets were recognised based on the amount equal to the lease liabilities, adjusted for any related prepaid and accrued lease payments previously recognised, any initial direct costs and an estimation of costs to be incurred in dismantling or removing the underlying asset. Lease liabilities were recognised based on the present value of the remaining lease payments, discounted using the incremental borrowing rate at the date of initial application. The weighted average incremental borrowing rate applied to the lease liabilities on 1 January 2019 was 1.0%.

The Group also used the following practical expedients permitted by the standard at the date of initial application:

- Use of a single discount rate to a portfolio of leases with reasonably similar characteristics.
- An impairment review is not performed. Instead, a right-of-use asset is adjusted by the amount of any provision for onerous leases recognised in the Balance Sheet at 31 December 2018.
- Regardless of their original lease term, leases for which the lease term ends latest on 31 December 2019 are recognised as short-term leases.
- At the date of initial application, the measurement of a right-of-use asset excludes the initial direct costs.
- Hindsight is considered when determining the lease term if the contract contains options to extend or terminate the lease.

Based on the foregoing, as at 1 January 2019:

- Right-of-use assets of €54.3 million were recognised and presented separately in the Balance Sheet.
- Non-current lease liabilities of €45.1 million and current lease liabilities of €11.1 million were recognised and presented separately in the Balance Sheet.
- Trade and other payables of €3.8 million related to previous operating leases were derecognised.
- Provisions of €1.9 million, related to estimated future dismantling or removing costs, were recognised under non-current other provisions. This includes a transfer of the provision for dismantling costs of €0.7 million, previously recognised under current other provisions.

The net impact on retained earnings on 1 January 2019 was considered not material.

The lease liabilities as at 1 January 2019 can be reconciled to the operating lease commitments as of 31 December 2018 as follows:

In thousands of euros

Operating lease commitments disclosed as at 31 December 2018	74,488
Contracts related to leases of intangible assets or reassessed as service agreements	(17,799)
Additional leases identified as per 1 January 2019	2,083
Exemptions for short-term leases	(198)
Exemptions for leases of low-value assets	(1,103)
Other reconciling impacts	337
Discounted effect using the incremental borrowing rate at 1 January 2019	(1,591)
Lease liabilities recognised as at 1 January 2019	56,217
Of which are:	
Non-current lease liabilities	45,125
Current lease liabilities	11,092

The following other amendments and interpretations also apply for the first time in 2019, but did not have a material impact on the Group's Consolidated Financial Statements:

IFRIC Interpretation 23 'Uncertainty over Income Tax Treatment'

The Interpretation addresses the accounting for income taxes when tax treatments involve uncertainty that affects the application of IAS 12 and does not apply to taxes or levies outside the scope of IAS 12, nor does it specifically include requirements relating to interest and penalties associated with uncertain tax treatments.

The Interpretation specifically addresses the following:

- Whether an entity considers uncertain tax treatments separately
- The assumptions an entity makes about the examination of tax treatments by taxation authorities
- How an entity determines taxable profit (tax loss), tax bases, unused tax losses, unused tax credits and tax rates
- How an entity considers changes in facts and circumstances

The Group determines whether to consider each uncertain tax treatment separately or together with one or more other uncertain tax treatments and uses the approach that better predicts the resolution of the uncertainty. The Group applies significant judgement in identifying uncertainties over income tax treatments. The Group determined, based on its tax compliance, that it is probable that its tax treatments (including those for the subsidiaries) will be accepted by the taxation authorities. The Interpretation did not have an impact on the consolidated financial statements of the Group.

Amendments to IFRS 9: 'Prepayment Features with Negative Compensation'

Under IFRS 9, a debt instrument can be measured at amortised cost or at fair value through other comprehensive income, provided that the contractual cash flows are 'solely payments of principal and interest on the principal amount outstanding' (the SPPI criterion) and the instrument is held within the appropriate business model for that classification. The amendments to IFRS 9 clarify that a financial asset passes the SPPI criterion regardless of an event or circumstance that causes the early termination of the contract and irrespective of which party pays or receives reasonable compensation for the early termination of the contract. These amendments had no impact on the consolidated financial statements of the Group.

Amendments to IAS 19 – 'Plan Amendment, Curtailment or Settlement'

The amendments to IAS 19 address the accounting when a plan amendment, curtailment or settlement occurs during a reporting period. The amendments specify that when a plan amendment, curtailment or settlement occurs during the annual reporting period, an entity is required to determine the current service cost for the remainder of the period after the plan amendment, curtailment or settlement, using the actuarial assumptions used to remeasure the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event. An entity is also required to determine the net interest for the remainder of the period after the plan amendment, curtailment or settlement using the net defined benefit liability (asset) reflecting the benefits offered under the plan and the plan assets after that event, and the discount rate used to remeasure that net defined benefit liability (asset). The amendments had no material impact on the consolidated financial statements of the Group.

Amendments to IAS 28: Long-term interests in associates and joint ventures

The amendments clarify that an entity applies IFRS 9 to long-term interests in an associate or joint venture to which the equity method is not applied but that, in substance, form part of the net investment in the associate or joint venture (long-term interests). This clarification is relevant because it implies that the expected credit loss model in IFRS 9 applies to such long-term interests. The amendments also clarified that, in applying IFRS 9, an entity does not take account of any losses of the associate or joint venture, or any impairment losses on the net investment, recognised as adjustments to the net investment in the associate or joint venture that arise from applying IAS 28 Investments in Associates and Joint Ventures. These amendments had no impact on the consolidated financial statements as the Group does not have long-term interests in its associate and joint venture.

Annual Improvements 2015-2017 Cycle

These improvements include:

• **IFRS 3 Business Combinations**

The amendments clarify that, when an entity obtains control of a business that is a joint operation, it applies the requirements for a business combination achieved in stages, including remeasuring previously held interests in the assets and liabilities of the joint operation at fair value. In doing so, the acquirer remeasures its entire previously held interest in the joint operation. An entity applies those amendments to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early application permitted. These amendments had no impact on the consolidated financial statements of the Group as there is no transaction where joint control is obtained.

• **IFRS 11 Joint Arrangements**

An entity that participates in, but does not have joint control of, a joint operation might obtain joint control of the joint operation in which the activity of the joint operation constitutes a business as defined in IFRS 3. The amendments clarify that the previously held interests in that joint operation are not remeasured. An entity applies those amendments to transactions in which it obtains joint control on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early application permitted. These amendments had no impact on the consolidated financial statements of the Group as there is no transaction where a joint control is obtained.

• **IAS 12 Income Taxes**

The amendments clarify that the income tax consequences of dividends are linked more directly to past transactions or events that generated distributable profits than to distributions to owners. Therefore, an entity recognises the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where it originally recognised those past transactions or events. An entity applies the amendments for annual reporting periods beginning on or after 1 January 2019, with early application permitted. When the entity first applies those amendments, it applies them to the income tax consequences of dividends recognised on or after the beginning of the earliest comparative period. Since the Group's current practice is in line with these amendments, they had no impact on the consolidated financial statements of the Group.

• **IAS 23 Borrowing Costs**

The amendments clarify that an entity treats as part of general borrowings any borrowing originally made to develop a qualifying asset when substantially all of the activities necessary to prepare that asset for its intended use or sale are complete. The entity applies the amendments to borrowing costs incurred on or after the beginning of the annual reporting period in which the entity first applies those amendments. An entity applies those amendments for annual reporting periods beginning on or after 1 January 2019, with early application permitted. Since the Group's current practice is in line with these amendments, they had no impact on the consolidated financial statements of the Group.

(ii) Future implications of new and amended standards and interpretations not yet adopted

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements are disclosed below. The Group intends to adopt these new and amended standards and interpretations, if applicable, when they become effective.

IFRS 17 'Insurance Contracts'

In May 2017, the IASB issued IFRS 17 Insurance Contracts (IFRS 17), a comprehensive new accounting standard for insurance contracts covering recognition and measurement, presentation and disclosure. IFRS 17 is effective for reporting periods beginning on or after 1 January 2021, with comparative figures required. This standard does not affect the Group.

Amendments to IFRS 3: Definition of a Business

In October 2018, the IASB issued amendments to the definition of a business in IFRS 3 Business Combinations to help entities determine whether an acquired set of activities and assets is a business or not. They clarify the minimum requirements for a business, remove the assessment of whether market participants are capable of replacing any missing elements, add guidance to help entities assess whether an acquired process is substantive, narrow the definitions of a business and of outputs, and introduce an optional fair value concentration test. New illustrative examples were provided along with the amendments. Since the amendments apply prospectively to transactions or other events that occur on or after the date of first application, the Group will not be affected by these amendments on the date of transition.

Amendments to IAS 1 and IAS 8: Definition of Material

In October 2018, the IASB issued amendments to IAS 1 Presentation of Financial Statements and IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors to align the definition of 'material' across the standards and to clarify certain aspects of the definition. The new definition states that, 'Information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity.' The amendments to the definition of material is not expected to have a significant impact on the Group's consolidated financial statements.

There are no other IFRS's or IFRIC interpretations not yet effective, that would be expected to have a material impact on the Group in the current or future reporting periods and on foreseeable future transactions.

4. Group information

The following tables provide an overview of the Group's subsidiaries, associates, joint-ventures and non-current investments:

Subsidiaries	Domicile	Ownership	
		As at 31 December 2019	As at 31 December 2018
Enternext S.A.	France	100.00%	100.00%
Euronext Amsterdam N.V.	The Netherlands	100.00%	100.00%
Euronext Brussels S.A./N.V.	Belgium	100.00%	100.00%
Euronext IP & IT Holding B.V.	The Netherlands	100.00%	100.00%
Euronext Hong Kong Limited	Hong Kong	100.00%	100.00%
Euronext Lisbon S.A. (a)	Portugal	100.00%	100.00%
Euronext London Ltd.	United Kingdom	100.00%	100.00%
Euronext Paris S.A.	France	100.00%	100.00%
Euronext Technologies S.A.S.	France	100.00%	100.00%
Euronext Technologies Unipessoal Lda.	Portugal	100.00%	100.00%
Interbolsa S.A. (b)	Portugal	100.00%	100.00%
The Irish Stock Exchange Plc. (c)	Ireland	100.00%	100.00%
ISE Old Co. Ltd.	Ireland	100.00%	100.00%
Irish Stock Exchange Services Ltd.	Ireland	100.00%	100.00%
European Wholesale Markets Ltd.	Malta	80.00%	80.00%
Euronext Corporate Services B.V.	The Netherlands	100.00%	100.00%
Company Webcast B.V.	The Netherlands	51.00%	51.00%
iBabs B.V.	The Netherlands	60.00%	60.00%
MSI Services B.V.	The Netherlands	60.00%	60.00%
IR Soft Ltd.	United Kingdom	100.00%	100.00%
InsiderLog AB	Sweden	80.00%	80.00%
Euronext US Inc.	United States	100.00%	100.00%
Euronext Synapse LLC	United States	100.00%	100.00%
Euronext Markets Americas LLC (d)	United States	100.00%	0.00%
Euronext FX Inc. (e)	United States	97.30%	97.30%
Euronext Markets Singapore Pte Ltd. (f)	Singapore	97.30%	97.30%
Euronext UK Holdings Ltd.	United Kingdom	100.00%	100.00%
Commcise Software Ltd.	United Kingdom	78.00%	78.00%
Commcise India Pltd.	India	78.00%	78.00%
Oslo Børs VPS Holding ASA (g)	Norway	100.00%	0.00%
Oslo Børs ASA (g)	Norway	100.00%	0.00%
Verdipapirsentralen ASA ("VPS") (g)	Norway	100.00%	0.00%
Oslo Market Solutions AS (g)	Norway	100.00%	0.00%
Fish Pool ASA (g)	Norway	97.00%	0.00%
Centevo AB (g)	Sweden	100.00%	0.00%
NOTC AS (g)	Norway	100.00%	0.00%
Euronext Nordics Holding AS (h)	Norway	100.00%	0.00%
Finance Web Working SAS (i)	France	60.00%	0.00%
Stichting Euronext Foundation (j)	The Netherlands	0.00%	0.00%
Associates			
Tredzone S.A.S.	France	34.04%	34.04%
European Central Counterparty N.V.	The Netherlands	20.00%	20.00%
LCH SA	France	11.10%	11.10%
Tokeny Solutions (k)	Luxembourg	23.50%	0.00%
Joint Ventures			
Algonext Ltd.	United Kingdom	50.00%	50.00%
LiquidShare S.A.	France	16.23%	13.57%
FinansNett Norge (g)	Norway	50.00%	0.00%
Non-current investments			
Sicovam Holding S.A.	France	9.60%	9.60%

Euroclear S.A./N.V.	Belgium	3.53%	3.53%
Oslo Børs VPS Holding ASA (g)	Norway	0.00%	5.10%
Nordic Credit Rating AS (g)	Norway	5.00%	0.00%
Association of National Numbering Agencies	UK / Portugal	2.20%	2.20%
Investor Compensation Company Designated Activity Company	Ireland	33.30%	33.30%
Algomi Ltd.	United Kingdom	7.74%	7.74%

- (a) Legal name of Euronext Lisbon S.A. is Euronext Lisbon - Sociedade Gestora de Mercados Regulamentados, S.A.
(b) Legal name of Interbolsa S.A. is Interbolsa - Sociedade Gestora de Sistemas de Liquidação e de Sistemas Centralizados de Valores Mobiliários, S.A.
(c) The Irish Stock Exchange plc. operates under the business name Euronext Dublin.
(d) Euronext Markets Americas LLC was incorporated on 18 April 2019.
(e) On 16 April 2019, the legal entity FastMatch Inc. became Euronext FX Inc.
(f) On 16 April 2019, the legal entity FastMatch Asia Markets Pte. Ltd. became Euronext Markets Singapore Pte. Ltd.
(g) Oslo Børs VPS Holding ASA and its related interests were acquired as per 14 June 2019 (see Note 5). Consequently, this changed the nature of the Group's previous interest in Oslo Børs VPS Holding ASA from a non-current investment to a fully consolidated subsidiary.
(h) Euronext Nordics Holding AS was incorporated on 29 November 2019.
(i) On 9 July 2019, the Group acquired a 60% interest in Finance Web Working SAS (see Note 5).
(j) Stichting Euronext Foundation is not owned by the Group but included in the scope of consolidation.
(k) On 28 June 2019, the Group acquired a 23.5% stake in Tokeny Solutions (see Note 2).

5. Business combinations and acquisition of non-controlling interests

The acquisitions that occurred during the year are set out below.

5.1 Acquisition of Oslo Børs VPS Holding ASA ("Oslo Børs VPS")

On 14 January 2019, the Group launched an all-cash tender offer for the outstanding shares, at NOK 145 per share, in Oslo Børs VPS, the Norwegian Stock Exchange and national CSD operator. On 11 February 2019, the Group revised the offer price to NOK 158. As per 31 May 2019, the tender offer period expired. On that same day, the Group launched an unconditional offer for the remaining, un-tendered shares at an offer price of NOK 158 plus a fixed interest payment of NOK 3.21 per share.

The shares tendered under the offers launched on 14 January 2019 and 31 May 2019, representing 89.5% of the shares of Oslo Børs VPS, were settled on 14 June 2019. The cash consideration related to the settlement amounted to €636.0 million.

Prior to the acquisition of the majority stake, the Group already owned a 8.3% equity investment in Oslo Børs VPS, which it had purchased through direct share acquisitions. Immediately before obtaining the controlling stake, the equity investment was revaluated to its acquisition-date fair value, amounting to €57.4 million, which is part of the total purchase consideration. The revaluation gain of €3.6 million resulting from remeasurement of the equity investment was recognised in other comprehensive income (see Note 20).

As a consequence of the above, the Group became legal owner of 97.8% of the total issued and outstanding share capital of Oslo Børs VPS on 14 June 2019. At the acquisition date, the Group measured the remaining 2.2% of non-controlling interest at fair value, i.e. based on the purchase consideration paid to acquire the 89.5% including interest, for a total amount of €15.5 million.

The Group has acquired Oslo Børs VPS to expand the Group's federal model and increase the Group's growth opportunities. Oslo Børs VPS will become the Group's development hub and launchpad for expansion in the Nordics. Oslo will be the headquarters for all of the Group's future activities in the Nordic region and will become its center of excellence for all activities in commodities across Euronext businesses.

Details of the purchase consideration, the net assets acquired and goodwill are reflected in the tables below.

Purchase consideration:

<i>In thousands of euros</i>	Fair Value
Cash paid	636,006
Equity investment held pre-acquisition	57,372
Total purchase consideration	693,378

The assets and liabilities recognised as a result of the acquisition were as follows:

<i>In thousands of euros</i>	Fair Value
Assets	
Property, plant and equipment	15,400
Right-of-use assets	6,692
Intangible assets: customer relations	218,997
Intangible assets: software platform	33,140
Other intangible assets	1,978
Deferred tax assets	8,151
Investments in associates and joint ventures	394
Non-current other assets	251
Financial assets at FVOCI	255
Trade and other receivables	19,501
Other current financial assets	10,121
Cash and cash equivalents	77,741
Liabilities	
Non-current borrowings	(45,956)
Non-current lease liabilities	(5,149)
Deferred tax liabilities	(65,811)
Post-employment benefits	(13,541)
Non-current contract liabilities	(4,614)
Non-current other provisions	(3,730)
Current borrowings	(65)
Current lease liabilities	(1,543)
Current income tax liabilities	(5,442)
Trade and other payables	(18,344)
Current contract liabilities	(22,823)
Net identifiable assets acquired	205,603
Less: non-controlling interest	(15,527)
Add: Goodwill	503,302
Total purchase consideration	693,378

The goodwill is primarily attributable to the expected synergies and other benefits from combining the assets and activities of Oslo Børs VPS, with those of the Group. The goodwill is not deductible for income tax purposes.

Acquired receivables

The fair value of trade and other receivables was €19.5 million and included €13.4 million of trade receivables, which is not materially different to the gross contractual amount and it is expected that the full contractual amounts can be collected.

Revenue and profit contribution

From the date of the acquisition, Oslo Børs VPS has contributed €57.1 million of revenue and €10.4 million of net profit to the Group. If the acquisition would have occurred on 1 January 2019, consolidated revenue and profit for the year ended 31 December 2019 would have been €727.4 million and €234.1 million respectively.

Analysis of cash flows on acquisition

Analysis of cash flows on acquisition:

<i>In thousands of euros</i>	2019
Acquisition related costs	(11,077)
Included in cash flows from operating activities	(11,077)
Cash consideration	(636,006)
Less: Balances acquired	77,741
Included in cash flows from investing activities	(558,265)
Net cash flow on acquisition	(569,342)

Acquisition related costs

Acquisition related costs of €11.1 million have been expensed and are included in exceptional items in profit or loss (see Note 12).

Changes made after the preliminary fair value calculation since the Group's Interim Financial Statements of 30 June 2019

During the second half of the year, the valuation of the net identifiable assets acquired was completed, with the most significant movements recognised in (i) *Property, plant and equipment* for re-assessment of the fair value of the Oslo stock exchange building, (ii) *Intangible assets* related to the valuation of certain intangible assets on acquisition, (iii) *Trade and other payables* following the identification of an unfavorable contract for trading services provided by London Stock Exchange to Oslo Børs VPS, (iv) *Deferred tax liabilities* includes the tax impact of the fair value adjustments and (v) *Goodwill* comprising the balance of all fair value adjustments.

The line items for which fair value was adjusted and their impacts are disclosed in the table below:

In thousands of euros	Fair Value Adjustment
Assets	
Property, plant and equipment	10,390
Right-of-use assets	769
Intangible assets: customer relations	218,997
Intangible assets: software platform	33,140
Deferred tax assets	906
Liabilities	
Non-current lease liabilities	(548)
Deferred tax liabilities	(65,632)
Post-employment benefits	2,907
Non-current other provisions	(3,730)
Current lease liabilities	(164)
Trade and other payables	(2,860)
Net identifiable assets acquired	194,176
Less: Goodwill	(194,176)
Total purchase consideration	-

Related transaction of acquisition of the 2.2% minority stake

Early July 2019, following completion of its unconditional offer launched on 31 May 2019, the Group obtained a further 1.6% of the shares of Oslo Børs VPS, increasing its interest to 99.4%.

On 4 July 2019, the Group started a legal process to carry out a compulsory acquisition of all the remaining shares in Oslo Børs VPS that it did not already own. The offered redemption amount was the same as offered to shareholders in the offer launched on 31 May 2019, that is NOK 158 per share plus applicable interest payments.

The above resulted in the transfer of the rights and ownership of the 0.6% remaining shares of Oslo Børs VPS to the Group on 4 July 2019, making the Group the beneficial owner of 100% of the Oslo Børs VPS shares. Subsequently, the Oslo Børs VPS share was deregistered from the N-OTC.

5.2 Acquisition of Finance Web Working SAS (Euronext Funds360)

On 9 July 2019, the Group acquired 60% of Finance Web Working SAS, a leading fund data provider in France, for a cash consideration of €3.2 million and an option to acquire the remaining capital in 2023.

The Group has acquired Finance Web Working SAS to complement Euronext's Advanced Data Services offering and support its ambition to provide value-added services to both buy-side and sell-side clients in Europe. Finance Web Working SAS is operating under the business name Euronext Funds360.

The related goodwill amounted to €3.4 million. The goodwill is primarily attributable to the expected synergies and other benefits from combining the assets and activities of Finance Web Working SAS with those of the Group. The goodwill is not deductible for income tax purposes. The Group has chosen to recognise the non-controlling interest at the proportionate share of the net assets acquired.

5.3 Information on acquisitions in prior periods

On 20 December 2018, the Group acquired 78% of the shares and voting rights of Commcise Software Ltd. ("Commcise").

Following the finalisation of the fair value calculation during 2019, the adjusted net identifiable assets acquired, non-controlling interest and goodwill are reflected in the table below:

<i>In thousands of euros</i>	Preliminary calculation Fair Value	Adjustments	Final Fair Value
Assets			
Property, plant and equipment	64	(30)	34
Intangible assets: customer relations	-	4,033	4,033
Intangible assets: software platform	-	5,779	5,779
Non-current financial assets	37	-	37
Current income tax receivables	-	14	14
Trade and other receivables	1,290	-	1,290
Cash and cash equivalents	2,570	-	2,570
Liabilities			
Deferred tax liabilities	(3)	(1,867)	(1,870)
Trade and other payables	(2,009)	(356)	(2,365)
Net identifiable assets acquired	1,949	7,574	9,523
Less: non-controlling interest	(429)	(1,666)	(2,095)
Add: Goodwill	28,606	(5,908)	22,699
Total purchase consideration	30,126	-	30,126

Other details of the business combination remained unchanged and are disclosed in Note 5 of the Group's Consolidated Financial Statements for the year ended 31 December 2018, including the preliminary fair value calculation of the transaction.

6. Non-controlling interests (NCI)

Financial information of subsidiaries that have material non-controlling interest is provided below.

Proportion of equity interest held by non-controlling interests:

Name of entity	Place of business / country of Incorporation	% of ownership interest held by NCI	
		2019	2018
		%	%
Company Webcast B.V.	The Netherlands	49.00	49.00
iBabs B.V.	The Netherlands	40.00	40.00
FastMatch Inc.	United States	2.70	2.70
Commcise Software Ltd.	United Kingdom	22.00	22.00

The summarized financial information of these subsidiaries is provided below. This information is based on amounts before inter-company eliminations.

Summarised balance sheet	Company Webcast B.V.		iBabs B.V.		FastMatch Inc.		Commcise Software Ltd.	
	31 Dec 2019	31 Dec 2018	31 Dec 2019	31 Dec 2018	31 Dec 2019	31 Dec 2018	31 Dec 2019	31 Dec 2018
<i>(In thousands of euros)</i>								
Current assets	6,038	2,367	13,175	8,025	21,692	19,282	6,543	3,871
Current liabilities	4,209	1,985	5,870	4,732	7,027	4,386	3,540	2,016
Current net assets	1,829	382	7,305	3,293	14,665	14,896	3,003	1,855
Non-current assets	2,383	1,269	20,606	22,384	45,065	41,449	9,082	101
Non-current liabilities	902	12	4,435	4,584	7,543	5,772	1,538	3
Non-current net assets	1,481	1,257	16,171	17,800	37,522	35,677	7,544	98
Net assets	3,310	1,639	23,476	21,093	52,187	50,573	10,547	1,953
Accumulated NCI	1,622	803	9,390	8,437	1,409	1,365	2,320	430

Summarised statement of comprehensive income	Company Webcast B.V.		iBabs B.V.		FastMatch Inc.		Commcise Software Ltd.	
	2019	2018	2019	2018	2019	2018	2019	2018
<i>(In thousands of euros)</i>								

Revenue	6,778	4,547	13,726	9,499	25,563	21,834	5,006	-
Profit for the year	1,671	223	5,384	2,981	4,641	2,757	387	-
Other comprehensive income	-	-	-	-	104	45	135	6
Total comprehensive income	1,671	223	5,384	2,981	4,745	2,802	522	6
Profit / (loss) allocated to NCI	819	109	2,153	1,193	125	262	85	-
Dividends paid to NCI	-	-	1,200	1,480	109	-	-	-

Summarised cash flow information	Company Webcast B.V.		iBabs B.V.		FastMatch Inc.		Commcise Software Ltd.	
	2019	2018	2019	2018	2019	2018	2019	2018
<i>(In thousands of euros)</i>								
Cash flow from operating activities	3,334	1,067	11,919	3,999	12,881	9,927	1,338	-
Cash flow from investing activities	(473)	(576)	(298)	(176)	(7,606)	(3,725)	(10)	2,570
Cash flow from financing activities	(76)	(34)	(3,035)	(3,700)	(4,188)	566	231	8
Net increase / (decrease) in cash and cash equivalents	2,785	457	8,586	123	1,087	6,768	1,559	2,578

7. Investments in associates and joint ventures

7.1 Interests in associates and joint ventures

Set out below are the associates and joint ventures of the Group as at 31 December 2019. The country of incorporation or registration is also their principal place of business, and the proportion of ownership interest is the same as the proportion of voting rights held.

Name of entity	Place of business / country of Incorporation	% of ownership interest		Nature of relationship	Carrying amount (In thousands of euros)	
		2019	2018		2019	2018
		%	%			
European Central Counterparty N.V.	The Netherlands	20.0	20.0	Associate (a)	-	14,364
LCH SA	France	11.1	11.1	Associate (b)	59,957	57,401
Immaterial joint ventures					2,270	920
Immaterial associates					4,799	-
Total equity accounted investments					67,025	72,685

(a) *European Central Counterparty N.V. ("EuroCCP") is a CCP for pan-European equity markets providing clearing and settlement services.*

(b) *LCH SA is a Continental European clearing house, offering clearing services for a diverse range of asset classes. As described in Note 3, the Group has determined that it has significant influence over LCH SA even though it only holds 11.1% of the voting rights.*

On 10 December 2019, the Group announced that it entered into binding agreements to sell its 20% minority stake in EuroCCP to CBOE Global Markets, alongside the other current EuroCCP shareholders. The transaction is expected to close in the first half of 2020. The Group expects to receive net proceeds of approximately €8.8 million from the sale of its minority stake. As a result of this agreement, the Group impaired the value of its investment by approximately €6.0 million and reclassified the remaining value of its investment in EuroCCP to the line 'assets held for sale' (see Note 22).

7.2 Commitments and contingent liabilities in respect of associates and joint ventures

The Group has no outstanding contingent liabilities with respect to its associates or joint ventures.

7.3 Summarised financial information for associates and joint ventures

The tables below provide summarised financial information for those associates and joint ventures that are material to the Group. The information disclosed reflects the amounts presented in the financial statements of the relevant associates or joint ventures and not Euronext's share of those amounts. They have been amended to reflect adjustments made by the entity when using the equity method, including fair value adjustments and modifications for differences in accounting policy.

Summarised balance sheet	EuroCCP	LCH SA
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(In thousands of euros)	31 Dec 2019	31 Dec 2018	31 Dec 2019	31 Dec 2018
Non-current assets	-	1,391	117,488	100,044
Current assets	-	613,848	474,207,180	363,622,700
Non-current liabilities	-	-	17,200	6,600
Current liabilities	-	570,584	473,929,300	363,361,000
Net assets	-	44,655	378,168	355,144
Reconciliation to carrying amounts:				
Opening net assets 1 January	-	43,381	355,144	360,321
Adjustments	-	-	(4,056)	(5,377)
Profit/(loss) for the year (a)	-	1,277	73,000	44,100
Other comprehensive income	-	(3)	80	100
Dividends paid	-	-	(46,000)	(44,000)
Closing net assets	-	44,655	378,168	355,144
Group's share in %	20.0%	20.0%	11.1%	11.1%
Group's share in thousands of euros	-	8,931	41,977	39,421
Goodwill	-	5,433	17,980	17,980
Carrying amount	-	14,364	59,957	57,401

(a) In 2019, EuroCCP contributed a €5.6 million loss (2018: €0.3 million profit) to the line 'Share of net profit/(loss) of associates and joint ventures accounted for using the equity method, and impairments thereof' in the Consolidated Statement of Profit or Loss. The contribution of LCH SA to this line amounted to €7.7 million (2018: €4.3 million).

Summarised statement of comprehensive income (In thousands of euros)	EuroCCP		LCH SA	
	2019	2018	2019	2018
Revenue	-	21,248	160,500	120,800
Profit from continuing operations	-	1,277	73,000	44,100
Profit from discontinued operations	-	-	-	-
Profit for the year	-	1,277	73,000	44,100
Other comprehensive income	-	(3)	80	100
Total comprehensive income	-	1,274	73,080	44,200
Dividends received from associates	-	-	5,097	4,884

7.4 Individually immaterial associates and joint ventures

In addition to the interest in material associates and joint ventures disclosed above, the Group also has interests in individually immaterial associates and individually immaterial joint ventures, that are all accounted for using the equity method.

Individually immaterial associates

On 28 June 2019, the Group acquired a 23.5% stake in Tokeny Solutions, a tokenization platform that provides users end-to-end solutions to issue, manage and transfer tokenized securities on public blockchain.

The Group has an 34.04% interest in Tredzone S.A.S., a low latency software developer, as part of its innovation strategy. In 2018, the Group recognised an impairment of €1.0 million in its interest in Tredzone S.A.S. bringing the value down to zero. There were no changes to this value as per 31 December 2019.

(In thousands of euros)	2019	2018
Aggregate carrying amount of individually immaterial associates	4,799	-
Aggregate amounts of the group's share of:		
Profit/(loss) from continuing operations	(201)	(137)
Post-tax profit or loss from discontinued operations	-	-
Other comprehensive income	-	-
Total comprehensive income	(201)	(137)

Individually immaterial joint ventures

The acquisition of Oslo Børs VPS (see Note 5) included an interest of 50% in joint venture Finansnett Norge AS, a company offering data communications through a metropolitan area network (MAN) in Oslo. This network provides

communication services for use by backup and disaster recovery solutions as used by brokers and other participants in the financial sector.

In addition, the Group (sharing joint control with the other founders) has an interest of 16.23% in LiquidShare SAS, a fintech joint venture with the objective to improve SME's access to capital markets and improving the transparency and security of post-trading operations using blockchain technology.

The Group also has an interest of 50% in Algonext Ltd. that was incorporated after the Group entered into a 10 year partnership with fixed income technology provider Algomi Ltd., to create a long-term joint venture. In 2018, the Group recognised an impairment of €0.5 million in its interest in Algonext Ltd. bringing the value down to zero. There were no changes to this value as per 31 December 2019. Algonext Ltd. is in the process of being struck off as a company.

<i>(In thousands of euros)</i>	2019	2018
Aggregate carrying amount of individually immaterial joint ventures	2,270	920
Aggregate amounts of the group's share of:		
Profit/(loss) from continuing operations	(3)	(1,373)
Post-tax profit or loss from discontinued operations	-	-
Other comprehensive income	-	-
Total comprehensive income	(3)	(1,373)

8. Revenue from contracts with customers

8.1 Disaggregated revenue information

Substantially all of the Group's revenues are considered to be revenues from contracts with customers. At 31 December 2019 and 2018, there were no customers that individually exceeded 10% of the Group's revenue.

Set out below is the disaggregation of the Group's revenue from contracts with customers:

<i>In thousands of euros</i>	Year ended 31 December	Timing of revenue recognition		Year ended 31 December	Timing of revenue recognition	
		Product or service transferred at a point in time	over time		Product or service transferred at a point in time	over time
Major revenue stream	2019			2018		
Listing	128,951	7,587	121,364	106,490	4,704	101,786
Trading revenue	272,810	272,810	-	276,572	276,572	-
<i>of which</i>						
Cash trading	205,565	205,565	-	210,947	210,947	-
Derivatives trading	44,324	44,324	-	43,910	43,910	-
FX trading	22,921	22,921	-	21,715	21,715	-
Investor services	5,735	244	5,491	-	-	-
Advanced data services	128,756	1,210	127,546	118,298	1,003	117,295
Post-trade	104,831	70,791	34,040	77,381	57,672	19,709
<i>of which</i>						
Clearing	55,237	55,237	-	55,331	55,331	-
Custody & Settlement and other	49,594	15,554	34,040	22,050	2,341	19,709
Euronext Technology solutions & other revenue	37,805	1,885	35,920	36,063	813	35,250
Other income	220	220	-	229	229	-
Total revenue from contracts with customers	679,108	354,747	324,361	615,033	340,993	274,040

Set out below is the geographical information of the Group's revenue from contracts with customers:

<i>In thousands of euros</i>	France	Netherlands	United Kingdom	Belgium	Portugal	Ireland	United States	Norway	Sweden	Hong Kong	Total
2019											
Revenue from contracts with customers (a)	331,248	160,072	5,299	30,966	33,236	35,668	23,202	57,075	2,293	49	679,108
2018											

Revenue from contracts with customers (a)	328,255	170,990	286	32,874	35,021	24,517	21,835	-	1,202	53	615,033
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(a) Advanced data services revenues are attributed to the country where the exchange is domiciled. Revenues from other categories are attributed to the billing entity.

8.2 Contract balances

The Group has recognised the following assets and liabilities related to contracts with customers:

	31 December 2019	31 December 2018	1 January 2018
<i>In thousands of euros</i>			
Trade receivables (Note 21)	93,856	70,815	61,156
Contract receivables (Note 21)	19,878	21,996	15,814
Contract liabilities (Note 33)	108,620	96,948	76,342

Trade receivables are non-interest bearing and are generally due on terms of 30 to 90 days and represent amounts in respect of billed revenue, for which the Group has an unconditional right to consideration (i.e. only the passage of time is required before payment of the consideration is due). Trade receivables increased by €23.0 million, which is mainly attributable to the acquisitions of new subsidiaries (primarily Oslo Børs VPS) for €13.9 million (see Note 5) and increased invoicing in listing business of €4.3 million, following new IPO's in the fourth quarter of 2019. Furthermore, a reclassification was made from contract receivables to trade receivables for €2.5 million related to connectivity fees.

Contract receivables represent amounts in respect of unbilled revenue, for which the Group has an unconditional right to consideration (i.e. only the passage of time is required before payment of the consideration is due). Contract receivables decreased by €2.1 million, primarily caused by last year's contract receivable positions for market data -and connectivity revenues, which were reclassified to trade receivables in 2019. This effect was partly offset by the increasing impact from the acquisitions of new subsidiaries for €1.2 million (see Note 5). In 2019, €1.6 million (2018: €1.5 million) was recognised as provision for expected credit losses on trade and contract receivables (see Notes 21 and 37.4).

Contract liabilities primarily relate to received consideration (or an amount of consideration is due) from customers for the initial (or subsequent) listing of equity securities, bond lifetime fees, indices licenses, software maintenance & hosting and corporate services. The increase of €11.7 million in contract liabilities, was primarily attributable to the acquisition of Oslo Børs VPS (see Note 5), which included contract liabilities related to initial and subsequent listing. Other impacts contributing to the increase in contract liabilities were amounts received or due from customers related to investor services business (Commisce), Indices licenses and corporate services, following growing activity in those businesses.

Revenue recognised in the reporting period that was included in the contract liability balance at the beginning of the period amounted to €47.1 million (2018: €39.3 million). The amount of revenue recognised in the reporting period from performance obligations satisfied (or partially satisfied) in previous periods was considered not significant (2018: not material).

8.3 Performance obligations

Information about the Group's performance obligations are described in Note 3 'Significant accounting policies and judgements'.

The transaction price allocated to the remaining performance obligations (unsatisfied or partially unsatisfied) are as follows:

	31 December 2019	31 December 2018
<i>In thousands of euros</i>		
Within one year	65,528	57,617
More than one year	61,384	63,873
Total	126,912	121,490

The remaining performance obligations expected to be recognised in more than one year primarily relate to the initial (or subsequent) listing of equity securities and bond lifetime fees which are recognised over the related listing period. Other performance obligations included in this category are software maintenance & hosting contracts, Indices license contracts and corporate services license contracts.

9. Salaries and employee benefits

Year ended
31 December
31 December

<i>In thousands of euros</i>	2019	2018
Salaries and other short term benefits	(108,443)	(86,420)
Social security contributions	(32,993)	(24,851)
Share-based payment costs	(6,943)	(3,979)
Pension cost - defined benefit plans	(1,292)	(1,310)
Pension cost - defined contribution plans	(3,474)	(1,928)
Total	(153,145)	(118,488)

At the end of the year, the number of employees, based on full-time equivalents (FTE) stood at 1,070.7 (2018: 809.1). The increase in FTE was primarily caused by the newly acquired companies during the year.

Salaries, other short term benefits, social security contributions and pension cost (defined contribution plans) primarily increased due to newly acquired subsidiaries in 2019.

In 2019, 'Share based payments costs' primarily contain costs related to the LTI Plans 2016, 2017, 2018 and 2019. Details of these plans are disclosed in Note 28.

10. Depreciation and amortization

<i>In thousands of euros</i>	Year ended	
	31 December	31 December
	2019	2018
Depreciation of tangible fixed assets	(9,898)	(7,224)
Amortisation of intangible fixed assets	(22,831)	(16,176)
Amortisation of right-of-use assets	(10,947)	-
Total	(43,676)	(23,400)

Depreciation of tangible fixed assets primarily increased due to newly acquired subsidiaries in 2019.

Amortisation of intangible fixed assets included €14.5 million (2018: €7.3 million) of software and customer relations amortisation from newly acquired companies as from their acquisition dates (see Note 18).

The adoption of IFRS 16 led to the recognition of amortisation of right-of-use assets in 2019.

11. Other operational expenses

<i>In thousands of euros</i>	Year ended	
	31 December	31 December
	2019	2018
Systems and communications	(26,385)	(26,208)
Professional services	(37,070)	(47,011)
Clearing expenses	(29,402)	(29,846)
Accommodation	(5,467)	(10,430)
Other expenses (a)	(28,219)	(28,800)
Total	(126,543)	(142,295)

(a) Other expenses include marketing, taxes, insurance, travel, professional membership fees, corporate management and other expenses.

Professional services expenses decreased following Optiq® go-live for Cash markets in 2018. The decrease in accommodation expenses is related to the adoption of IFRS 16 in 2019.

12. Exceptional items

<i>In thousands of euros</i>	Year ended	
	31 December	31 December
	2019	2018
Restructuring costs	(5,671)	(8,126)
Acquisition costs	(11,730)	(2,088)

DB contract termination	-	(4,752)
Settlement Algomi investment and related items	(1,341)	(3,226)
Termination of contracts	(2,245)	(2,000)
Litigation provisions/settlements	-	(520)
Onerous contract costs	(857)	(893)
Other	(27)	131
Total	(21,871)	(21,474)

In 2019, exceptional items included:

- €5.7 million of restructuring costs mainly related to expenses for employee termination benefits in the various Euronext locations;
- €11.7 million of costs incurred for contemplated acquisitions of major significance to the Group, potentially changing the Group's form or character (transformational acquisitions), which primarily relate to the acquisition of Oslo Børs VPS (see Note 5);
- €1.3 million of settlement payment related to the investment in Algomi Ltd.;
- €2.2 million related to the early termination of various IT contracts within Oslo Børs VPS;
- €0.9 million of costs related to onerous commercial contracts.

In 2018, exceptional items included:

- €8.1 million of restructuring costs mainly related to expenses for employee termination benefits in the various Euronext locations;
- €2.1 million of costs incurred for contemplated acquisitions of major significance to the Group, potentially changing the Group's form or character (transformational acquisitions);
- €4.8 million of impact related to the early termination of the trading services contract provided by Deutsche Börse AG to the Irish Stock Exchange;
- €3.2 million of items related to the revaluation of the investment in Algomi Ltd., of which €1.5 million related to impaired intangible assets in 2018;
- €2.0 million of costs related to the termination of contract with a reseller within corporate services business;
- €0.5 million of litigation provisions/settlements attributable to individual legal cases, including a \$0.8 million settlement with former FastMatch CEO;
- €0.9 million of onerous maintenance contract costs related to impaired intangible assets that were reflected in exceptional items of 2017.

If the exceptional items were presented by nature, salaries and employee benefits would increase to €5.7 million (2018: €8.1 million), depreciation and amortization would increase to €0.0 million (2018: €1.7 million) and other operational expenses would increase to €16.2 million (2018: €11.7 million). They relate to both income and expenses.

13. Net financing income / (expense)

	Year ended	
	31 December	31 December
<i>In thousands of euros</i>	2019	2018
Interest expense (effective interest method)	(11,632)	(5,558)
Interest in respect of lease liabilities	(555)	-
Other finance costs	336	77
Finance costs	(11,851)	(5,481)
Contingent liabilities (see Note 35)	(1,310)	(1,200)
Redemption liabilities (see Note 35)	(11,965)	(2,000)
Change in fair value of financial liabilities	(13,275)	(3,200)
Interest income (effective interest method)	1,879	487
Interest income from interest rate swaps	4,971	3,534
Hedging result	124	(638)
Gain / (loss) on disposal of treasury investments	198	(220)
Net foreign exchange gain/(loss)	539	258
Other net financing income/(expense)	7,711	3,421
Total	(17,415)	(5,260)

Interest expense for the year comprises the full year impact of interest expenses related to the Bond issued in April 2018 (Bond #1) and the interest expenses following the Bond that was issued in June 2019 (Bond #2) (see Notes 2 and 29).

In 2019, the contingent consideration payables recognised in current financial liabilities, which relate to Company Webcast B.V. and InsiderLog AB, were remeasured through profit or loss by €13.3 million (see Note 35).

Other net financing income was positively impacted by the full year impact of income from interest rate swaps, as a result of the Group entering into interest rate swap agreements in April 2018 (see Note 23) and interest income from newly acquired subsidiaries.

Hedging result consists of gains or losses resulting from the ineffective part of the fair value hedge and net investment hedge (see Note 23).

14. Results from equity investments

<i>In thousands of euros</i>	Year ended	
	31 December 2019	31 December 2018
Dividend income	7,270	5,984
Total	7,270	5,984

In 2019 and 2018, dividend income relates to dividends received from the Group's non-current equity investments at fair value through other comprehensive income Euroclear S.A. and Sicovam Holding SAS (see Note 20).

15. Income tax expense

<i>In thousands of euros</i>	2019	2018
Current tax expense	(106,513)	(91,974)
Deferred tax expense	6,219	(2,110)
Total	(100,294)	(94,084)

The actual tax charge incurred on the Group's profit before income tax differs from the theoretical amount that would arise using the weighted average tax rates applicable to profit before income tax of the consolidated entities as follows:

Reconciliation of effective tax charge

<i>In thousands of euros</i>	2019	2018
Profit before income tax	325,572	311,712
Income tax calculated at domestic tax rates applicable to profits in the respective countries	(92,492)	(93,854)
Tax effects of:		
Non-deductible expenses (a)	(8,847)	(3,546)
Other tax exempt income (b)	205	2,520
Over provided in prior years (c)	275	3,548
Other (d)	565	(2,752)
Total	(100,294)	(94,084)

- (a) In 2019, non-deductible expenses mainly relate to non-deductible M&A expenses and increased redemption liability
(b) In 2018 other tax exempt income mainly relates to dividends received and revaluation of Sicovam Holding SAS.
(c) In 2018 'over provided in prior years' were positively impacted by the release of €4.0 million tax provisions recognised in 2014, as a result of the lapse of statute of limitations.
(d) As from 2014, the Company applies the statutory tax rates without (temporary) surcharges (in Portugal and France) to the profit before income tax to calculate tax at domestic rates. The (temporary) surcharges have been included in the line 'Other'.

The Netherlands, France and Belgium have changed their future tax rates (see Note 19). The recalculation of deferred tax resulting from these changes had a positive impact of €1.5 million, which is included in the line 'Other'.

The effective tax rate increased from 30.2% for the year ended 31 December 2018 to 30.8% for the year ended 31 December 2019. These rates are practically in line with the normalized tax rate.

16. Property, plant and equipment

<i>In thousands of euros</i>	Land & Buildings	Hardware & IT	Other Equipment (a)	Total
As at 31 December 2017				
Cost	14,776	24,702	50,204	89,682

Accumulated depreciation and impairment	(4,673)	(18,109)	(39,118)	(61,900)
Net book amount	10,103	6,593	11,086	27,782
As at 1 January 2018 net book amount	10,103	6,593	11,086	27,782
Exchange differences	-	30	8	38
Additions	3,539	6,364	1,055	10,958
Disposals & other	-	23	(338)	(315)
Acquisitions of subsidiaries (Note 5)	6,973	309	363	7,645
Transfers	-	-	-	-
Depreciation charge (Note 10)	(281)	(4,750)	(2,193)	(7,224)
As at 31 December 2018 net book amount	20,334	8,569	9,981	38,884
As at 31 December 2018				
Cost	25,779	34,576	50,564	110,919
Accumulated depreciation and impairment	(5,445)	(26,007)	(40,583)	(72,035)
Net book amount	20,334	8,569	9,981	38,884
As at 1 January 2019 net book amount	20,334	8,569	9,981	38,884
Exchange differences	(81)	16	(19)	(84)
Additions	7,674	2,930	4,059	14,663
Disposals & other	(1)	42	(90)	(49)
Acquisitions of subsidiaries (Note 5)	11,250	-	4,123	15,373
Depreciation charge (Note 10)	(680)	(4,745)	(4,473)	(9,898)
As at 31 December 2019 net book amount	38,496	6,812	13,582	58,890
As at 31 December 2019				
Cost	48,455	37,632	74,649	160,736
Accumulated depreciation and impairment	(9,959)	(30,820)	(61,067)	(101,846)
Net book amount	38,496	6,812	13,582	58,890

(a) Other Equipment includes building fixtures and fitting and lease improvements

The increase in Property Plant and Equipment was primarily related to the acquired stock exchange building included in the acquisition of Oslo Børs VPS.

17. Leases

The Group leases offices in the various locations from which the Group operates its business, IT-hardware equipment such as data servers, racks and mainframes and leases of other equipment for use by its staff in offices. Lease of offices generally have an average lease term of 4 years, while hardware IT equipment generally have an average lease term of 3 years. Rental contracts are typically made for fixed periods, but may occasionally have extension options. Furthermore, the Group has very limited leases that contain variable lease payments and has no leases that are exposed to residual value guarantees. Payments associated with short-term leases (containing a lease term of 12 months or less) and leases of low-value assets are recognised on a straight-line basis as an expense in profit or loss.

17.1 Amounts recognised in the balance sheet

Set out below are the carrying amounts of right-of-use assets recognised and the movements during the period:

Right-of-use assets				
In thousands of euros	Building	Equipment	Other	Total
At 1 January 2019	52,066	2,186	-	54,252
Additions	1,794	-	-	1,794
Acquisition of subsidiary	6,692	-	-	6,692
Depreciation charge	(10,042)	(905)	-	(10,947)
Exchange impacts and other	(39)	-	-	(39)

At 31 December 2019	50,470	1,281	-	51,751
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Set out below are the carrying amounts of lease liabilities and the movements during the period:

<i>In thousands of euros</i>	Lease liabilities
At 1 January 2019	56,217
Additions	1,673
Acquisition of subsidiary	6,692
Accretion of interest	555
Payments	(9,744)
Exchange impacts and other	(242)
At 31 December 2019	55,150
Of which are:	
Non-current lease liabilities	41,180
Current lease liabilities	13,970

The maturity analysis of the lease liabilities are as follows:

<i>In thousands of euros</i>	Less than 1 year	between 1 and 3 years	between 3 and 5 years	More than 5 years	Total
2019					
Lease liabilities	13,970	23,541	16,459	1,180	55,150

17.2 Amounts recognised in the statement of profit or loss

The statement of profit or loss shows the following amounts related to leases:

<i>In thousands of euros</i>	2019	2018
Depreciation charge of right-of-use assets		
Building	(10,042)	-
Equipment	(905)	-
Other	-	-
Interest expense (included in finance cost)	(555)	-
Expenses related to short-term leases (included in other operational expenses)	(350)	-
Expenses related to leases of low-value asset (included in other operational expenses)	(650)	-
Total	(12,503)	-

The total cash outflow for leases in 2019 was €10.7 million. The Group's exposure to potential future cash outflows related to variable lease payments, extension or termination options and residual value guarantees was not material.

18. Goodwill and other intangible assets

<i>In thousands of euros</i>	Goodwill	Internally developed software	Purchased softw. Constr. in Pr. Patents & TrMrk	Intangible assets recognised on acquisition of subsidiaries			Total
				Software	Customer Relations	Brand Names	
As at 31 December 2017							
Cost	474,954	80,365	43,689	7,708	52,208	6,899	665,823
Accumulated amortisation and impairment	(53,341)	(57,235)	(37,786)	(1,137)	(1,190)	-	(150,689)
Net book amount	421,613	23,130	5,903	6,571	51,018	6,899	515,134

As at 1 January 2018 net book amount	421,613	23,130	5,903	6,571	51,018	6,899	515,134
Exchange differences	4,497	117	(8)	108	1,496	282	6,492
Additions	-	8,843	2,464	-	-	-	11,307
Impairment charge / write off	-	(65)	(1,514)	-	-	-	(1,579)
Transfers and other	-	30	(14)	-	-	-	16
Acquisitions of subsidiaries	164,848	94	-	4,900	20,600	-	190,442
Amortisation charge (Note 10)	-	(6,026)	(2,717)	(3,465)	(3,968)	-	(16,176)
As at 31 December 2018 net book amount	590,958	26,123	4,114	8,114	69,146	7,181	705,636

As at 31 December 2018

Cost	644,299	93,503	46,297	12,815	74,393	7,181	878,488
Accumulated amortisation and impairment	(53,341)	(67,380)	(42,183)	(4,701)	(5,247)	-	(172,852)
Net book amount	590,958	26,123	4,114	8,114	69,146	7,181	705,636

As at 1 January 2019 net book amount	590,958	26,123	4,114	8,114	69,146	7,181	705,636
Exchange differences	(221)	49	28	108	(679)	118	(597)
Additions	-	9,655	1,739	-	-	-	11,394
Impairment charge / write off	-	(199)	-	-	-	-	(199)
Transfers and other	-	9	84	-	-	-	93
Acquisitions of subsidiaries (Note 5)	501,319	1,344	652	38,919	223,030	-	765,264
Amortisation charge (Note 10)	-	(6,758)	(1,563)	(6,330)	(8,180)	-	(22,831)
As at 31 December 2019 net book amount	1,092,056	30,223	5,054	40,811	283,317	7,299	1,458,760

As at 31 December 2019

Cost	1,145,397	140,018	49,167	51,963	296,836	7,299	1,690,680
Accumulated amortisation and impairment	(53,341)	(109,795)	(44,113)	(11,152)	(13,519)	-	(231,920)
Net book amount	1,092,056	30,223	5,054	40,811	283,317	7,299	1,458,760

Goodwill impairment test

Goodwill is monitored and tested for impairment at the lowest CGU Group level of the Group to which goodwill acquired in a business combination is allocated (see Note 3). Following the acquisition of Euronext FX (former FastMatch Inc.) in 2017 and the allocation of goodwill from this transaction to the "FX Trading" CGU, the Group tests goodwill at the level of two CGU (Groups): "Euronext" and "FX Trading".

Euronext CGU (Group)

The recoverable value of the "Euronext" CGU Group is based on its fair value less cost of disposal, applying a discounted cash flow approach, and corroborated by observation of Company's market capitalisation. The fair value measurement uses significant unobservable inputs and is therefore categorised as a Level 3 measurement under IFRS 13.

Cash flow projections are derived from the 2020 budget and the business plan for 2021. Key assumptions used by management include third party revenue growth, which factors future volumes of European equity markets, the Group's market share, average fee per transaction, and the expected impact of new product initiatives. These assumptions are based on past experience, market research and management expectation of market developments.

For the impairment test performed as of 31 December 2019, revenues have been extrapolated using a perpetual growth rate of 1% (2018: 2.0%) after 2020. The weighted average cost of capital applied was 7.3% (2018: 8.6%).

The annual impairment testing of the "Euronext" CGU Group performed at each year-end did not result in any instance where the carrying value of the operating segment exceeded its recoverable amount. Recoverable amount is sensitive to key assumptions. As of 31 December 2019, a reduction to 0% per year of third party revenue growth during the explicit forecast period, a reduction to 0% per year of perpetual growth rate, or an increase by 1% per year in discount rate, which management believes are individually reasonably possible changes to key assumptions, would not result in a goodwill impairment. The sensitivity test on the key assumptions defined in 2019 would not result in a goodwill impairment. Possible correlations between each of these parameters were not considered.

FX Trading CGU

The recoverable value of the "FX Trading" CGU is based on its fair value less cost of disposal, applying a discounted cash flow approach. The fair value measurement uses significant unobservable inputs and is therefore categorised as a Level 3 measurement under IFRS 13.

Cash flow projections are derived from the 2020 budget and the business plan for 2021. Key assumptions used by management include third party revenue growth, which factors future volumes on global Foreign Exchange trading markets, the Group's market share, average fee per transaction, and the expected impact of new product initiatives. These assumptions are based on past experience, market research and management expectation of market developments.

For the impairment test performed as of 31 December 2019, revenues have been extrapolated using a perpetual growth rate of 2.4% (2018: 3%) after 2020. The discount rate applied was 7.5% (2018: 8.6%).

The annual impairment testing of the "FX Trading" CGU performed at each year-end did not result in any instance where the carrying value of the operating segment exceeded its recoverable amount. Recoverable amount is sensitive to key assumptions. As of 31 December 2019, a reduction to 0% per year of third party revenue growth during the explicit forecast period, a reduction to 0% per year of perpetual growth rate, or an increase by 1% per year in discount rate, which management believes are individually reasonably possible changes to key assumptions, would not result in a goodwill impairment. The sensitivity test on the key assumptions defined in 2019 would not result in a goodwill impairment. Possible correlations between each of these parameters were not considered.

19. Deferred income tax

The analysis of deferred tax assets and deferred tax liabilities is as follows:

<i>In thousands of euros</i>	2019	2018
Deferred income tax assets (a)	21,025	20,932
Deferred income tax liabilities (a)	(78,754)	(21,429)
Total net deferred tax assets (liabilities)	(57,729)	(497)

(a) As shown in the balance sheet, after offsetting deferred tax assets and liabilities related to the same taxable entity.

<i>In thousands of euros</i>	2019	2018
Deferred tax assets / (liabilities):		
Property, plant and equipment	(2,571)	(656)
Intangible assets (a)	(78,419)	(17,576)
Investments (b)	(16,435)	(14,133)
Provisions and employee benefits	14,712	8,577
Other (c)	20,490	18,956
Loss carried forward (d)	4,494	4,335
Deferred tax assets (net)	(57,729)	(497)

- (a) The increase mainly relates to the recognition of a deferred tax liability resulting from the intangible assets recognized upon the acquisition of Oslo Børs VPS
- (b) The increase in investments mainly relates to the increase in the revaluation of assets measured at fair value through other comprehensive income (FVOCI) (Euroclear N.V./S.A. and Sicovam Holding S.A.).
- (c) The line 'Other' primarily relates to the impact from contract liabilities.
- (d) Losses carry forward mainly relate to losses carry forward recognised in Euronext US Inc.

For the year 2020, the Netherlands have withdrawn the announced rate decrease and maintained the corporate income tax rate at 25%. For the year 2021, the corporate income tax rate in the Netherlands will decrease to 21.7% instead of the rate of 20.5% announced in 2018.

For the year 2020, France has decreased the corporate income tax rate to 31% for turnover in excess of €250 million and as from the years 2021 and 2022, the corporate income tax rate will further decrease to 26.5% respectively 25%. The surcharge of 3.3% remains applicable.

For the year 2020, the Belgian corporate income tax rate has been decreased from 29.58% to 25% in 2019.

The deferred tax assets and liabilities have been recognised at prevailing rates in the various countries.

<i>In thousands of euros</i>	2019	2018
Balance at beginning of the year	(497)	8,957
Recognised in income statement	6,219	(2,110)
Reclassifications and other movements (a)	(61,208)	(1,480)
Exchange differences and other	139	(268)
Charge related to other comprehensive income	(2,382)	(5,596)
Balance at end of the year	(57,729)	(497)

(a) In 2019, the line 'Reclassifications and other movements' was impacted by the acquisition of Oslo Børs VPS for €57.7 million.

As per 31 December 2019 and 2018, no losses were unrecognised by the Group that can be carried forward against future taxable income. The majority of the net deferred tax asset is expected to be recovered or settled after more than twelve months.

20. Financial assets at fair value through other comprehensive income

<i>In thousands of euros</i>	As at 31 December 2019	As at 31 December 2018
Euroclear plc.	140,401	133,843
Sicovam Holding S.A.	57,061	54,508
Oslo Børs VPS Holding ASA	-	31,684
Algomi Ltd.	-	-
Other	359	65
Total	197,821	220,100

The Group's financial assets at fair value through other comprehensive income primarily include long-term investments in unlisted equity securities, which the Group has irrevocably elected at initial recognition to recognise in this category. The classification of the measurement within the fair value hierarchy is presented in Note 35.

Euroclear N.V./S.A. and Sicovam Holding S.A.

As of 31 December 2019, the Group holds a 3.53% ownership interest in Euroclear N.V./S.A. (31 December 2018: 3.53%), an unlisted company involved in the settlement of securities transaction and related banking services. The Group also holds a 9.60% ownership interest in Sicovam Holding S.A. (31 December 2018: 9.60%), resulting in an indirect 1.53% interest in Euroclear N.V./S.A. (31 December 2018: 1.53%). The common stock of Sicovam Holding S.A. and Euroclear N.V./S.A. are not listed.

The Group established a standardised multi-criteria approach valuation for financial institutions based on the Gordon Growth Model valuation technique as its primary valuation method and the regression valuation technique (P/BV and ROE) and trading multiples as control methods.

In 2018, the Group observed two transactions implying a valuation of Euroclear of €5.7 billion. The Group considered the two observable transactions for the determination of the fair value in addition to its primary valuation technique and applied a weighted approach taking into account an illiquidity discount for the limited number of transactions. This resulted in a total valuation of Euroclear of €3.8 billion, and to an increase in fair value of Euronext's direct- and indirect investments of €45.0 million in 2018. This revaluation was recorded in Other Comprehensive Income.

In 2019, the Group considered the two transactions observed in 2018, which implied a valuation of Euroclear of €5.7 billion for the determination of the fair value in addition to its primary valuation technique. The Group applied a weighted approach taking into account an illiquidity discount accounting for the limited number of transactions. This resulted in a total valuation of Euroclear of €3.9 billion, and to an increase in fair value of Euronext's direct- and indirect investments of €9.1 million in 2019. This revaluation was recorded in Other Comprehensive Income.

Oslo Børs VPS Holding ASA ("Oslo Børs VPS")

As per 31 December 2018, following share purchases made by the Group at end of 2018, the Group held a 5.1% ownership interest in Oslo Børs VPS. The Group irrevocably elected to classify the 5.1% investment in Oslo Børs VPS as an equity investment at fair value through other comprehensive income. The Group considered the purchase price of NOK 145 per share to be best proxy for fair value as per 31 December 2018, supported by prices of Oslo Børs VPS shares traded at the end of December 2018 and beginning of 2019.

During 2019, the Group made additional share purchases for €22.1 million, increasing its ownership in Oslo Børs VPS to 8.3%, before acquiring the majority stake on 14 June 2019 (see Note 5). Immediately before obtaining the majority stake and as part of the total purchase consideration, the equity investment was revalued to its acquisition-date fair value of €57.4 million (at NOK 158 per share plus interest payments) resulting in a gain of €3.6 million, which was recognised in

other comprehensive income. As a consequence of the transaction, the equity investment in Oslo Børs VPS was fully derecognised and its historical revaluation gain, recognised in other comprehensive income, was transferred to retained earnings on the date of acquiring the majority stake.

Algomi Ltd.

As of 31 December 2019, the Group holds a 7.74% ownership interest in Algomi Ltd. (31 December 2018: 7.74%), a fixed income technology provider and the Group's joint venture partner of Algonext Ltd.

During 2018, Algomi Ltd. decided to change its strategic course of direction, leading to expectations of adverse impact on Algomi Ltd's financial situation. Based on the companies' going-concern outlook, the Group considered the fair value of its investment in Algomi Ltd to be zero, and revalued this investment downwards by €9.6 million accordingly, as per 31 December 2018. In 2019, fair value did not change for this investment.

21. Trade and other receivables

<i>In thousands of euros</i>	2019	2018
Trade receivables	93,856	70,815
Contract receivables	19,878	21,996
Allowance for expected credit losses	(1,618)	(1,533)
Trade and contract receivables net	112,116	91,278
Tax receivables (excluding income tax)	8,145	7,650
Other receivables	5,115	2,154
Total	125,376	101,082

Trade receivables are non-interest bearing and generally on terms of 30 to 90 days. Contract receivables represent amounts in respect of unbilled revenue, for which the Group has an unconditional right to consideration (i.e. only the passage of time is required before payment of the consideration is due).

The significant changes in trade and contract receivables are disclosed in Note 8.2.

Set out below is the movement in the allowance for expected credit losses of trade and contract receivables:

<i>In thousands of euros</i>	2019	2018
As at 1 January	1,533	1,256
Provision for expected credit losses	407	624
Receivables written off during the year	(322)	(347)
At 31 December	1,618	1,533

Management considers the fair value of the trade and other receivables to approximate their carrying value. The information about the credit exposures of trade and other receivables are disclosed in Note 37.4.

22. Other current assets and assets held for sale

Other current assets

<i>In thousands of euros</i>	2019	2018
Prepayments	12,057	9,240
Other	-	-
Total	12,057	9,240

The increase in prepayments is primarily due to the acquisition of subsidiaries in 2019.

Assets held for sale

<i>In thousands of euros</i>	2019	2018
Investment in associate held for sale	8,760	-
Total	8,760	-

On 10 December 2019, the Group announced that it entered into binding agreements to sell its 20% minority stake in EuroCCP to CBOE Global Markets, alongside the other current EuroCCP shareholders. The transaction is expected to close in the first half of 2020. The Group expects to receive net proceeds of approximately €8.8 million from the sale of its minority stake in EuroCCP.

23. Derivatives financial instruments

The Group may use derivative instruments to manage financial risks relating to its financial positions or risks relating to its ongoing business operations. The Group's risk management strategy and how it is applied to manage risk is further explained in Note 37.

Derivatives designed as hedging instruments

Fair value hedge

At 31 December 2019, the Group had three interest rate swap agreements in place with a total notional amount of €500.0 million (2018: €500.0 million) whereby the Group receives an annual fixed interest rate of 1% and pays a variable rate of six-month EURIBOR, plus a weighted average spread of 0.3825%. At 31 December 2019, the rate applicable to the floating leg of the swap for the aggregated notional amount of €500.0 million was 0.029%. The swaps are being used to reduce the variability of the fair value of the 1% fixed rate Bond (Senior Unsecured note #1) attributable to the change in interest rate, allowing it to transform the fixed rate exposure to floating rate.

There is an economic relationship between the hedged item and the hedging instrument as the terms of the interest rate swaps match the terms of the fixed rate Bond (i.e., notional amount, maturity, payment and reset dates). The Group has established a hedge ratio of 1:1 for the hedging relationships as the underlying risk of the interest rate swap is identical to the hedged risk component. To assess the hedge effectiveness, the Group compares the changes in the fair value of the hedging instrument against the changes in fair value of the hedged item attributable to the hedged risk.

The hedge ineffectiveness can arise from:

- Different interest rate curve applied to discount the hedged item and hedging instrument
- Differences in timing of cash flows of the hedged item and hedging instrument
- The counterparties' credit risk differently impacting the fair value movements of the hedging instrument and hedged item

The impact of respectively the hedging instrument and the hedged item on the balance sheet as at 31 December 2019 was as follows:

<i>In thousands of euros</i>	Notional amount	Carrying amount	Line item in the balance sheet	Change in fair value used for measuring ineffectiveness for the period
Interest rate swaps	500,000	19,353	Derivative financial instruments	11,992

<i>In thousands of euros</i>	Carrying amount	Accumulated fair value adjustments	Line item in the balance sheet	Change in fair value used for measuring ineffectiveness for the period
Senior Unsecured note #1	519,866	19,866	Non-current Borrowings	11,867

The impact of respectively the hedging instrument and the hedged item on the balance sheet as at 31 December 2018 was as follows:

<i>In thousands of euros</i>	Notional amount	Carrying amount	Line item in the balance sheet	Change in fair value used for measuring ineffectiveness for the period
Interest rate swaps	500,000	7,361	Derivative financial instruments	7,361

<i>In thousands of euros</i>	Carrying amount	Accumulated fair value adjustments	Line item in the balance sheet	Change in fair value used for measuring ineffectiveness for the period
Senior Unsecured note #1	507,999	7,999	Non-current Borrowings	7,999



As per 31 December 2019, the ineffective part of the hedge was a profit of €0.1 million (2018: loss of €0.6 million) recognised in 'hedging result' in the Statement of Profit or Loss (see Note 13).

Hedge of net investment in foreign operations

The Group has designated a EUR/GBP foreign exchange contract as a hedge of the investment in Commcise Software Ltd., a Group subsidiary in the United Kingdom, that was acquired by the end of 2018 (see Note 5).

There is an economic relationship between the hedged item and the hedging instrument as the net investment creates a translation risk that will match the foreign exchange risk on the GBP foreign exchange contract. The Group has established a hedge ratio of 1:1 as the underlying risk of the hedging instrument is identical to the hedged risk component. The hedge effectiveness is assessed by comparing changes in the carrying amount of the foreign exchange contract that is attributable to a change in the spot rate with changes in the investment in the foreign operation due to movements in the spot rate (the offset method). Gains or losses on this foreign exchange contract related to the effective part of the hedge are transferred to other comprehensive income to offset any gains and losses on translation of the net investment in the subsidiary.

As per 31 December 2018, the EUR/GBP foreign exchange contract had a notional amount of £26.7 million and expired on 21 June 2019. There was a difference of £0.42 million between the notional of the foreign exchange contract and the amount of net investment hedged at the inception of the hedge. The ineffectiveness caused by this difference was not material as per 31 December 2018.

On 21 June 2019, the Group entered into a new EUR/GBP foreign exchange contract with a notional amount of £27.1 million, which expired on 20 December 2019. The ineffectiveness caused by the hedge was not material.

On 20 December 2019, the Group entered into a new EUR/GBP foreign exchange contract with a notional amount of £27.1 million, expiring in six months. As at 31 December 2019 the hedge was effective.

The impact of respectively the hedging instrument and the hedged item on the balance sheet as at 31 December 2019 was as follows:

<i>In thousands of euros</i>	Notional amount	Fair value of derivative financial instruments	
		Assets	Liabilities
Foreign exchange contract	31,919	-	141

<i>In thousands of euros</i>	Fair value	Change in fair value used for measuring ineffectiveness for the period	Foreign currency translation reserve
Net investment in foreign subsidiaries	32,060	141	141

The impact of respectively the hedging instrument and the hedged item on the balance sheet as at 31 December 2018 was as follows:

<i>In thousands of euros</i>	Notional amount	Fair value of derivative financial instruments	
		Assets	Liabilities
Foreign exchange contract	29,658	-	85

<i>In thousands of euros</i>	Fair value	Change in fair value used for measuring ineffectiveness for the period	Foreign currency translation reserve
Net investment in foreign subsidiaries	30,213	87	87

The hedging gain/(loss) recognised in Other Comprehensive Income before tax is equal to the change in fair value used for measuring effectiveness. The tax effect on the change in fair value of the derivative instrument was insignificant as per 31 December 2019 and 2018.

Impact of hedging on equity

Set out below is the reconciliation of each component of equity and the analysis of Other Comprehensive Income:

<i>In thousands of euros</i>	Foreign currency translation reserve
------------------------------	---------------------------------------------

As at 1 January 2018	(2,549)
Changes in fair value of the hedging instrument	(85)
Foreign exchange forward point excluded from the hedge	(14)
Foreign currency revaluation of the net foreign operations	5,999
As at 31 December 2018	3,351
Changes in fair value of the hedging instrument	(1,824)
Foreign exchange forward point excluded from the hedge	(418)
Foreign currency revaluation of the net foreign operations	(139)
As at 31 December 2019	970

24. Other current financial assets

<i>In thousands of euros</i>	2019	2018
Deposits > 3 months	12,118	14,160
Total	12,118	14,160

The other current financial assets of the Group consist of short-term deposits with a maturity of more than three months.

25. Cash and cash equivalents

Cash and cash equivalents consist of the following:

<i>In thousands of euros</i>	2019	2018
Cash and bank balances	267,985	213,314
Short term investments	101,837	184,704
Total	369,822	398,018

Short-term investments are presented as cash and cash equivalents if they have a maturity of three months or less from the date of acquisition and are repayable with 24 hours' notice with no loss of interest.

26. Shareholders' equity

Under the Articles of Association, the Company's authorised share capital amounts to €200,000,001.60 and is divided into 125,000,000 Ordinary Shares and one Priority Share, each with a nominal value of €1.60 per share. All of Euronext's shares have been or will be created under Dutch law.

As of 31 December 2019, the Company's issued share capital amounts to €112,000,000 and is divided into 70,000,000 Ordinary Shares. The Priority Share is currently not outstanding. The fully paid ordinary shares carry one vote per share and rights to dividends, if declared. The Group's ability to declare dividends is limited to distributable reserves as defined by Dutch law.

Number of shares outstanding:

<i>(in numbers of shares)</i>	2019	2018
Issued shares	70,000,000	70,000,000
Treasury shares		
Treasury shares as at 1 January	(386,019)	(413,320)
Liquidity contract	16,889	417
Share buy back	-	(105,000)
From share-based payments vesting	136,505	131,884
Treasury shares as at 31 December	(232,625)	(386,019)
Outstanding as at 31 December	69,767,375	69,613,981

26.1 Reserve own shares

Treasury shares are accounted for at trade date and all held by Euronext N.V.

The movement on the line 'acquisitions of own shares' in the Consolidated Statement of Changes in Equity consists of the impact from transactions by the liquidity provider of €0.9 million (2018: €0.2 million), minus the impact from transactions under the share repurchase program for €0.0 million (2018: €6.0 million). Details of these movements are disclosed below at (i) and (ii).

(i) Liquidity provider

Part of the movement in the reserve during the reporting period relates to the transactions in Euronext N.V. shares conducted by the liquidity provider on behalf of the Group under the liquidity contract established (€0.9 million in 2019).

The liquidity Agreement (the "Agreement") has been established in accordance with applicable rules, in particular the Regulation (EC) 2273/2003 of the European Commission of 22 December 2003 implementing the directive 2003/6/EC of the European Parliament and Council as regards exemptions for buyback programs and stabilisation of financial instruments, the provisions of article 2:95 of the Book II of Dutch civil code, the provisions of the general regulation of the French Autorité des Marchés Financiers (the "AMF"), the decision of the AMF dated 21 March 2011 updating the Accepted Market Practice n° 2011-07 on liquidity agreements, the Code of Conduct issued by the French Association française des marchés financiers (AMAFI) on 8 March 2011 and approved by the AMF by its aforementioned decision dated 21 March 2011 (the "AMAFI Code") and as the case maybe the relevant Dutch rules applicable to liquidity agreements in particular the regulation on Accepted Market Practices WFT (Regeling gebruikelijke marktpraktijken WFT) dated 4 May 2011 and Section 2.6 of the Book II – General Rules for the Euronext Amsterdam Stock Market (the "Dutch Rules").

As at 31 December 2019 Euronext N.V. holds 5,000 shares under the program with a profit of €0.6 million (2018: 21,889 shares, with a cost of €0.3 million).

The movement schedule for the reported years are as follows:

In 2018:

Transaction date <i>(in euro)</i>	Buy Euronext N.V. shares	Sell Euronext N.V. shares	Average share price	Total value transaction including commissions
As at 31 December 2017	22,306			499,640
Purchases January	52,254		€ 53.85	2,814,024
Sales January		52,201	€ 53.93	(2,814,964)
Purchases February	71,335		€ 53.93	3,846,741
Sales February		93,694	€ 53.99	(5,058,389)
Purchases March	54,291		€ 59.00	3,203,076
Sales March		52,291	€ 59.09	(3,089,814)
Purchases April	94,005		€ 59.18	5,562,842
Sales April		96,005	€ 59.32	(5,694,816)
Purchases May	121,301		€ 55.71	6,757,334
Sales May		121,301	€ 55.81	(6,769,425)
Purchases June	75,542		€ 56.53	4,270,329
Sales June		51,742	€ 56.50	(2,923,485)
Purchases July	58,952		€ 53.82	3,172,696
Sales July		70,252	€ 54.40	(3,822,006)
Purchases August	83,931		€ 54.45	4,569,869
Sales August		86,431	€ 54.17	(4,681,873)
Purchases September	46,324		€ 55.54	2,572,936
Sales September		50,824	€ 55.78	(2,834,968)
Purchases October	52,899		€ 54.69	2,893,140
Sales October		53,949	€ 55.20	(2,977,863)
Purchases November	86,994		€ 53.71	4,672,557
Sales November		53,944	€ 54.87	(2,959,753)
Purchases December	47,300		€ 49.25	2,329,738
Sales December		62,911	€ 50.95	(3,205,479)
Total buy/sell	845,128	845,545		(167,554)
Total as at 31 December 2018	21,889			332,087

In 2019:

Transaction date (in euro)	Buy Euronext N.V. shares	Sell Euronext N.V. shares	Average share price	Total value transaction including commissions
As at 31 December 2018	21,889			332,087
Purchases January	36,456		€ 52.50	1,913,903
Sales January		58,345	€ 51.96	(3,031,321)
Purchases February	85,975		€ 53.23	4,576,631
Sales February		79,875	€ 53.27	(4,255,334)
Purchases March	59,362		€ 55.28	3,281,735
Sales March		65,462	€ 55.27	(3,618,378)
Purchases April	58,371		€ 58.48	3,413,310
Sales April		58,371	€ 58.66	(3,424,234)
Purchases May	47,893		€ 62.31	2,984,267
Sales May		47,893	€ 62.56	(2,996,335)
Purchases June	68,346		€ 65.02	4,443,829
Sales June		62,181	€ 64.99	(4,041,053)
Purchases July	81,565		€ 68.80	5,611,840
Sales July		87,730	€ 68.72	(6,028,413)
Purchases August	65,200		€ 69.98	4,562,964
Sales August		63,251	€ 69.99	(4,426,717)
Purchases September	76,610		€ 70.90	5,431,555
Sales September		78,559	€ 71.16	(5,590,489)
Purchases October	76,279		€ 71.59	5,460,703
Sales October		76,279	€ 71.96	(5,489,297)
Purchases November	66,218		€ 70.37	4,659,431
Sales November		61,218	€ 70.71	(4,328,663)
Purchases December	94,305		€ 70.47	6,645,765
Sales December		94,305	€ 70.53	(6,651,490)
Total buy/sell	816,580	833,469		(895,795)
Total as at 31 December 2019	5,000			(563,708)

(ii) Share Repurchase Program

The Group has entered into a discretionary management agreement with a bank to repurchase Euronext shares within the limits of relevant laws and regulations (in particular EC regulation 2273/2003) and the Group's articles of association to cover the Group's outstanding obligations resulting from employee shares plans for 2016, 2017, 2018 and 2019. The share repurchase program aims to hedge price risk arising for granted employee share plans. In 2019, the Group repurchased no shares. In 2018, the Group repurchased 105,000 shares for a total consideration of €6.0 million.

The movement schedule for the reported years are as follows:

In 2018:

Transaction date (in euro)	Buy Euronext N.V. shares	Average share price	Total value transaction including commissions
As at 31 December 2017	495,938		20,937,843
Purchases June	105,000	€ 56.71	5,954,550
Total buy/sell	105,000		5,954,550
Total as at 31 December 2018	600,938		26,892,392

In 2019:

Transaction date (in euro)	Buy Euronext N.V. shares	Average share price	Total value transaction including commissions
As at 31 December 2018	600,938		26,892,392
Total buy/sell	-		-
Total as at 31 December 2019	600,938		26,892,391

(iii) Share-based payments vesting

In 2019, the Group delivered 136,505 shares with a cost of €5.7 million to employees for whom share plans had (early) vested (2018: 131,884 shares with a cost of €5.2 million). This movement is disclosed on the line 'Other' in the Consolidated Statement of Changes in Equity.

26.2 Legal reserve

Retained earnings are not freely available for distribution for an amount of €23.1 million relating to legal reserves (see Note 52).

26.3 Dividend

On 16 May 2019, the Annual General Meeting of shareholders voted for the adoption of the proposed €1.54 dividend per ordinary share. On 24 May 2019, a dividend of €107.2 million has been paid to the shareholders of Euronext N.V.

27. Earnings per Share

Basic

Earnings per share are computed by dividing profit attributable to the shareholders of the Company by the weighted average number of shares outstanding for the period. The number of weighted average shares used for the basic earnings per share calculation for year ended 31 December 2019 was 69,673,637 and 31 December 2018 was 69,590,114.

Diluted

Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares. The impact of share plans is determined by the number of shares that could have been acquired at fair value (determined as the average quarterly market price of Euronext's shares) based on the fair value (measured in accordance with IFRS 2) of any services to be supplied to Euronext in the future under these plans. The number of weighted average shares used for the diluted earnings per share calculation for the year ended 31 December 2019 was 69,929,727 and 31 December 2018 was 69,860,310.

28. Share-based payments

Euronext Long-Term Incentive Plan 2016 ("LTI Plan 2016")

The Restricted Stock Units ("RSUs") granted under LTI Plan 2016 fully cliff-vested in 2019.

Euronext Long-Term Incentive Plans ("LTI Plan") 2017, 2018 and 2019

Directors and certain employees of the Group benefited from Restricted Stock Units ("RSUs") granted by Euronext N.V. under the LTI Plans on their applicable grant dates. RSUs granted under LTI Plans cliff-vest after 3 years, subject to continued employment and a 'positive EBITDA₁' performance condition. These equity awards are measured by reference to the grant-date market price of Euronext's common share ("grant-date fair value").

In addition to these RSUs granted to all participants in the LTI Plans, Performance RSUs have been awarded to members of the Managing Board and Senior Leadership team. The vesting of these Performance RSUs is subject to two performance conditions:

- 50% of the performance RSUs vests subject to a Total Shareholder Return ("TSR") condition;
- 50% of the performance RSUs vests subject to an EBITDA₁-based performance condition.

The grant-date fair value of performance shares with a TSR performance condition was adjusted for the possible outcomes of this condition. This has been assessed by applying a Monte Carlo simulation to model possible share prices of Euronext and its peer companies. At the end of each reporting period, the number of vesting performance shares is reconsidered based on the Group's EBITDA₁ performance relative to budgeted EBITDA₁ and the total cost for the performance RSUs could be adjusted accordingly. Grant-date fair value of RSUs granted under the LTI Plans 2017, 2018 and 2019 reflect the present value of expected dividends over the vesting period.

Movements in the number of shares granted as awards is as follows:

In 2018:

Plan	Year of grant	1 January 2018	Granted	Performance adjustment	Vested	Forfeited	31 December 2018	Fair value at grant date per share (in €)

LTI, with performance	2015	37,598	-	16,981	(45,886)	(8,693)	-	€ 48.03
LTI, no performance	2015	65,120	-	-	(54,669)	(10,451)	-	€ 34.23
LTI, with performance	2016	96,453	-	-	-	(20,101)	76,352	€ 35.48
LTI, no performance	2016	35,725	-	-	-	(5,743)	29,982	€ 34.70
LTI, with performance	2017	85,055	-	-	-	(13,721)	71,334	€ 45.40
LTI, no performance	2017	40,713	-	-	-	(4,157)	36,556	€ 42.19
LTI, with performance	2018	-	95,671	-	-	(7,487)	88,184	€ 56.55
LTI, no performance	2018	-	47,928	-	-	(985)	46,943	€ 49.64
Total		360,664	143,599	16,981	(100,555)	(71,338)	349,351	

In 2019:

Plan	Year of grant	1 January 2019	Granted	Performance adjustment	Vested	Forfeited	31 December 2019	Fair value at grant date per share (in €)
LTI, with performance	2016	76,352	-	3,907	(79,749)	(510)	-	€ 35.48
LTI, no performance	2016	29,982	-	-	(27,304)	(2,678)	-	€ 34.70
LTI, with performance	2017	71,334	-	-	-	(7,519)	63,815	€ 45.40
LTI, no performance	2017	36,556	-	-	-	(3,944)	32,612	€ 42.19
LTI, with performance	2018	88,184	-	-	-	(5,783)	82,401	€ 56.55
LTI, no performance	2018	46,943	-	-	-	(3,942)	43,001	€ 49.64
LTI, with performance	2019	-	79,009	-	-	(3,178)	75,831	€ 68.30
LTI, no performance	2019	-	53,044	-	-	(1,563)	51,481	€ 57.94
Total		349,351	132,053	3,907	(107,053)	(29,117)	349,141	

Euronext has taken into consideration the fact that the employees will not receive dividends during the vesting period of 3 years. The fair value has been adjusted taking into account the financials loss for the participants to not receive the payment of the dividends during the vesting period.

Share-based payment expenses recognised in the income statement for shares granted for all plans to directors and selected employees in 2019 amounted to €6.9 million (2018: €4.0 million), see Note 9.

29. Borrowings

In thousands of euros	2019	2018
Non-current		
Borrowings		
Senior Unsecured note #1 (a)	519,866	507,999
Senior Unsecured note #2	500,000	-
Bond discount and issue costs	(9,478)	(3,405)
Amortisation discount and issue costs	1,128	334
Other	12	12
Total	1,011,527	504,940
Current		
Borrowings (accrued interest)		
Accrued interest	6,750	3,745
Total	6,750	3,745

(a) The Senior Unsecured Note #1 is carried at amortised cost and adjusted for fair value movements due to the hedged interest rate risk (see Note 23).

Senior Unsecured Note #1

On 18 April 2018, the Group issued a €500 million Bond ('Senior Unsecured Note #1') to refinance its 2017 and 2018 acquisitions and diversify its financing mix. The Bond has a seven year maturity, with an annual coupon of 1%. On 18 April 2018 the Bond, rated "A" by Standard & Poor's rating agency, was listed on Euronext Dublin. The Bond issue included €2.9 million of Bond discount and €0.5 million of issue costs, which are subsequently accounted for under the Effective Interest Rate method. Following receipt of the proceeds of the Bond issue, the Group repaid a €165.0 million Bank Loan facility in 2018.

Senior Unsecured Note #2

On 4 June 2019, the Group issued a €500 million Bond ('Senior Unsecured Note #2') to (i) pre-finance the outstanding shares of Oslo Børs VPS Holding ASA not already owned by the Group and (ii) for general corporate purposes in line with the Group's strategy. The Bond has a ten year maturity, with an annual coupon of 1.125%. On 12 June 2019 the Bond, rated "A-" by S&P Global Ratings Limited, was listed on Euronext Dublin. The Bond issue included €6.1 million of Bond discount and issue costs, which are subsequently accounted for under the Effective Interest Rate method.

Revolving Credit Facility

On 8 April 2019, the Group signed a supplemental agreement with nine banks to amend the €250 million RCF originally dated 12 April 2017. This new agreement enabled the Group to increase the RCF to €400.0 million and set a new maturity of 5 years plus a two-year extension possibility.

The revolving credit facility agreement allows the Group to apply all amounts borrowed by it towards (i) general corporate and/or working capital purposes of the Group, (ii) satisfaction of the consideration payable for an acquisition and/or (iii) the payment of fees, costs and expense incurred in relation to an acquisition.

The revolving credit facility bears an interest rate of EURIBOR plus a margin initially set at 0.25%, which increased to 0.30% on 31 May 2019, based on the "A-" rating.

It should be noted that as at 31 December 2019, no advances have been drawn under the revolving credit facility. During the year, the Group had temporarily drawn €45.0 million which it used for repayment of the bond loan, that was included in the acquisition of Oslo Børs VPS (see Note 5). The Group repaid this €45.0 million at the end of 2019.

Euronext is required to maintain compliance with a maximum leverage ratio if the credit rating would drop below BBB+. The maximum leverage ratio measures Euronext total gross debt to EBITDA² (as such terms are defined in the Facilities Agreement). Euronext is required to maintain a leverage ratio of no more than 3.5x.

30. Post-employment benefits

The Group operates defined benefit pension plans for its employees, with the most significant plans being in France, Portugal and Norway. The Group's plans are funded by contributions from the employees and the relevant Group entities, taking into account applicable government regulations and the recommendations of independent, qualified actuaries. The majority of plans have plan assets held in trusts, foundations or similar entities, governed by local regulations and practice in each country. The assets for these plans are generally held in separate trustee administered funds. The benefits provided to employees under these plans are based primarily on years of service and compensation levels.

The French plans relate almost completely to retirement indemnities. French law stipulates that employees are paid retirement indemnities in form of lump sums on the basis of the length of service at the retirement date and the amount is prescribed by collective bargaining agreements.

The Portuguese plan is for both Euronext Lisbon and Interbolsa and is managed by CGD Pensoes – Sociedade Gestora de Fundos de Pensoes SA. The plan was defined benefit based on final pay. The funds covered payment of pensions to employees with a minimum of 5 year service. Annual contributions were based on actuarial calculations. In 2017, the Portuguese defined benefit plan was frozen and replaced by a new defined contribution plan, with an retroactive impact as from 1 January 2017. The old arrangement remains a defined benefit plan, and is disclosed as such in this Note.

The Norwegian plans that were acquired in the business combination as described in Note 5 comprise both defined benefit schemes and defined contribution schemes. The general pension plan for employees in Norway is a defined contribution scheme. The defined benefit schemes are mainly related to lifetime pensions for former CEOs of Oslo Børs and VPS, as well as a voluntary early retirement scheme for Oslo Børs which was closed in 2003. The Norwegian pension plans are in compliance with the Mandatory Occupational Pensions Act.

The movement in the defined obligation over the years presented is as follows:

<i>In thousands of euros</i>	Present value of obligation	Fair value of plan assets	Total
As at 31 December 2017	32,876	(21,163)	11,713
(Income) / expense:			
Current service cost	636	-	636
Interest expense / (income)	688	(448)	240
	1,324	(448)	876
Remeasurements:			
- Return on plan assets, excluding amounts included in interest expense / (income)	-	1,457	1,457
- (Gain) / loss from change in financial assumptions	(2,738)	-	(2,738)
- Experience (gains) / losses	(396)	-	(396)
	(3,134)	1,457	(1,677)
Payments:			
- Employer contributions	(9)	(237)	(246)
- Benefit payments	(150)	150	-
- Settlement payments from plan assets	(188)	188	-
As at 31 December 2018	30,719	(20,053)	10,666
(Income) / expense:			
Current service cost	748	-	748
Interest expense / (income)	813	(451)	362
	1,561	(451)	1,110
Remeasurements:			
- Return on plan assets, excluding amounts included in interest expense / (income)	-	(1,355)	(1,355)
- (Gain) / loss from change in financial assumptions	5,287	-	5,287
- Experience (gains) / losses	(2,368)	-	(2,368)
- Effect of changes in foreign exchange rates and other	(154)	-	(154)
	2,765	(1,355)	1,410
Payments:			
- Employer contributions	(253)	(82)	(335)
- Benefit payments	(173)	173	-
- Acquired in business combination (see Note 5)	13,990	(449)	13,541
- Reclassifications and other	(434)	-	(434)

As at 31 December 2019	48,175	(22,217)	25,958
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The defined benefit obligation and plan assets are composed by country as follows:

<i>In thousands of euros</i>	2019				Total
	Belgium	Portugal	France	Norway	
Present value of obligation	39	24,729	10,286	13,121	48,175
Fair value of plan assets	-	(18,107)	(3,644)	(466)	(22,217)
Total	39	6,622	6,642	12,655	25,958

<i>In thousands of euros</i>	2018				Total
	Belgium	Portugal	France	Norway	
Present value of obligation	50	20,965	9,704		30,719
Fair value of plan assets	-	(16,515)	(3,538)		(20,053)
Total	50	4,450	6,166		10,666

The significant actuarial assumptions were as follows:

	2019			
	Belgium	Portugal	France	Norway
Discount rate	0.3%	1.5%	0.3%	2.3%
Salary growth rate	0.0%	1.7%	0.0%	0.5%
Pension growth rate	0.0%	0.0%	0.0%	1.7%

	2018		
	Belgium	Portugal	France
Discount rate	0.8%	2.3%	1.9%
Salary growth rate	0.0%	1.5%	1.8%
Pension growth rate	0.0%	1.5%	0.0%

The Group derives the discount rate used to determine the defined benefit obligation from yields on high quality corporate bonds of the duration corresponding to the liabilities.

As of 31 December 2019, the sensitivity of the defined benefit obligation to changes in the weighted principal assumptions were:

	Impact on defined benefit obligation		
	Change in assumption	Increase in assumption	Decrease in assumption
Discount rate	0.25%	-4.2%	4.4%
Salary growth rate	0.50%	1.6%	-1.4%
Pension growth rate	0.50%	3.2%	-2.9%

The pension plan assets allocation differs per plan. On a weighted average basis, the allocation was as follows:

	2019		2018	
	Fair value of plan assets <i>in thousands of euros</i>	Fair value of plan assets <i>in percent</i>	Fair value of plan assets <i>in thousands of euros</i>	Fair value of plan assets <i>in percent</i>
Plan assets				
Equity securities	6,522	29.4%	5,419	27.1%
Debt securities	13,711	61.7%	12,200	60.8%
Property	470	2.1%	464	2.3%
Investment funds	1,324	6.0%	1,633	8.1%
Cash	190	0.9%	337	1.7%
Total	22,217	100%	20,053	100%

The maturity of expected benefit payments over the next ten years is as follows:

As at 31 December 2019	Less than a year	Between 1-2 year	Between 2-5 years	Between 5-10 years	Total
Pension benefits	1,130	1,281	4,369	11,662	18,442

The weighted average duration of the defined benefit obligation for retirement plans is 18 years at 31 December 2019.

For 2020, the expected obligations contributions are approximately €1.0 million.

31. Provisions

<i>In thousands of euros</i>	Restructuring	Leases (a)	Jubilee	Legal claims	Plan Agents	Others	Total
Changes in provisions							
As at 31 December 2018	55	724	2,293	1,456	1,298	1,542	7,368
Change in accounting policy	-	1,919	-	-	-	-	1,919
As at 1 January 2019	55	2,643	2,293	1,456	1,298	1,542	9,287
Additional provisions charged to income statement	3,191	267	403	544	1	140	4,546
Used during the year	(75)	(20)	(32)	(101)	(49)	(259)	(536)
Unused amounts reversed	-	(863)	(201)	-	(94)	(736)	(1,894)
Acquisition of subsidiary (Note 5)	-	-	-	-	-	3,730	3,730
Other	(3)	3	-	-	-	-	-
Exchange differences	70	7	-	-	-	(27)	50
As at 31 December 2019	3,238	2,037	2,463	1,899	1,156	4,390	15,183
Composition of provisions							
Current	55	46	-	-	-	3	104
Non Current	3,183	1,991	2,463	1,899	1,156	4,387	15,079
Total	3,238	2,037	2,463	1,899	1,156	4,390	15,183

a) As from 1 January 2019, the former 'Building' provision was re-named 'Leases' following adoption of IFRS 16 (see Note 3)

Restructuring

The restructuring provision relates to employee termination benefits that have an uncertain character. The increase for the year related to the recognition of restructuring costs in Oslo

Leases

The leases provision relates to estimated future dismantling or removing costs, primarily for the lease of its 'Praetorium' office in Paris. The position recognised as 'current' at 31 December 2018, was transferred to 'non-current' as per 1 January 2019.

Jubilee

The Jubilee provision increased, mainly due to the decrease in discount rates.

Legal claims

The legal claims provision relates to individual litigation settlement cases.

Plan Agents

The provision for Plan Agents relates to a retirement allowance for retired stockbrokers in Belgium, which is determined using actuarial assumptions. No cash outflows are expected for 2020.

Others

DB compensation

In connection with the termination of the collective defined benefit scheme for employees of Oslo Børs VPS on 31 December 2012, a compensation scheme has been established, which subject to certain conditions, gives employees compensation for the change in their pension arrangements. The provision was included at fair value in the acquisition balance sheet of Oslo Børs VPS (see Note 5).

The other movements in 'Others' provision were primarily due to the recognition of onerous costs recorded in exceptional items (see Note 12), which related to terminated commercial contracts. The other item included in the yearend balance of Others provision relates to stamp duty tax.

32. Trade and other payables

<i>In thousands of euros</i>	2019	2018
Trade payables	3,155	2,585
Social security and other taxes (excluding income tax)	32,634	22,659
Employees' entitlements and other payables (a)	43,883	44,200
Accrued expenses	37,626	45,888
Total	117,298	115,332

(a) Amounts include salaries payable, bonus accruals, severance (signed contracts) and vacation accruals.

The line accrued expenses contains a decrease of €3.9 million following the adoption of IFRS 16 (see Note 3).

The carrying values of current trade and other payables are reasonable approximations of their fair values. These balances do not bear interest.

33. Contract liabilities

<i>In thousands of euros</i>	2019	2018
Listing admission fees	83,532	75,323
Bond lifetime fees	10,802	11,140
Other (a)	14,286	10,485
Total	108,620	96,948
Current	62,825	55,487
Non Current	45,795	41,461
Total	108,620	96,948

(a) Includes contract liabilities related to Indices licenses, software maintenance & hosting and corporate services

The contract liabilities primarily relate to received consideration (or an amount of consideration is due) from customers for the initial (or subsequent) listing of equity securities and bond lifetime fees. Contract liabilities are recognised as revenue when the Group performs under the contract.

The significant changes in contract liabilities are disclosed in Note 8.2.

34. Geographical information

<i>In thousands of euros</i>	France	Netherlands	United Kingdom	Belgium	Portugal	Ireland	United States	Norway	Sweden	Hong Kong	Total
2019											
Revenue from contracts with customers (a)	331,248	160,072	5,299	30,966	33,236	35,668	23,202	57,075	2,293	49	679,108
Property, plant and equipment	7,615	12,779	233	246	2,485	19,315	1,878	14,339	-	-	58,890
Intangible assets other than Goodwill (b)	2,348	46,185	9,094	-	702	22,539	39,769	245,799	267	-	366,703
2018											
Revenue from contracts with customers (a)	328,255	170,990	286	32,874	35,021	24,517	21,835	-	1,202	53	615,033
Property, plant and equipment	10,018	12,809	230	278	3,845	10,907	797	-	-	-	38,884
Intangible assets other than Goodwill (b)	1,563	45,264	178	-	1,054	24,116	42,438	-	65	-	114,678

(a) Trading, listing and advanced data services revenue is attributed to the country where the exchange is domiciled. Other revenue is attributed to the billing entity.

(b) Goodwill is monitored at the Group level and therefore not allocated by country.

35. Financial instruments

35.1 Financial instruments by category

The financial instruments held by the Group are set out below.

<i>In thousands of euros</i>	As at 31 December 2019			
	Amortised cost	FVOCI equity instruments	FVPL	Total
Financial assets				
Financial assets at fair value through other comprehensive income	-	197,821	-	197,821
Financial assets at amortised cost	1,503	-	-	1,503
Trade and other receivables	125,376	-	-	125,376
Derivative financial instruments	-	-	19,353	19,353
Other current financial assets	12,118	-	-	12,118
Cash and cash equivalents	369,822	-	-	369,822
Total	508,819	197,821	19,353	725,993
Financial liabilities				
Borrowings (non-current)	1,011,527	-	-	1,011,527
Lease liabilities (non-current)	41,180	-	-	41,180
Borrowings (current)	6,750	-	-	6,750
Derivative financial instruments	-	-	141	141
Lease liabilities (current)	13,970	-	-	13,970
Other current financial liabilities (a)	-	-	30,675	30,675
Trade and other payables	117,298	-	-	117,298
Total	1,190,725	-	30,816	1,221,541

(a) Consists of (i) contingent consideration payables related to Company Webcast B.V. and InsiderLog AB of respectively €5.0 million and €3.6 million, and (ii) redemption liability of €22.2 million related to Company Webcast B.V.

<i>In thousands of euros</i>	As at 31 December 2018			
	Amortised cost	FVOCI equity instruments	FVPL	Total
Financial assets				
Financial assets at fair value through other comprehensive income	-	220,100	-	220,100
Financial assets at amortised cost	7,021	-	-	7,021
Trade and other receivables	101,082	-	-	101,082
Derivative financial instruments	-	-	7,361	7,361
Other current financial assets	14,160	-	-	14,160
Cash and cash equivalents	398,018	-	-	398,018
Total	520,281	220,100	7,361	747,742
Financial liabilities				
Borrowings (non-current)	504,940	-	-	504,940
Other non-current financial liabilities (a)	-	-	17,400	17,400
Derivative financial instruments	-	-	85	85
Other current financial liabilities (b)	-	-	6,986	6,986
Trade and other payables	115,332	-	-	115,332
Total	620,272	-	24,471	644,743

(a) Consists of (i) contingent consideration payables related to Company Webcast B.V. and InsiderLog AB of respectively €2.6 million and €4.6 million, and (ii) redemption liability of €10.2 million related to Company Webcast B.V.

(b) Reflects the Euronext FX (former FastMatch Inc.) contingent consideration payable including foreign exchange impacts after acquisition date, which was paid in 2019.

The Group's exposure to various risks associated with the financial instruments is discussed in Note 37. The maximum exposure to credit risk at the end of the reporting period is the carrying amount of each class of financial assets mentioned above.

35.2 Recognised fair value measurement

35.2.1 Fair value hierarchy

The table below analyses financial instrument carried at fair value, by valuation method. The different levels have been defined as follows:

- Level 1: quoted prices in active markets for identical assets or liabilities
- Level 2: inputs that are based on observable market data, directly or indirectly
- Level 3: unobservable inputs

<i>In thousands of euros</i>	Level 1	Level 2	Level 3	Total
As at 31 December 2019				
Assets				
Financial assets at FVOCI				
Unlisted equity securities	-	-	197,821	197,821
Financial assets at FVPL				
Hedging derivatives - interest rate swaps	-	19,353	-	19,353
Total assets	-	19,353	197,821	217,174
Liabilities				
Financial liabilities at FVPL				
Hedging derivatives - foreign exchange forward contract - GBP	-	141	-	141
Contingent consideration payables	-	-	8,510	8,510
Redemption liability	-	-	22,165	22,165
Total liabilities	-	141	30,675	30,816
As at 31 December 2018				
Assets				
Financial assets at FVOCI				
Unlisted equity securities	-	31,684	188,416	220,100
Financial assets at FVPL				
Hedging derivatives - interest rate swaps	-	7,361	-	7,361
Total assets	-	39,045	188,416	227,461
Liabilities				
Financial liabilities at FVPL				
Hedging derivatives - foreign exchange forward contract - GBP	-	85	-	85
Contingent consideration payables	-	-	14,186	14,186
Redemption liability	-	-	10,200	10,200
Total liabilities	-	85	24,386	24,471

The Group's policy is to recognise transfers into and transfers out of fair value hierarchy levels at the end of the reporting period. Besides the transfer of the previously held investment of unlisted equity securities in Oslo Børs VPS out of the level 2 fair value measurement category, there were no transfers between the levels of fair value hierarchy in 2019 and 2018. The Group did not measure any financial assets or financial liabilities at fair value on a non-recurring basis as at 31 December 2019.

35.2.2 Fair value measurements using observable market data, directly or indirectly (level 2)

The fair value of interest rate swaps is calculated as the present value of the estimated future net cash flows based on observable yield curves at the reporting date. The fair value of foreign exchange forwards is calculated as the present value of future net cash flows based on the forward exchange rates at the balance sheet date.

In 2018, the fair value of the investment in unlisted equity securities in Oslo Børs VPS was based on the observable purchase price of NOK 145 per share, supported by prices of Oslo Børs VPS shares traded at the end of December 2018 and beginning of 2019.

In 2019, the Group made additional share purchases, increasing its ownership in Oslo Børs VPS to 8.3%, before acquiring the majority stake on 14 June 2019. Immediately before obtaining the majority stake and as part of the total purchase consideration, the equity investment was revaluated to its acquisition-date fair value at NOK 158 per share plus interest payments. Subsequently the equity investment in Oslo Børs VPS was fully derecognized on the date of acquiring the majority stake (see Note 20).

35.2.3 Fair value measurements using unobservable inputs (level 3)

The following table presents the changes in level 3 instruments for the period ended 31 December 2019:

<i>In thousands of euros</i>	Unlisted equity securities	Contingent consideration payables	Redemption liability	Total
As at 31 December 2017	147,503	(8,454)	(8,200)	130,849
Revaluations recognised in OCI	35,399	-	-	35,399
Revaluations recognised in P&L	-	(1,200)	(2,000)	(3,200)
Acquisitions / (incurrences)	5,514	(4,200)	-	1,314
Exchange differences	-	(332)	-	(332)
As at 31 December 2018	188,416	(14,186)	(10,200)	164,030
Revaluations recognised in OCI	8,903	-	-	8,903
Revaluations recognised in P&L	-	(1,310)	(11,965)	(13,275)
Additions	246	-	-	246
Payments	-	6,888	-	6,888
Acquisitions / (incurrences)	255	-	-	255
Exchange differences	-	98	-	98
As at 31 December 2019	197,821	(8,510)	(22,165)	167,145

Valuation process

Concerning the valuation process for fair value measurement categorised within level 3 of the fair value hierarchy, the Group's central treasury department collects and validates the available level 3 inputs and performs the valuation according to the Group's valuation methodology for each reporting period. The fair value estimates are discussed with, and challenged by the Group Finance Director and the Chief Financial Officer. Periodically the values of investments categorized in "level 3" are validated by staff with extensive knowledge of the industry in which the invested companies operate. Although valuation techniques are applied consistently as a principle, Management, upon advice from the Group's valuation experts, may decide to replace a valuation technique if such a change would improve the quality or the reliability of the valuation process.

Unlisted equity securities in Euroclear S.A./N.V. and Sicovam Holding S.A.

For measuring fair value of its long-term investments in unlisted equity securities in Euroclear S.A./N.V. and Sicovam Holding S.A., the Group applies the Gordon Growth Model valuation technique as its primary valuation method with return on equity and expected dividend growth rate as key non-observable parameters. In 2018, the Group considered also two observable transactions as part of fair value estimation of those investments. In 2019, these two observable transactions were considered again as part of fair value estimation of those investments. In addition, for measuring the fair value of Sicovam Holding S.A, the Group applied an illiquidity discount as an unobservable input for which a sensitivity impact of +10%/(-10%) would amount to a decrease or (increase) of €6.3 million in the fair value (2018: €6.0 million). More information on the investments is further disclosed in Note 20.

The key assumptions used in the Gordon Growth Model valuation model are as follows:

2019:

<i>In thousands of euros</i>	Fair value at 31 December 2019	Unobservable inputs *)	Range of inputs (probability-weighted average)	Relationship of unobservable inputs to fair value	
				Increase	decrease
Euroclear S.A./N.V.	140,401	Return on equity	7.9% - 8.9% (8.4%)	4,283	(5,816)
		Expected dividend growth rate	0.73% - 1.73% (1.23%)		

Sicovam Holding S.A.	57,061	Return on equity	7.9% - 8.9% (8.4%)	1,666	(2,262)
		Expected dividend growth rate	0.73% - 1.73% (1.23%)		

*) There were no significant inter-relationships between unobservable inputs that materially affect fair value

2018:

In thousands of euros	Fair value at 31 December 2018	Unobservable inputs *)	Range of inputs (probability-weighted average)	Relationship of unobservable inputs to fair value	
				Increase	decrease
Euroclear Plc	133,843	Return on equity	7.5% - 8.5% (8%)	5,914	(6,653)
		Expected dividend growth rate	1% - 2% (1.5%)		
Sicovam Holding S.A.	54,508	Return on equity	7.5% - 8.5% (8%)	2,214	(2,674)
		Expected dividend growth rate	1% - 2% (1.5%)		

*) There were no significant inter-relationships between unobservable inputs that materially affect fair value

The sensitivity analysis shows the impact on fair value using the most favorable combination (increase), or least favorable combination (decrease) of the unobservable inputs per investment in unlisted equity securities.

Unlisted equity securities in Algomi Ltd.

Based on the companies' going-concern outlook, the Group considered the fair value of its investment in Algomi Ltd to be zero, and revalued this investment downwards by €9.6 million accordingly, as per 31 December 2018. In 2019, fair value did not change for this investment.

Contingent consideration payables and redemption liability

The contingent consideration payable of €6.9 million related to Euronext FX (former FastMatch Inc.) was fully paid in 2019. The fair value of the contingent consideration payable of €5.0 million related to Company Webcast B.V. (including a revaluation of €2.4 million in 2019 (2018: €0.8 million)) was estimated based on a multiple of earnings and the average of actual 2016- and 2019 EBITDA³. The fair value of the contingent consideration payable of €3.6 million related to InsiderLog AB (including a devaluation of €1.0 million in 2019 (2018: €0.4 million)) was estimated based on EBITDA³ multiple.

The fair value of the redemption liability of €22.2 million related to Company Webcast B.V. (including a revaluation of €12.0 million in 2019 (2018: €2.0 million)) was estimated based on a multiple of earnings and the 2019 EBITDA³.

35.2.4 Fair values of other financial instruments

The Group also has a number of financial instruments which are not measured at fair value in the balance sheet. For these instruments the fair values approximate their carrying amounts

36. Related parties

36.1 Transactions with related parties

The Group has related party relationships with its associates and joint ventures (as described in Note 7). Transactions with associates and joint ventures are generally conducted with terms equivalent to arm's length transactions. Transactions between subsidiaries are not included in the description as these are eliminated in the Consolidated Financial Statements. The interests in Group Companies are set out in Note 4.

The transactions with related parties and outstanding year-end balances are reported in the tables below:

In thousands of euros	2019	2018
Sales to related parties	50,158	55,668
Purchases from related parties	29,804	30,208

In thousands of euros	As at 31 December 2019	As at 31 December 2018
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Receivables from related parties	2,191	3,472
Payables to related parties	381	-

36.2 Key management remuneration

The other related parties disclosure relates entirely to the key management of Euronext, being represented by the company's Managing Board and Supervisory Board.

The compensation expense recognised for key management is as follows:

<i>In thousands of euros</i>	Managing Board	2019 Supervisory Board	Total
Short term benefits	(5,304)	(764)	(6,068)
Share-based payment costs (a)	(2,083)	-	(2,083)
Post-employment benefits	(138)	-	(138)
Termination benefits	-	-	-
Total benefits	(7,525)	(764)	(8,289)

Share based payments costs are recognised in accordance with IFRS 2.

<i>In thousands of euros</i>	Managing Board	2018 Supervisory Board	Total
Short term benefits	(4,601)	(642)	(5,243)
Share-based payment costs (a)	(1,374)	-	(1,374)
Post-employment benefits	(120)	-	(120)
Termination benefits	-	-	-
Total benefits	(6,095)	(642)	(6,737)

(a) Share based payments costs are recognised in accordance with IFRS 2.

37. Financial risk management

As a result of its operating and financing activities, the Group is exposed to market risks such as interest rate risk, currency risk and credit risk. The Group has implemented policies and procedures designed to measure, manage, monitor and report risk exposures, which are regularly reviewed by the appropriate management and supervisory bodies. The Group's central treasury team is charged with identifying risk exposures and monitoring and managing such risks on a daily basis. To the extent necessary and permitted by local regulation, the Group's subsidiaries centralise their cash investments, report their risks and hedge their exposures in coordination with the Group's central treasury team. The Group performs sensitivity analyses to determine the effects that may result from market risk exposures. The Group uses derivative instruments solely to hedge financial risks related to its financial position or risks that are otherwise incurred in the normal course of its commercial activities. The Group does not use derivative instruments for speculative purposes.

37.1. Liquidity risk

The Group would be exposed to a liquidity risk in the case where its short-term liabilities become, at any date, higher than its cash, cash equivalents, short-term financial investments and available bank facilities and in the case where the Group is not able to refinance this liquidity deficit, for example, through new banking lines.

Cash, cash equivalents and short-term financial investments are managed as a global treasury portfolio invested in non-speculative financial instruments, readily convertible to cash, such as bank balances, money market funds, overnight deposits, term deposits and other money market instruments, thus ensuring a very high liquidity of the financial assets. The Group's policy is to ensure that cash, cash equivalents and available bank facilities allow the Group to repay its financial liabilities at all maturities, even disregarding incoming cash flows generated by operational activities, excluding the related party loans granted by the Group's subsidiaries to its Parent.

The net position of current financial assets, financial liabilities and available credit facilities, excluding working capital items, as of 31 December, 2019 and 2018 is described in the table below:

<i>In thousands of euros</i>	2019	2018
Cash, cash equivalents and short term investments	369,822	398,018

Available credit facilities	400,000	250,000
Financial debt	(1,018,277)	(508,685)
Net position	(248,455)	139,333

The Group has a strong cash position. The liquidity of the group is further strengthened through the increase of available credit facilities, designed to service general corporate or M&A purposes. The Group reviews its liquidity and debt positions on an ongoing basis, and subject to market conditions and strategic considerations, may from time to time reexamine the debt structure of its debt and modify the maturity profile and the sources of financing. The Group is able to support short term liquidity and operating needs through existing cash balance and its strong ability to generate adequate cash flow. The Group has generally access to debts markets, including bank facilities, and may be able to obtain additional debt or other sources of financing to finance its strategic development, provided that its financial risk profile allows it to do so.

The table below summarises the maturity profile of the Group's financial liabilities based on contractual undiscounted payments:

<i>In thousands of euros</i>	Maturity < 1 year	Maturity between 1 and 5 years	Maturity > 5 years	Total
2019				
Trade and other payables	117,298	-	-	117,298
Other current financial liabilities	30,675	-	-	30,675
Borrowings	10,625	42,500	1,033,125	1,086,250
Lease liabilities	13,970	40,000	1,180	55,150
Other non-current financial liabilities	-	-	-	-
2018				
Trade and other payables	115,332	-	-	115,332
Other current financial liabilities	6,986	-	-	6,986
Borrowings	5,000	20,000	510,000	535,000
Other non-current financial liabilities	-	17,400	-	17,400

37.2. Interest rate risk

Substantially all interest-bearing financial assets and liabilities of the Group are either based on floating rates or based on fixed rates with an interest term of less than one year, except for the fixed rate Bonds #1 and #2, which have maturities of respectively seven years and ten years. The Group entered into interest rate swap contracts in order to hedge the interest rate risk inherent to the fixed rate Bond #1. As a result, the Group exposed to fair value risk affecting fixed-rate financial assets and liabilities only through its fixed rate Bond #2. As at 31 December 2019, the Group had an aggregated notional of €500 million fixed-to-floating interest rate swaps outstanding in relation to the fair value hedge of the €500 million Bond #1.

As at 31 December 2019 and 2018 the interest rate exposure of the Company was as follows:

Currency	Position in Euros		Positions in Pound Sterling		Positions in Dollar		Positions in Kroner	
	Floating rate with maturity < 1 year	Floating rate with maturity > 1 year	Floating rate with maturity < 1 year	Floating rate with maturity > 1 year	Floating rate with maturity < 1 year	Floating rate with maturity > 1 year	Floating rate with maturity < 1 year	Floating rate with maturity > 1 year
<i>In thousands of euros</i>								
2019								
Interest bearing financial assets (a)	201,403	-	25,622	-	9,343	-	64,099	-
Interest bearing financial liabilities	62	-	-	-	-	-	-	-
Net position before hedging	201,341	-	25,622	-	9,343	-	64,099	-
Net position after hedging	201,311	(500,000)	25,622	-	9,343	-	64,099	-
2018								
Interest bearing financial assets (a)	238,777	6,000	13,043	-	12,793	-	-	-
Interest bearing financial liabilities	(126)	-	-	-	-	-	-	-
Net position before hedging	238,650	6,000	13,043	-	12,793	-	-	-
Net position after hedging	238,650	(494,000)	13,043	-	12,793	-	-	-

Currency Type of rate and maturity	Position in Euros		Positions in Pound Sterling		Positions in Dollar		Positions in Kroner	
	Fixed rate with maturity < 1 year	Fixed rate with maturity > 1 year	Fixed rate with maturity < 1 year	Fixed rate with maturity > 1 year	Fixed rate with maturity < 1 year	Fixed rate with maturity > 1 year	Fixed rate with maturity < 1 year	Fixed rate with maturity > 1 year
<i>In thousands of euros</i>								
2019								
Interest bearing financial assets (a)	45,815	-	5,909	-	14,909	-	19,098	-
Interest bearing financial liabilities	7,000	1,011,527	-	-	-	-	-	-
Net position before hedging	38,815	(1,011,527)	5,909	-	14,909	-	19,098	-
Net position after hedging	61,531	(511,527)	5,909	-	14,909	-	19,098	-
2018								
Interest bearing financial assets (a)	135,888	-	5,568	-	13,471	-	-	-
Interest bearing financial liabilities	(3,704)	(504,940)	-	-	-	-	-	-
Net position before hedging	132,184	(504,940)	5,568	-	13,471	-	-	-
Net position after hedging	132,184	(4,940)	5,568	-	13,471	-	-	-

(a) Includes cash and cash equivalents and non-current financial assets at amortised cost.

The Group is exposed to cash-flow risk arising from net floating-rate positions. The Group was a net borrower in Euros at 31 December 2019 and 2018. The sensitivity of net interest income to a parallel shift in the interest curves is that a 0.5% increase/decrease of the rate would have resulted in an increase/decrease of net interest income of €1.5 million based on the positions at 31 December 2019 (2018: €1.3 million).

The Group was a net lender in Pound Sterling at 31 December 2019 and 2018. The sensitivity of net interest income to a parallel shift in the interest curves is that a 0.5% increase/decrease of the rate would not have had a material impact on the net interest income based on the positions at 31 December 2019 and 2018.

The Group was a net lender in US Dollar at 31 December 2019 and 2018. The sensitivity of net interest income to a parallel shift in the interest curves is that a 0.5% increase/decrease of the rate would not have had a material impact on net interest income based on the positions at 31 December 2019 and 2018.

The Group was a net lender in NOK at 31 December 2019. The sensitivity of net interest income to a parallel shift in the interest curves is that a 0.5% increase/decrease of the rate would have resulted in an increase/decrease of net interest income of €0.3 million based on the positions at 31 December 2019.

37.3. Currency risk

Foreign currency translation risk:

The Group's net assets are exposed to the foreign currency risk arising from the translation of assets and liabilities of subsidiaries with functional currencies other than the euro. The following table summarises the assets and liabilities recorded in respectively GBP, USD and NOK functional currency and the related impact of a 10% in/decrease in the currency exchange rate on balance sheet:

<i>In thousands</i>	2019		2018	
Assets	£	58,755	£	46,911
Liabilities	£	(7,561)	£	(5,141)
Net currency position	£	51,194	£	41,770
Net currency position after hedge	£	24,052	£	15,043
Absolute impact on equity of 10% in/decrease in the currency exchange rate	€	2,841	€	1,674

<i>In thousands</i>	2019		2018	
Assets	\$	94,824	\$	196,579
Liabilities	\$	(12,322)	\$	0,087)
Net currency position	\$	182,502	\$	176,492
Absolute impact on equity of 10% in/decrease in the currency exchange rate	€	16,253	€	15,411

<i>In thousands</i>	2019		2018	
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Assets	kr	8,489,992	kr -
Liabilities	kr	(1,161,871)	kr -
Net currency position	kr	7,328,121	kr -
Absolute impact on equity of 10% in/decrease in the currency exchange rate	€	74,322	€ -

Most operating revenue and expenses in the various subsidiaries of the Group are denominated in the functional currency of each relevant subsidiary. The Group's consolidated income statement is exposed to foreign currency risk arising from receivables and payables denominated in currencies different from the functional currency of the related entity.

The Group may use derivatives instruments designated as hedge of net investment or foreign denominated debt to manage its net investment exposures. The decision to hedge the exposure is considered on a case by case basis since the Group is generally exposed to major, well established and liquid currencies. The Group would, by the same token, hedge transaction risk arising from cash flows paid or received in a currency different from the functional currency of the group contracting entity on a case by case basis. As at 31 December 2019, the Group had a EUR/GBP foreign exchange contract with a notional amount of £27.1 million expiring in six months, which has been designated as a hedge of the net investment in the acquired subsidiary Commcise Software Ltd. (see Note 23).

37.4. Credit risk

The Group is exposed to credit risk in the event of a counterparty's default. The Group is exposed to credit risk from its operating activities (primarily trade receivables), from its financing activities and from the investment of its cash and cash equivalents and short-term financial investments. The Group limits its exposure to credit risk by rigorously selecting the counterparties with which it executes agreements. Most customers of the Group are leading financial institutions that are highly rated. Investments of cash and cash equivalents in bank current accounts and money market instruments, such as short-term fixed and floating rate interest deposits, are governed by rules aimed at reducing credit risk: maturity of deposits strictly depends on credit ratings, counterparties' credit ratings are permanently monitored and individual counterparty limits are reviewed on a regular basis. In addition to the intrinsic creditworthiness of counterparties, the Group's policies also prescribe the diversification of counterparties (banks, financial institutions, funds) so as to avoid a concentration of risk. Derivatives are negotiated with leading high-grade banks.

37.4.1 Impairment of financial assets

The Group's trade and contract receivables and other debt financial assets at amortised cost are subject to the expected credit loss model. While cash and cash equivalents are also subject to the impairment requirements of IFRS 9, the identified impairment loss was considered immaterial.

Trade and contract receivables

The Group applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade and contract receivables.

To measure expected credit losses, trade and contract receivables have been grouped based on shared credit risk characteristics and the days past due. The historical loss rates are based on the payment profiles of the sales over a period of 24 months before reporting date and the corresponding historical credit losses experience within this period. The historical loss rates are adjusted to reflect current and forward-looking factors specific to the debtors and economic environment. Generally trade receivables are written-off if past due more than one year, or when there is no reasonable expectation of recovery. The maximum exposure to credit risk at the reporting date is the carrying value of each class of financial assets disclosed in Note 21. The Group evaluates the concentration of credit risk with respect to trade and contract receivables as low, as most of its customers are leading financial institutions that are highly rated.

Set out below is the information about the credit risk exposure on the Group's trade and contract receivables using a provision matrix as at 31 December 2019 and 2018:

31 December 2019:

In thousands of euros	Trade receivables					
	Contract Receivables	Current	30-60 days past due	61-90 days past due	> 91 days past due	Total
Expected credit loss rate	0.09%	0.09%	0.24%	0.63%	1.75%	
Collectively assessed receivables	19,878	43,787	28,314	7,597	12,938	112,513
Expected credit loss collective basis	17	38	68	48	226	397
Expected credit loss rate	-	-	-	-	100.0%	
Individually assessed receivables	-	-	-	-	1,221	1,221
Expected credit loss individual basis	-	-	-	-	1,221	1,221
Total expected credit loss	17	38	68	48	1,447	1,618



31 December 2018:

<i>In thousands of euros</i>	Contract Receivables	Current	Trade receivables			Total
			30-60 days past due	61-90 days past due	> 91 days past due	
Expected credit loss rate	0.08%	0.08%	0.27%	0.79%	3.44%	
Collectively assessed receivables	21,996	44,041	14,505	6,337	4,706	91,584
Expected credit loss collective basis	18	37	39	50	162	307
Expected credit loss rate	-	-	-	-	100.0%	
Individually assessed receivables	-	-	-	-	1,226	1,226
Expected credit loss individual basis	-	-	-	-	1,226	1,226
Total expected credit loss	18	37	39	50	1,388	1,533

Other debt financial assets at amortised cost

The other debt financial assets at amortised cost primarily consist of other current financial assets, which include short-term deposits with a maturity over three months. In 2018, non-current financial assets included two loans with a total amount of €6.0 million, bearing an interest rate of Euribor 6 months plus an average margin of 4.5%. In 2019, these loans were fully repaid before the maturity date.

The other debt financial assets at amortised cost are considered to have low credit risk, as the issuers of the instruments have a low risk of default evidenced by their strong capacity to meet their contractual cash flow obligations in the near term. The loss allowance recognised during the period was therefore limited to 12 months expected credit losses. The Group did not recognise any material provision for expected credit losses on its other debt financial assets at amortised cost as per 31 December 2019 (2018: not material). The amount of credit-impaired financial assets is considered not significant.

37.5. Equity Market risk

The Group's investment in publicly traded equity securities was insignificant in 2019 and 2018.

37.6. Capital management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern, to comply with regulatory requirements and to maintain an optimal capital structure to reduce the cost of capital and provide return to shareholders. Certain entities of the Group are regulated as Exchanges or as Central Securities Depository ("CSD") and are subject to certain statutory regulatory requirements based on their local statutory financial statements and risks. In general, the financial ratios of the Group's subsidiaries significantly exceed the regulatory requirements and they maintain a safety cushion in order to avoid any concern from the regulators.

Euronext N.V. must comply with prudential requirements, as a result of an agreement reached with the Dutch Finance Ministry in May 2016, which are set forth in three pillars:

- A minimum Total Equity level equal of at least € 250 million; and
- The Group shall take care of stable financing. Long-term assets of the Group will be financed with shareholders equity and long term liabilities, to the satisfaction of the AFM; and
- The Group shall have a positive regulatory capital on a consolidated basis. The regulatory capital is calculated according to the following formula: the paid up share capital plus the freely available reserves less the items listed in section 36 of Regulation (EU) no. 575/201. In deviation to mentioned formula, the value of the intangible fixed assets in connection with Mergers and Acquisitions will be deducted in 10 (default) or more equal instalments (grow in period) from the regulatory capital. Considering a consistent dividend policy, the grow in period can be extended if the P/E ratio would exceed 10 times. If the grow in period and the related dividend policy provide for a negative a regulatory capital for a limited number of years of the gown-in period, then this fact will not prevent the execution of the consistent and prudent dividend policy of the Group in those years.

As per 31 December 2019, Euronext N.V. complied with these requirements.

Euronext Amsterdam N.V. is subject to a minimum statutory capital requirement of €730 thousand, shall have a regulatory capital in the amount of 50% of the direct fixed cost of Euronext Amsterdam N.V. during the preceding financial year and in addition the cash and cash equivalents shall be higher than the required minimum regulatory capital to operate as an exchange in the Netherlands. As per 31 December 2019, Euronext Amsterdam N.V. was in compliance with these requirements.

Euronext Brussels SA/NV shall maintain adequate financial resources at its disposal to ensure orderly functioning of the market. The law mentions that FSMA may, by a regulation, set financial ratios for market operators and determine which

financial information they are required to provide. At this date, no quantitative requirements has ever been set either by a regulation or by the Financial Authority FSMA.

Euronext Dublin shall at all time hold a minimum level of capital based on the Basic Capital Requirement and the Systematic Capital Add-on and maintain liquid financial assets at least equal to the sum of these two amounts of required capital. As per 31 December 2019, Euronext Dublin complied with these requirements.

Euronext Lisbon S.A. shall maintain minimum statutory share capital of €3.0 million and shall maintain minimum statutory equity of €6.0 million. In addition, Euronext Lisbon's liabilities must not exceed its own funds (basically the amount of equity). As per 31 December 2019, Euronext Lisbon complied with these requirements.

Euronext London Ltd. shall maintain a minimum level of financial resources, of at least equal to six months of operating costs, to be able to properly perform its exchange functions. As per 31 December 2019, Euronext London Ltd. complied with these requirements.

Euronext Paris S.A. shall maintain statutory regulatory equity at no less than 50% of its yearly expenses and a solvency ratio on operational risks at no less than 8%. As per 31 December 2019, Euronext Paris S.A. complied with these requirements.

Interbolsa S.A. shall maintain minimum statutory share capital of €2.75 million and shall maintain minimum statutory equity of €5.5 million. In addition, as a CSD, Interbolsa S.A. shall hold an amount of capital, including retained earnings and reserves, higher or equal to the sum of CSD'S capital requirements. As per 31 December 2019, Interbolsa S.A. complied with these requirements.

Norwegian legislation stipulates requirements for Oslo Børs ASA and VPS ASA to maintain an adequate level of primary capital. In this context, primary capital comprises equity after deducting items including intangible assets such as system development costs and deferred tax assets. VPS must maintain primary capital equivalent to at least nine months of operating costs plus an adequate buffer amount. Dividend payments by VPS require approval of the Ministry of Finance. As per 31 December 2019, Oslo Børs ASA and VPS ASA complied with these requirements.

37.7. Changes in liabilities arising from financing activities

The changes in liabilities arising from the Group's financing activities in 2019 and 2018 were as follows:

<i>In thousands of euros</i>	Borrowings due within 1 year	Borrowings due after 1 year	Leases due within 1 year	Leases due after 1 year	Total liabilities from financing activity
As at 1 January 2018	203	164,682	-	-	164,885
Cash flows	(643)	331,595	-	-	330,952
Fair Value adjustments	-	7,999	-	-	7,999
Accrued interest	4,185	-	-	-	4,185
Amortisation and transfer of issue costs	-	665	-	-	665
As at 31 December 2018	3,745	504,941	-	-	508,686
Recognised on adoption of IFRS 16 (see Note 3)	-	-	11,092	45,125	56,217
As at 1 January 2019	3,745	504,941	11,092	45,125	564,904
Cash flows	(6,252)	448,251	(9,744)	-	432,255
Acquisitions	65	45,956	1,543	5,149	52,713
Additions	-	-	233	1,440	1,673
Fair Value adjustments	-	11,867	-	-	11,867
Accrued interest	9,303	-	555	-	9,858
Amortisation and transfer of issue costs	-	683	-	-	683
Foreign exchange impacts	(112)	(172)	22	(45)	(307)
Other	-	-	10,270	(10,490)	(220)
As at 31 December 2019	6,750	1,011,527	13,970	41,180	1,073,427

The line 'Other' includes the effect of reclassification of non-current portion of lease liabilities to current due to the passage of time.

38. Contingencies

The Group is involved in a number of legal proceedings that have arisen in the ordinary course of our business. Other than as discussed below, management does not expect these pending or threatening legal proceedings to have a significant effect on the Group's financial position or profitability. The outcome of legal proceedings, however, can be extremely difficult to predict and the final outcome may be materially different from managements' expectation.

Euronext Amsterdam Pension Fund

Approximately 120 retired and/or former Euronext Amsterdam employees, united in an association, served summons on Euronext Amsterdam on 3 April 2014. The claim is based on the fact that Euronext Amsterdam terminated its pension agreement with the pension fund Mercurius ("PMA") and transferred the pension of the current employees of Euronext Amsterdam to Delta Lloyd Asset Management ("Delta Lloyd"). The pension entitlements of the retired and/or former employees of Euronext Amsterdam have also been transferred by PMA to Delta Lloyd. The retired and/or former employees have been informed by PMA that the transfer of their entitlements to Delta Lloyd will result in a nominal pension entitlement without indexation in the future. The association claims that Euronext Amsterdam should guarantee the same pension entitlements of the retired Euronext Amsterdam employees under the same or similar conditions as those in the agreement between Euronext Amsterdam and PMA with the consideration that (i) the administration fee will be covered, (ii) the liability ratio will be covered and (iii) the loyalty and solidarity between retired and current employees is provided for. The amount will need to be calculated by an actuary.

After Euronext Amsterdam filed a statement of defense on 27 June 2014, the Subdistrict (Kanton) Division of the Court of Amsterdam on 11 July 2014 granted the retired and/or former employees of Euronext Amsterdam a term until 8 August 2014 in order to file a rejoinder. On that date the counterparty was granted a postponement until 5 September 2014 for its statement of reply. Both parties have filed all documents and statements and an oral hearing took place on 11 June 2015. The judge asked both parties to explore a settlement and Euronext assessed the costs of potential out of court solutions. The Court has been informed that no arrangement on such settlement could be reached.

On 24 June 2016 the judge delivered a decision. The claim that Euronext Amsterdam should guarantee the same pension entitlements of the retired Euronext Amsterdam employees under the same or similar conditions as those in the agreement between Euronext Amsterdam and PMA is rejected. However, the judge did hold that there has been an attributable breach by Euronext Amsterdam in the performance of the pension agreements with the members of the association. Euronext Amsterdam is ordered to pay for damages resulting from the loss of indexation perspective incurred by the claimants other than the association. The association is not eligible to claim damages. The amount of the damages needs to be determined in a separate procedure (a "schadestaatprocedure"). Management believes that the decision is insufficiently motivated. On 21 September 2016, Euronext Amsterdam has filed for appeal against the decision. The grounds for appeal were filed on 6 December 2016. On 14 February 2017 claimants filed their responses and also filed for appeal against certain parts of the decision of 24 June 2016. Euronext Amsterdam has responded to the grounds for appeal raised by claimants on 25 April 2017. An oral hearing took place on 24 November 2017.

On 25 April 2019, Euronext Amsterdam unexpectedly received an interlocutory judgment. The higher court intends to confirm the verdict of the judgement of 24 June 2016. However, the higher court needs further information to assess if Euronext can be sentenced to enter into a new implementation agreement (uitvoeringsovereenkomst) with a pension provider who can provide the same or at least equal rights and warranties as set out in the implementation agreement 2007-2012, or the implementation agreement 2013; or subsidiary if Euronext can be sentenced to, as substitution for the implementation agreement, pay an amount of money to a pension provider to make sure that the pensioners will be placed in the same position as they would have been in the event the implementation agreement would have been continued unaltered. Euronext has provided the information. The actuaries of Euronext had already calculated that the pensioners would have lower pension rights in the event that the implementation agreement would have been continued. These calculations are based on all the financial obligations of the implementation agreement and the financial position of the pension fund. Furthermore the calculations are based on the legal parameters of the Pension Act 2007. Therefore, Euronext has called for rejection of the claims of the pensioners because there is no financial loss. The pensioners have responded to this information on 23 July 2019. There is no possibility to appeal at this stage. The final judgement of the higher court is expected 19 May 2020, but it is possible that the judgment will be postponed until later in 2020. Once there is a final decision Euronext shall consider if it should lodge an appeal in cassation. No provision has been booked in connection with this case.

39. Commitments

39.1. Capital commitments

As of 31 December, capital expenditures contracted but not yet incurred were as follows:

<i>In thousands of euros</i>	2019	2018
No later than one year	10,740	380
Later than 1 year and no later than 5 years	189	1,002
Later than 5 years	-	-

Total	10,929	1,382
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39.2. Non-cancellable operating leases

As from 1 January 2019, following the adoption of IFRS 16 'Leases', the Group has recognised right-of-use assets for its non-cancellable operating leases, except for short-term and low-value leases, see Notes 3 and 17 for further information. Consequently, this note only includes information on the comparative period.

The minimum lease payments due under non-cancellable operating leases were as follows:

<i>In thousands of euros</i>	2019	2018
No later than one year	-	23,249
Later than 1 year and no later than 5 years	-	44,364
Later than 5 years	-	6,875
Total	-	74,488

Expenses in 2018 for operating leases were €29.4 million.

39.3. Guarantees given

As per 31 December 2019, Euronext N.V. participates in a number of guarantees within the Group (see Note 59).

39.4. Securities held as custodian

In Portugal and Norway, the Group acts as a National Central Securities Depository, operated by respectively Interbolsa and Verdipapirsentralen ASA ("VPS").

Interbolsa

As at 31 December 2019, the value of securities kept in custody by Interbolsa amounted to €347 billion (2018: €337 billion) based on the market value of shares and the nominal value of bonds. The procedures of this National Central Securities Depository are focused on the provision of notary services, central maintenance services and settlement securities services, according to the CSDR (Central Securities Depository Regulation). The settlement services, provided through T2S platform, have its risks mitigated mainly by early warning systems. The reconciliation procedures in place mitigate the major risks related to the registration of securities.

VPS

As at 31 December 2019, the value of securities kept in custody by VPS amounted to €615 billion based on the market value of shares and the nominal value of bonds. At the end of 2019, VPS received a notification of a potential claim. The notification refers to an alleged wrongful act performed by an account operator leading to a potential loss for a third party. The amount of the loss has not yet been identified, nor whether the potential loss is indeed the result of wrongful act.

Under the terms of Section 9-1 the Norwegian Securities Register Act of 5 July 2002, VPS is liable for losses that other parties may incur as a result of errors that occur in connection with registration activities. This does not apply if VPS is able to demonstrate that the error was outside VPS' control. Errors on the side of the account operator are under the current law seen as being under the control of VPS. The statutory liability according to Section 9-1, first paragraph, only applies to direct losses and is limited to kr500 million per claim. In case of gross negligence or willful misconduct these limitations do not apply.

The Securities Register Act stipulates that VPS' potential liability pursuant to Section 9-1, first paragraph of the Act, must be covered through insurance, or by some other form of guarantee subject to approval by the FSA. Oslo Børs VPS Holding ASA has taken out errors and omissions insurance for the parent company and its subsidiaries, with an annual limit of kr1 billion and a deductible of kr10 million per claim. VPS shares this insurance with the other companies in the group up to a limit of kr300 million and is the sole insured party for the balance of kr700 million. The insurance is subject to a limit of kr500 million for any one claim. VPS paid one compensation claim of kr12 thousand in 2019. A compensation claim of kr123 thousand was paid in 2018.

No provision has been booked in connection with this case as any loss will be covered by insurance, with recourse on the account operator.

40. Events after the reporting period

The significant events that occurred between 31 December 2019 and the date of this report that could have a material impact on the economic decisions made based on these financial statements are listed below:

Acquisition of Nord Pool Group

On 15 January 2020, Euronext completed the acquisition of 66% of the share capital and voting rights of the Nord Pool Group, after receiving regulatory approvals, for a cash consideration of €65.4 million. With the acquisition of Nord Pool, the second largest power market in Europe, Euronext diversifies its revenue mix by entering the power market, and

reinforces its commodity franchise. This transaction also contributes to the Group's ambition to grow its presence in the Nordic region and further strengthens Oslo as Euronext's main hub in the Nordics. The Transmission System Operators (TSOs), formerly the sole owners, will retain a 34% stake in Nord Pool Group.

Details of the purchase consideration, the preliminary net assets acquired and goodwill are reflected in the tables below:
Purchase consideration:

<i>In thousands of euros</i>	Fair value
Cash paid	65,429
Total purchase consideration	65,429

The preliminary purchase price allocation yielded the following results:

<i>In thousands of euros</i>	Preliminary calculation Fair Value (a)
Assets	
Property, plant and equipment	549
Right-of-use assets	2,272
Other intangible assets	2,036
Deferred tax assets	162
Derivatives financial instruments	12
Trade and other receivables	95,330
Cash and cash equivalents	163,316
Liabilities	
Non-current lease liabilities	(1,547)
Post-employment benefits	(278)
Current lease liabilities	(727)
Current income tax liabilities	(1,900)
Trade and other payables	(229,694)
Net identifiable assets acquired	29,531
Less: non-controlling interest	(10,041)
Add: Goodwill	45,939
Total purchase consideration	65,429

- (a) *The valuation of the net identifiable assets had not been completed by the date these Consolidated Financial Statements were authorized for issuance by Euronext N.V.'s Supervisory Board, as the transaction was only closed in the first quarter of 2020. It is expected that all line items, except for cash and cash equivalents, may need to be subsequently adjusted, with a corresponding adjustment to Goodwill.*

The goodwill is primarily attributable to the expected synergies and other benefits from combining the assets and activities of Nord Pool Group, with those of the Group. The goodwill is not deductible for income tax purposes.

Acquired receivables

The fair value of trade and other receivables was €95.3 million, and included €89.9 million of trade receivables, which is not materially different to the gross contractual amount. None of the trade receivables have been impaired and it is expected that the full contractual amounts can be collected.

Non-controlling interest

The Group has chosen to recognise the non-controlling interest at the proportionate share of the net assets acquired. As such, non-controlling interest on acquisition amounted to €10.0 million (34% of €29.5 million).

Acquisition related costs

Acquisition related costs of €2.0 million were expenses and recognised in professional services in profit or loss.

Payment of contingent consideration payable and exercise of call option for remaining shares in InsiderLog AB

In February 2020, the Group paid the €3.6 million contingent consideration payable in relation to InsiderLog AB, as part of the 80% majority stake that was acquired on 17 January 2018. In addition, the Group exercised its call option for the remaining 20% of the shares in InsiderLog AB for an amount of €5.7 million. Consequently, the Group now has an ownership of 100% in InsiderLog AB.

Payment of contingent consideration payable and exercise of put option for remaining shares in Company Webcast B.V.

In March 2020, the Group paid the €5.0 million contingent consideration payable to Company Webcast B.V., as part of the 51% majority stake that was acquired on 14 February 2017. In addition, the minority shareholders exercised their put option for selling the remaining 49% of the shares in Company Webcast B.V. for an amount of €22.3 million. Consequently, the Group now has an ownership of 100% in Company Webcast B.V.

Sale of investment in Algomi Ltd.

In February 2020, the Group entered into binding agreements to sell its 7.74% minority stake in Algomi Ltd. to BGC Partners. The transaction is expected to close in the course of 2020. The Group expects to receive net proceeds of approximately \$3.0 million from the sale of its minority stake.

Covid-19 outbreak

The recent and emerging outbreak of Covid-19 is causing high market uncertainty which has led to high volumes in the first quarter of 2020. However, if the situation continues to deteriorate, the impact of the pandemic on the markets could be detrimental.

Governments around the world and in most Euronext countries have implemented or announced unprecedented monetary and fiscal responses. Those measures are aimed at avoiding or mitigating the consequences of a potential downturn, however their duration, scope and effectiveness remain uncertain.

Currently the market sentiment has led to high volatility and volumes on the market positively impacting Euronext's trading revenues. However, as the Covid-19 pandemic may push the global economy into a recession in the longer term, trading revenues may suffer from loss of volume. The uncertainty may also impact other business lines, notably the Listing business, which may see a decrease in IPOs.

The ultimate severity of the Covid-19 pandemic is very uncertain and therefore the Group cannot reasonably estimate the impact it may have on its financial statements at this stage.

Authorisation of Consolidated Financial Statements

Amsterdam, 1 April 2020

Supervisory Board

Dick Sluimers (*Chairman*)
Jim Gollan
Manuel Ferreira da Silva
Jim Gollan
Kerstin Günther
Lieve Mostrey
Franck Silvent
Luc Keuleneer
Padraic O'Connor
Nathalie Rachou
Morten Thorsrud

Managing Board

Stéphane Boujnah (*CEO and Chairman*)
Anthony Attia
Vincent van Dessel
Daryl Byrne
Chris Topple
Simone Huis in 't Veld
Isabel Ucha

Euronext N.V.

**Company Financial Statements
for the year ended
31 December 2019**

Company Income Statement

<i>In thousands of euros</i>	Note	Year ended	
		31 December 2019	31 December 2018
Net turnover	42	-	-
Other operating expenses	43	(20,396)	(13,725)
Total operating (loss)		(20,396)	(13,725)
Income from equity investments	44	5,784	4,101
Other interest income and similar income	44	10,067	7,292
Interest expenses and similar charges	44	(10,368)	(2,427)
Result before tax		(14,913)	(4,759)
Tax	45	1,446	488
Share in result of participations	46	235,433	220,239
Net result for the year		221,966	215,968

The above Company Income Statement should be read in conjunction with the accompanying notes.

Company Balance Sheet

(Before appropriation of profit)

<i>In thousands of euros</i>	<i>Note</i>	As at 31 December 2019	As at 31 December 2018
Assets			
Fixed assets			
Investments in consolidated subsidiaries	46	1,602,307	1,202,896
Investments in associates and joint ventures	46	67,025	72,685
Related party loans	46	504,736	118,678
Financial assets at fair value through OCI	47	132,786	158,268
Other non-current financial and other assets	48	957	6,463
Total financial fixed assets		2,307,811	1,558,990
Total fixed assets		2,307,811	1,558,990
Current assets			
Trade and other receivables	49	57,011	99,178
Income tax receivable		37,014	18,542
Related party loans	50	50,734	46,446
Total receivables		144,759	164,166
Derivative financial instruments	51	19,353	7,361
Other current financial assets	52	-	9,860
Total securities		19,353	17,221
Cash		19,024	16,755
Total current assets		183,136	198,142
Assets held for sale		8,760	-
Total assets		2,499,707	1,757,132
Shareholders' equity and liabilities			
Shareholders' equity			
Issued capital		112,000	112,000
Share premium		107,562	107,562
Reserve for own shares		(11,194)	(17,816)
Retained earnings		416,922	321,440
Legal reserves and other		70,884	51,939
Profit for the year		221,966	215,968
Total shareholders' equity	53	918,140	791,093
Long-term liabilities			
Borrowings	54	1,011,515	504,928
Deferred tax liabilities		14,028	11,956
Total long-term liabilities		1,025,543	516,884
Short-term liabilities			
Borrowings	54	6,747	3,706
Related party borrowings	55	430,947	427,446
Derivative financial instruments	51	141	85
Trade and other payables	56	118,131	17,918
Current contract liabilities		58	-
Total short-term liabilities		556,024	449,155
Total shareholders' equity and liabilities		2,499,707	1,757,132

The above Company Balance Sheet should be read in conjunction with the accompanying notes.

Notes to the Company Financial Statements

41. Basis of preparation

Euronext N.V. is a Dutch public company with limited liability (*naamloze vennootschap*) which has its registered office in Amsterdam under Chamber of Commerce number 60234520.

The company financial statements of Euronext N.V. (hereafter: the Company) have been prepared in accordance with Part 9, Book 2 of the Dutch Civil Code. In accordance with sub 8 of article 362, Book 2 of the Dutch Civil Code, the company's financial statements are prepared based on the accounting principles of recognition, measurement and determination of profit, as applied in the consolidated financial statements. These principles also include the classification and presentation of financial instruments, being equity instruments or financial liabilities.

In case no other policies are mentioned, refer to the accounting policies as described in the accounting policies in the Consolidated Financial Statements of this Annual report. For an appropriate interpretation, the Company Financial Statements of Euronext N.V. should be read in conjunction with the Consolidated Financial Statements.

Valuation of investments in consolidated subsidiaries

Investments in consolidated subsidiaries are presented at net asset value. Net asset value is based on the measurement of assets, provisions and liabilities and determination of profit based on the principles applied in the consolidated financial statements.

If the valuation of an consolidated subsidiary based on the net asset value is negative, it will be stated at nil. If and insofar the Company can be held fully or partially liable for the debts of the consolidated subsidiary, or has the firm intention of enabling the consolidated subsidiary to settle its debts, a provision is recognised for this. In determining the value of consolidated subsidiaries with a negative equity, any non-current loans, issued to the consolidated subsidiary, that should be seen as part of the net investment are taken into account. Non-current loans are considered to be part of the net investment if these loans are not expected to be settled in the near future nor planned to be settled in the near future.

Implication of new and amended standards and interpretations

As disclosed in Note 3 of the Consolidated Financial Statements, a number of new standards and amendments became applicable for the first time for annual reporting periods commencing 1 January 2019. In general, IFRS 16 'Leases' generates the most significant impact. However, the adoption of IFRS 16 had no impact on the Company Financial Statements, as the Company has no contracts containing leases.

42. Net turnover

<i>In thousands of euros</i>	2019	2018
Market Data revenues	117,184	109,043
Recharge of Market Data revenues	(117,184)	(109,043)
Total	-	-

Euronext N.V. receives market data revenues on behalf of its subsidiaries, which is subsequently recharged to these subsidiaries. Euronext N.V. does not charge its subsidiaries a fee for its role of administering the sale of market data to third parties and as such does not recognise a margin on the sales.

43. Other operating expenses

<i>In thousands of euros</i>	2019	2018
Systems and communications	(94)	(148)
Professional Services	(16,984)	(7,390)
Other expenses	(3,318)	(6,187)
Total	(20,396)	(13,725)

In 2019, professional services expenses contained €11.7 million (2018: €2.1 million) of acquisition costs.

In 2019, other expenses contained €1.3 million that is related to a settlement payment regarding the investment in Algomi Ltd.

In 2018, other expenses is primarily due to €3.0 million of items that relate to the revaluation of the investment in Algomi Ltd. and the impairment of the investment in joint venture Algonext Ltd. In addition, other expenses contain €1.8 million of stamp duty taxes which were recognised at acquisition of the Irish Stock Exchange plc in 2018.

Number of employees

Euronext N.V. had no employees during 2019 and 2018. The remuneration of the Supervisory Board is included in other expenses.

44. Financial income and expenses

<i>In thousands of euros</i>	2019	2018
Income from equity investments	5,784	4,101
Interest and similar income	10,067	7,292
Interest and similar expenses	(10,944)	(6,788)
Exchange differences	576	4,361

Total	5,483	8,966
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The income from equity investments reflects the dividend received from Euroclear S.A./ N.V.

Interest and similar income was positively impacted by income of €5.0 million (2018: €3.5 million) from interest rate swaps entered into by the Group (see Note 23 of the Consolidated Financial Statements) and increased interest income on related party loans for €0.9 million in 2019.

Interest and similar expenses increased, following the Senior Unsecured Note #2 issued in June 2019. In 2018, the Senior Unsecured Note #1 was issued in April 2018 (see Note 29 of the Consolidated Financial Statements).

The exchange differences are mainly triggered by revaluations of the non-current related party loans with Euronext UK Holdings Ltd., Oslo Børs VPS, Euronext Nordics Holding AS and Euronext US Inc (see Note 46). In 2018, exchange differences contained significant impacts resulting from revaluation of the \$110 million non-current related party loan with Euronext US Inc.

45. Tax

<i>In thousands of euros</i>	2019	2018
Result before tax	(14,913)	(4,759)
Corporate income tax current financial year	1,446	753
Corporate income tax previous financial years	-	(265)
Total	1,446	488

The effective tax rate mainly deviates from the applicable tax rate as a result of the non-deductible expenses. For the year 2020, the Netherlands have withdrawn the announced rate decrease and maintained the corporate income tax rate at 25%. For the year 2021, the corporate income tax rate in the Netherlands will decrease to 21.7% instead of the rate of 20.5% announced in 2018. Reference is made to Notes 15 and 19 of the Consolidated Financial Statements for more information on the tax rate changes.

	2019	2018
Effective tax rate	10%	10%
Applicable tax rate	25%	25%

46. Investments in consolidated subsidiaries, associates, joint ventures and non-current related party loans

<i>In thousands of euros</i>	Investments in consolidated subsidiaries	Investments in associates and joint ventures	Related party loans	Total
Net book amount as at 31 December 2017	1,251,109	73,860	91,715	1,416,684
Change in accounting policy	(50,297)	-	-	(50,297)
Investments	199,566	-	26,963	226,529
Capital contributions / (settlements)	(4,769)	853	-	(3,915)
Impairments in subsidiaries	(1,007)	-	-	(1,007)
Exchange differences	5,872	99	-	5,971
Share-based payments, subsidiaries	3,979	-	-	3,979
Actuarial gains/ losses IAS 19	1,610	-	-	1,610
Revaluation financial assets at FVOCI	13,981	-	-	13,981
Share in result of participations	217,482	2,757	-	220,239
Dividend received	(428,752)	(4,884)	-	(433,636)
Other	(5,878)	-	-	(5,878)
Total movements in book value	(48,213)	(1,175)	26,963	(22,425)
Net book amount as at 31 December 2018	1,202,896	72,685	118,678	1,394,258
Investments	363,155	5,194	386,058	754,407
Capital contributions / (settlements)	(324)	1,231	-	907
Exchange differences	(6,157)	(2)	-	(6,158)
Share-based payments, subsidiaries	6,921	-	-	6,921
Actuarial gains/ losses IAS 19	(1,632)	-	-	(1,632)
Revaluation financial assets at FVOCI	2,595	-	-	2,595

Share in result of participations	233,589	1,844	-	235,433
Dividend received	(196,971)	(5,097)	-	(202,068)
Reclassification	-	(8,760)	-	(8,760)
Other	(1,765)	(70)	-	(1,835)
Total movements in book value	399,411	(5,660)	386,058	779,810
Net book amount as at 31 December 2019	1,602,307	67,025	504,736	2,174,068

Investments in consolidated subsidiaries

In 2019, Euronext N.V. acquired and/or increased the interests/investments in Euronext US Inc., Euronext Nordics Holding AS, and Finance Web Working SAS for a total of €363.2 million.

In 2018, Euronext N.V. acquired and/or increased the interests/investments in the Irish Stock Exchange plc., Euronext UK Holdings Ltd. and Euronext US Inc. (representing the additional interest in FastMatch Inc.) for a total of €199.6 million. For additional information on these acquired and/or increased interests/investments please refer to Notes 4 and 5 of the Consolidated Financial Statements.

Investments in associates and joint ventures

In 2019, Euronext N.V. acquired and/or increased the interests/investments in Tokeny Solutions and LiquidShare SAS for a total of €5.2 million. The Company impaired its investment in EuroCCP N.V. for the amount of €6.0 million. The residual investment in EuroCCP N.V. was reclassified as asset held for sale with the amount of €8.8 million.

In 2018, Euronext N.V. impaired its investment in joint venture Algonext Ltd. (see Notes 2 and 7 of the Consolidated Financial Statements). For additional information on the interest in associates and joint ventures, see Notes 4 and 7 of the Consolidated Financial Statements.

Amounts due from subsidiaries

On 1 August 2019, Euronext N.V. entered into a loan agreement of kr275 million with Oslo Børs VPS. The loan has a maturity of five years and bears an interest rate of NIBOR 3 month plus 0.300%. On 23 December 2019, Euronext N.V. entered into a loan agreement of kr3,500 million with Euronext Nordics Holding AS. The loan has a maturity of ten years with a fixed interest rate of 3%. Both loans are drawn to facilitate the acquisition of Oslo Børs VPS.

On 19 December 2018, Euronext N.V. entered into a loan agreement of £16.3 million with Euronext UK Holdings Ltd. to enable the acquisition of Commisce Software Ltd. The loan has a maturity of ten years and bears an interest rate of LIBOR UK 1 month plus 0.125%. The interest amount is received monthly and is recognised in Note 50.

In 2018, two new loan agreements were entered into with Euronext US Inc. at a total amount of \$5.2 million. Both loans have a maturity of ten years with a fixed interest rate of 3.25% and 3.84% respectively. The interest amounts of these loans are received annually and are recognised in Note 50.

47. Financial assets at fair value through Other Comprehensive Income

In 2019, the financial assets at fair value through Other Comprehensive Income of €132.8 million represent the direct investment in Euroclear S.A./N.V. and Algomi Ltd., whereas in the comparative period also the equity investment in Oslo Børs VPS was included. For additional information on these investments, reference is made to Note 20 of the Consolidated Financial Statements.

48. Other non-current financial and other assets

The decrease of other non-current financial and other assets are due to the repayment of the two loans granted in the total amount of €6.0 million. For additional information of these positions and their credit exposure, reference is made to Note 37.4 of the Consolidated Financial Statements.

49. Trade and other receivables

<i>In thousands of euros</i>	As at 31 December 2019	As at 31 December 2018
Trade receivables	14,701	15,240
Contract receivables	9,124	8,511
Allowance for expected credit losses	(35)	(34)
Trade and contract receivables net	23,790	23,717
Related party receivables	27,168	71,616
Tax receivables (excluding income tax)	1,619	1,954

Prepayments and accrued income	136	152
Other receivables	4,298	1,739
Total	57,011	99,178

Trade receivables are non-interest bearing and generally on terms of 30 to 90 days. Contract receivables represent amounts in respect of unbilled revenue, for which the Group has an unconditional right to consideration (i.e. only the passage of time is required before payment of the consideration is due).

The higher related party receivable of 2018 is mainly due to the receipt of dividends from Euronext Paris S.A. which changed the significant payable position with this subsidiary into a receivable position of €63.2 million as per 31 December 2018 (see also Note 56).

In 2019, the increase of other receivables was mainly related to the accrued interest income from the interest rate swaps, entered into in April 2018 (see Note 23). Other items in the other receivables were the transactions in own shares by the liquidity provider, which were settled right after the reporting date.

The fair value of the receivables approximates the book value, due to their short-term character.

Set out below is the movement in the allowance for expected credit losses of trade and contract receivables:

<i>In thousands of euros</i>	2019	2018
As at 1 January	34	22
Provision for expected credit losses	1	12
Receivables written off during the year	-	-
At 31 December	35	34

The Company applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for its trade and contract receivables. Reference is made to Notes 3 and 37.4 of the Consolidated Financial Statements on the inputs used in establishing the provision matrix used to calculate the loss allowance provision.

Set out below is the information about the credit risk exposure on the Company's trade and contract receivables using a provision matrix:

31 December 2019:

<i>In thousands of euros</i>	Contract Receivables	Trade receivables				Total
		Current	30-60 days past due	61-90 days past due	> 91 days past due	
Expected credit loss rate	0.01%	0.01%	0.02%	0.12%	0.13%	
Collectively assessed receivables	9,124	8,662	3,784	611	1,614	
Expected credit loss collective basis	1	1	1	1	2	5
Expected credit loss rate	0.00%	0.00%	0.00%	0.00%	100.00%	
Individually assessed receivables	-	-	-	-	30	
Expected credit loss individual basis	-	-	-	-	30	30
Total expected credit loss	1	1	1	1	33	35

31 December 2018:

<i>In thousands of euros</i>	Contract Receivables	Trade receivables				Total
		Current	30-60 days past due	61-90 days past due	> 91 days past due	
Expected credit loss rate	0.03%	0.03%	0.08%	0.39%	1.03%	
Collectively assessed receivables	8,511	9,063	3,387	1,553	1,231	

Expected credit loss collective basis	3	3	3	6	13	27
Expected credit loss rate	0.00%	0.00%	0.00%	0.00%	100.00%	
Individually assessed receivables	-	-	-	-	7	7
Expected credit loss individual basis	-	-	-	-	7	7
Total expected credit loss	3	3	3	6	20	34

50. Current related party loans

<i>In thousands of euros</i>	As at 1 January 2019	Loans advanced	Interest accrued	As at 31 December 2019
Current				
Euronext Corporate Services B.V.	41,842	-	-	41,842
Finance Web Working SAS	-	228	-	228
Interest receivable on non current intercompany loans	4,587	-	4,059	8,646
Interest receivable on current intercompany loans	17	-	1	19
Total	46,446	228	4,060	50,734

<i>In thousands of euros</i>	As at 1 January 2018	Loans advanced	Interest accrued	As at 31 December 2018
Current				
Euronext Corporate Services B.V.	33,784	8,058	-	41,842
Interest receivable on non current intercompany loans	1,180	-	3,407	4,587
Interest receivable on current intercompany loans	10	-	8	17
Total	34,974	8,058	3,415	46,446

The fair value of the related party loans receivable approximate their carrying values.

The €41.8 million loan receivable from Euronext Corporate Services B.V. has no maturity and is repayable at lender's or borrower's request upon 48 hours' notice. The interest amount is paid received and based on EONIA OIS and EURIBOR 3 months as reference rates plus 0.125%.

51. Derivative financial instruments

The derivative financial instruments recognised by the Company are resulting from hedging activities, which are further disclosed in Note 23 of the Consolidated Financial Statements.

52. Other current financial assets

The other current financial assets consist of short-term deposits with a maturity of more than three months. Reference is made to Notes 24 and 35 of the Consolidated Financial Statements for more information on the other current financial assets. For additional information on the credit exposure of these positions, reference is made to Note 37.4 of the Consolidated Financial Statements.

53. Shareholders' equity

The movements in shareholder's equity were as follows:

Legal reserves and other

<i>In thousands of euros</i>	Issue d capit al	Share premi um	Reser ve for own share s	Retain ed earnin gs	Profit for the year	Non- distributa ble profits and other gains regarding subsidiar ies	Revaluati on reserve	Reserve for translati on differen ces	Total
As at 31 December 2017	112,000	107,562	(17,269)	249,931	241,297	1,139	24,744	(4,135)	715,269
Change in accounting policy subsidiaries	-	-	-	(50,297)	-	-	-	-	(50,297)
Share based payments	-	-	-	3,979	-	-	-	-	3,979
Appropriation of the result of preceding year	-	-	-	120,856	(241,297)	-	-	-	(120,441)
Net result for the period	-	-	-	-	215,968	-	-	-	215,968
Transfers within equity	-	-	-	(8,402)	-	8,402	-	-	-
Exchange rate differences	-	-	-	-	-	-	-	5,900	5,900
Revaluation subsidiaries	-	-	-	15,591	-	-	-	-	15,591
Other revaluations	-	-	-	-	-	-	15,889	-	15,889
Acquisition of NCI subsidiaries	-	-	-	(3,575)	-	-	-	-	(3,575)
Purchase of shares	-	-	(5,787)	-	-	-	-	-	(5,787)
Other movements	-	-	5,240	(6,644)	-	-	-	-	(1,404)
As at 31 December 2018	112,000	107,562	(17,816)	321,440	215,968	9,541	40,633	1,765	791,093
Share based payments	-	-	-	6,943	-	-	-	-	6,943
Appropriation of the result of preceding year	-	-	-	108,729	(215,968)	-	-	-	(107,239)
Net result for the period	-	-	-	-	221,966	-	-	-	221,966
Transfers within equity	-	-	-	(13,580)	-	13,580	-	-	-
Exchange rate differences	-	-	-	-	-	-	-	(2,380)	(2,380)
Revaluation subsidiaries	-	-	-	963	-	-	-	-	963
Other revaluations	-	-	-	-	-	-	7,745	-	7,745
Purchase of shares	-	-	896	-	-	-	-	-	896
Other movements	-	-	5,726	(7,572)	-	-	-	-	(1,846)
As at 31 December 2019	112,000	107,562	(11,194)	416,922	221,966	23,121	48,378	(615)	918,140

For further information to the shareholder's equity, see Note 26 of the Consolidated Financial Statements.

The movements in the shareholder's equity are before the proposed profit appropriation (see Note 60). The proposed profit appropriation includes the following items: the addition to retained earnings (€84.5 million), legal reserves (€26.5 million) and proposed dividends (€111.0 million).

Non-distributable profits and other gains regarding subsidiaries

As at 31 December 2019, profits and other gains from subsidiaries are not freely available for distribution for an amount of €23.1 million relating to legal reserves (2018: €9.5 million). The increase is mainly due to the constraints from Irish Stock Exchange plc.

Revaluation reserve

The revaluation reserve is maintained for the revaluation for the financial assets at FVOCI, net of tax. This reserve is a non-distributable legal reserve.

Reserve for translation differences

The reserve for translation differences concerns all exchange rate differences arising from the translation of the net investment in foreign entities and the related goodwill. This reserve is a non-distributable legal reserve.

54. Borrowings

For additional information on the borrowing positions, a reference is made to Note 29 of the Consolidated Financial Statements.

55. Related Party Borrowings

<i>In thousands of euros</i>	As at 1 January 2019	Loan settlements made	Loans advanced	Interest accrued/(paid)	As at 31 December 2019
Current					
Euronext Paris S.A.	257,639	-	-	-	257,639
Euronext IP & IT Holding B.V.	84,686	-	-	-	84,686
Euronext Amsterdam N.V.	25,000	-	-	-	25,000
Euronext Brussels S.A./N.V.	60,000	-	-	-	60,000
Euronext Corporate Services B.V.	-	-	3,500	-	3,500
Interest payable on intercompany loan	121	-	-	2	123
Total	427,446	-	3,500	2	430,948

<i>In thousands of euros</i>	As at 1 January 2018	Loan settlements made	Loans advanced	Interest accrued/(paid)	As at 31 December 2018
Current					
Euronext Paris S.A.	257,639	-	-	-	257,639
Euronext Technologies Holding S.A.S.	84,686	-	-	-	84,686
Euronext Amsterdam N.V.	25,000	-	-	-	25,000
Euronext Brussels S.A./N.V.	60,000	-	-	-	60,000
Interest payable on intercompany loan	73	-	-	48	121
Total	427,398	-	-	48	427,446

The fair value of the related party loans payable approximate their carrying values.

The €257.6 million loan payable to Euronext Paris S.A. has no maturity and is repayable at lender's or borrower's request upon 48 hours' notice. The interest is EONIA OIS plus 0.125% payable annually on one loan. The sensitivity of the related party loan payables to changes in the EONIA interest rate is that a 0.5% increase/decrease of the interest rate will result in an increase/decrease of the interest income by €1.3 million (2018: €1.3 million).

The €84.7 million loan payable to Euronext IP & IT Holding B.V. has no maturity and is repayable at lender's or borrower's request upon 48 hours' notice. The interest is Euribor 3 months plus 0.125% payable annually on two loans. The sensitivity of the related party loan payables to changes in the Euribor interest rate is that a 0.5% increase/decrease of the interest rate will result in an increase/decrease of the interest income by €0.4 million (2018: €0.4 million). These loans were previously held by Euronext Technologies Holding S.A.S. This subsidiary merged with Euronext Technologies S.A.S. in December 2018.

The €25.0 million loan payable to Euronext Amsterdam N.V. has no maturity and is repayable at lender's or borrower's request upon 48 hours' notice. The interest is EONIA plus 0.125% payable annually on one loan. The sensitivity of the related party loan payables to changes in the EONIA interest rate is that a 0.5% increase/decrease of the interest rate will result in an increase/decrease of the interest income by €0.1 million (2018: €0.1 million).

The €60.0 million loan payable to Euronext Brussels S.A./N.V. has no maturity and is repayable at lender's or borrower's request upon 48 hours' notice. The interest is Euribor 3 months plus 0.125% payable annually on one loan. The sensitivity of the related party loan payables to changes in the EONIA interest rate is that a 0.5% increase/decrease of the interest rate will result in an increase/decrease of the interest income by €0.3 million (2018: €0.3 million).

The €3.5 million loan payable to Euronext Corporate Services B.V. has no maturity and is repayable at lender's or borrower's request upon 48 hours' notice. The interest is EONIA plus 0.125% payable annually on one loan.

56. Trade and other payables

<i>In thousands of euros</i>	As at 31 December 2019	As at 31 December 2018
Trade payables	23	181

Amounts due to subsidiaries	113,049	12,658
Other	5,059	5,079
Total	118,131	17,918

The amounts due to subsidiaries contained a €104.1 million payable position with Euronext Paris S.A. (2018: €2.9 million).

The carrying values of current trade and other payables are reasonable approximations of their fair values. These balances do not bear interest.

57. Managing Board and Supervisory Board remuneration

57.1 Managing Board remuneration

<i>In thousands of euros</i>	Fixed Benefits	Variable Benefits	Share-based payment costs	Post-employment benefits	Termination payments	2019 Total Benefits
Stéphane Boujnah	857	1,155	1,024	-	-	3,036
Anthony Attia	377	300	302	-	-	979
Vincent van Dessel	367	113	180	35	-	695
Maurice van Tilburg (a)	238	150	139	15	-	542
Chris Topple	379	342	396	27	-	1,144
Daryl Byrne	317	135	20	32	-	504
Isabel Ucha (b)	155	115	22	22	-	314
Simone Huis in 't Veld (c)	74	135	-	5	-	214
Håvard Abrahamsen (d)	95	-	-	2	-	97
Total	2,859	2,445	2,083	138	-	7,525

2018						
<i>In thousands of euros</i>	Fixed Benefits	Variable Benefits	Share-based payment costs	Post-employment benefits	Termination payments	Total Benefits
Stéphane Boujnah	776	1,015	533	-	-	2,324
Anthony Attia	357	270	353	-	-	980
Vincent van Dessel	356	110	182	35	-	682
Maurice van Tilburg	329	190	281	17	-	816
Chris Topple (e)	78	356	19	5	-	459
Daryl Byrne (f)	58	100	6	7	-	171
Paulo Rodrigues da Silva (g)	280	140	-	35	-	455
Deirdre Somers (h)	86	-	-	13	-	99
Lee Hodgkinson (i)	101	-	-	9	-	110
Total	2,420	2,181	1,374	120	-	6,095

- (a) On 20 August 2019, the Group announced that Maurice van Tilburg had resigned from the Managing Board
- (b) Isabel Ucha was formally appointed to the Managing Board at the AGM of 16 May 2019.
- (c) Simone Huis in 't Veld was formally appointed to the Managing Board at the EGM that took place on 8 October 2019.
- (d) Håvard Abrahamsen was formally appointed to the Managing Board at the EGM that took place on 8 October 2019. On 29 January 2020, the Group announced that he resigned from the Managing Board.
- (e) Chris Topple was formally appointed to the Managing Board with effect from 24 October 2018.
- (f) Daryl Byrne was formally appointed to the Managing Board with effect from 24 October 2018.
- (g) With effect from 31 December 2018, Paulo Rodrigues da Silva resigned from the Managing Board.
- (h) Deirdre Somers was formally appointed to the Managing Board with effect from 6 June 2018. On 19 September 2018, she resigned from the Managing Board.
- (i) On 19 March 2018, Lee Hodgkinson resigned from the Managing Board.

The Company has not granted any loans, advanced payments and guarantees to the members of the Managing Board and Supervisory Board.

The fixed compensation components consist of base salary and other benefits in kind like company car and health care insurance, if applicable. These components are linked to the overall job responsibilities of the individual Managing Board member and reflect internal consistency.

The variable salary consists of an annual performance compensation component as a percentage of base salary. The percentages are target percentages of the annual base salary, which are only payable if all objectives are met. Performance criteria are set and reviewed on an annual basis by the Remuneration Committee and the Supervisory Board. For 2019, all bonus targets have been met by the Managing Board.

57.2 Euronext Share plans

2019:

<i>in number of RSU</i>	Plan	Year of Granting	Outstanding as at 1 January 2019	Granted	Performance Adjustment	Forfeited	Vested	Outstanding as at 31 December 2019
Stéphane Boujnah	LTI	2016	18,518	-	954	-	(19,472)	-
	LTI	2017	15,469	-	-	-	-	15,469
	LTI	2018	14,798	-	-	-	-	14,798
	LTI	2019	-	11,381	-	-	-	11,381
Anthony Attia	LTI	2016	5,747	-	296	-	(6,043)	-
	LTI	2017	4,801	-	-	-	-	4,801
	LTI	2018	4,035	-	-	-	-	4,035
	LTI	2019	-	3,532	-	-	-	3,532
Vincent van Dessel	LTI	2016	3,381	-	174	-	(3,555)	-
	LTI	2017	2,856	-	-	-	-	2,856
	LTI	2018	2,472	-	-	-	-	2,472
	LTI	2019	-	2,210	-	-	-	2,210
Maurice van Tilburg	LTI	2016	5,172	-	266	-	(5,438)	-
	LTI	2017	4,320	-	-	(4,320)	-	-
	LTI	2018	3,632	-	-	(3,632)	-	-
	LTI	2019	-	3,178	-	(3,178)	-	-
Chris Topple	LTI	2018	13,760	-	-	-	-	13,760
	LTI	2019	-	4,313	-	-	-	4,313
Daryl Byrne	LTI	2018	717	-	-	-	-	717
	LTI	2019	-	3,178	-	-	-	3,178
Isabel Ucha	LTI	2019	-	1,805	-	-	-	1,805

2018:

<i>in number of RSU</i>	Plan	Year of Granting	Outstanding as at 1 January 2018	Granted	Performance Adjustment	Forfeited	Vested	Outstanding as at 31 December 2018
Stéphane Boujnah	LTI	2016	18,518	-	-	-	-	18,518
	LTI	2017	15,469	-	-	-	-	15,469
	LTI	2018	-	14,798	-	-	-	14,798
Anthony Attia	LTI	2015	6,028	-	3,541	-	(9,569)	-
	LTI	2016	5,747	-	-	-	-	5,747
	LTI	2017	4,801	-	-	-	-	4,801
	LTI	2018	-	4,035	-	-	-	4,035
Lee Hodgkinson	LTI	2015	8,693	-	-	(8,693)	-	-
	LTI	2016	9,886	-	-	(9,886)	-	-
	LTI	2017	6,042	-	-	(6,042)	-	-
Vincent van Dessel	LTI	2015	3,530	-	2,074	-	(5,604)	-
	LTI	2016	3,381	-	-	-	-	3,381
	LTI	2017	2,856	-	-	-	-	2,856
	LTI	2018	-	2,472	-	-	-	2,472
Maurice van Tilburg	LTI	2015	4,421	-	2,597	-	(7,018)	-
	LTI	2016	5,172	-	-	-	-	5,172

	LTI	2017	4,320	-	-	-	-	4,320
	LTI	2018	-	3,632	-	-	-	3,632
Paulo Rodrigues da Silva	LTI	2017	-	-	-	-	-	-
	LTI	2018	-	2,062	-	(2,062)	-	-
Chris Topple	LTI	2018	-	13,760	-	-	-	13,760
Daryl Byrne	LTI	2018	-	717	-	-	-	717
Deirdre Somers	LTI	2018	-	3,632	-	(3,632)	-	-

For additional information on the value of awards granted to the Managing Board reference is made to Note 28 of the Consolidated Financial Statements.

57.3 Supervisory Board Remuneration

<i>In thousands of euros</i>	2019	2018
Dick Sluimers	144	113
Franck Silvent	81	64
Jim Gollan	119	106
Kerstin Günther	81	66
Koenraad Dom	-	23
Lieve Mostrey	-	-
Luc Keuleneer	96	50
Manuel Ferreira da Silva	87	72
Morten Thorsrud	17	-
Nathalie Rachou	18	-
Padraic O'Connor	84	42
Ramon Fernandez	37	70
Rijnhard van Tets	-	36
Total	764	642

Immediately after the Annual General Meeting (AGM) held on 16 May 2019, Ramon Fernandez stepped down from the Supervisory Board. At the Extraordinary General Meeting (EGM) that took place on 8 October 2019, Nathalie Rachou and Morten Thorsrud were officially appointed as members of the Supervisory Board.

During the comparative period, Rijnhard van Tets (former Chairman) and Koenraad Dom stepped down from the Supervisory Board immediately after the AGM held on 15 May 2018. The Supervisory Board elected Dick Sluimers as its next Chairman. At the same meeting, Luc Keuleneer and Padraic O'Connor were appointed as new members of the Supervisory Board. Their appointments took effect on 6 June 2018.

58. Audit fees

<i>In thousands of euros</i>	EY Accountants 2019	EY Accountants 2018
Audit services - group and statutory	1,479	1,340
Other assurance services	203	218
Tax services	-	-
Other non-audit services	-	-
Total	1,682	1,558

The audit services relate to the financial year to which the financial statements relate, regardless of whether the activities were performed by the external auditor and the audit firm during the financial year. In addition to the performance of the statutory audit of the Group financial statements and other (statutory) financial statements of Euronext N.V. and its subsidiaries, EY provides a number of other assurance services. These other assurance services consist of the review of the half year interim financial statements and work related to the registration document. The comparative figures have been adjusted accordingly, in line with the relevant EU regulation.

The total fees of EY Netherlands, charged to Euronext N.V. and its consolidated group entities amounted to €0.8 million in 2019 (2018: €0.6 million).

59. Commitments and contingencies not included in the balance sheet

Tax group

The company is the head of a fiscal unity with Euronext Amsterdam N.V., Euronext IP & IT B.V. and Euronext Corporate Services B.V. Under the standard conditions, the members of the tax group are jointly and severally liable for any taxes payable by the fiscal unity. Each company within the fiscal unity recognises its own tax position on its company balance sheet.

The financial statements of Euronext N.V., Euronext Amsterdam N.V., Euronext IP & IT B.V., and Euronext Corporate Services B.V. recognise a tax liability based on their taxable profit.

Guarantees

The company participates in a number of guarantees within the Group, the Company act in the guarantor for certain liabilities of its subsidiary up to an amount of €8.1 million. It should be noted that the Group consistently waives guarantee fees for intergroup guarantees, meaning these transactions are not at arm's length.

60. Appropriation of profit

Proposed profit appropriation

The management board proposes to appropriate the profit of €222.0 million as follows:

<i>In thousands of euros</i>	2019	2018
Addition to legal reserves	13,580	8,402
Addition to retained earnings	97,403	99,582
At the disposal of the Annual General Meeting of Shareholders (Dividend)	110,983	107,984
Total	221,966	215,968

A dividend in respect of the year ended 31 December 2019 of €1.59 per share (2018: €1.54 per share), amounting to a total dividend of €111.0 million, representing a 50% pay-out ratio of net profit, is to be proposed at the annual general meeting on 14 May 2020. These financial statements do not reflect the dividend payable of the result 2019.

In 2019, a total amount of €13.6 million was added to the legal reserves, which was due to the new distribution restrictions applicable to the Irish Stock Exchange plc..

61. Events after the reporting period

The events occurred between 31 December 2019 and the date of this report that could have a material impact on the economic decisions made based on these financial statements, are described in Note 40 of the Consolidated Financial Statements.

Authorisation of Company Financial Statements

Amsterdam, 1 April 2020

Supervisory Board

Dick Sluimers (*Chairman*)
Jim Gollan
Manuel Ferreira da Silva
Jim Gollan
Kerstin Günther
Lieve Mostrey
Franck Silvent
Luc Keuleneer
Padraic O'Connor
Nathalie Rachou
Morten Thorsrud

Managing Board

Stéphane Boujnah (*CEO and Chairman*)
Anthony Attia
Vincent van Dessel
Daryl Byrne
Chris Topple
Simone Huis in 't Veld
Isabel Ucha

9 OTHER INFORMATION

9.1 Profit Appropriation Section

Provisions in the Articles of Association relating to profit appropriation

Article 28.2 of the Articles of Association states that from the profits, as they appear from the adopted annual accounts, first, in the event that the priority share has been issued and is held by a party other than the Company, a dividend of ten per cent (10%) of the par value of the priority share will be paid to the holder of the priority share. The profits which remain after application of the first sentence of this Article 28.2 shall be at the free disposal of the General Meeting, provided that there shall be no further distribution on the priority share, and provided that the General Meeting may only resolve on any reservation or distribution of profits pursuant to and in accordance with a proposal thereto of the Supervisory Board or a proposal of the Managing Board, which proposal has been approved by the Supervisory Board.

9.2 Independent Auditor's Report

To: the shareholders and Supervisory Board of Euronext N.V.

Report on the audit of the financial statements 2019 included in the universal registration document

Our opinion

We have audited the financial statements 2019 of Euronext N.V. (the company), based in Amsterdam. The financial statements include the consolidated financial statements and the company financial statements.

In our opinion:

- The accompanying consolidated financial statements give a true and fair view of the financial position of Euronext N.V. as at 31 December 2019, and of its result and its cash flows for 2019 in accordance with International Financial Reporting Standards as adopted by the European Union (EU-IFRS) and with Part 9 of Book 2 of the Dutch Civil Code
- The accompanying company financial statements give a true and fair view of the financial position of Euronext N.V. as at 31 December 2019, and of its result for 2019 in accordance with Part 9 of Book 2 of the Dutch Civil Code

The consolidated financial statements comprise:

- The consolidated balance sheet as at 31 December 2019
- The consolidated statements of profit or loss, comprehensive income, changes in equity and cash flows for 2019
- The notes comprising a summary of the significant accounting policies and other explanatory information

The company financial statements comprise:

- The company balance sheet as at 31 December 2019
- The company income statement for 2019
- The notes comprising a summary of the accounting policies and other explanatory information

Basis for our opinion

We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing. Our responsibilities under those standards are further described in the "Our responsibilities for the audit of the financial statements" section of our report.

We are independent of Euronext N.V. in accordance with the EU Regulation on specific requirements regarding statutory audit of public-interest entities, the “Wet toezicht accountantsorganisaties” (Wta, Audit firms supervision act), the “Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten” (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands.

Furthermore, we have complied with the “Verordening gedrags- en beroepsregels accountants” (VGBA, Dutch Code of Ethics).

We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our audit approach

Our understanding of the business

Euronext N.V. is an exchange group which operates regulated markets in Paris, Amsterdam, Brussels, Lisbon, Dublin and Oslo. The group is structured in components and we tailored our group audit approach accordingly. We paid specific attention in our audit to a number of areas driven by the operations of the group and our risk assessment.

We start by determining materiality and identifying and assessing the risks of material misstatement of the financial statements, whether due to fraud, non-compliance with laws and regulations or error in order to design audit procedures responsive to those risks, and to obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

Materiality

Materiality	€16 million (2018: €15.5 million)
Benchmark applied	5% of the profit before income tax (2018: 5%)
Explanation	We consider profit before income tax as the most appropriate basis to determine materiality as it is one of the key performance measures for the users of the financial statements.

We have also taken into account misstatements and/or possible misstatements that in our opinion are material for the users of the financial statements for qualitative reasons.

We agreed with the supervisory board that misstatements in excess of €0.8 million, which are identified during the audit, would be reported to them, as well as smaller misstatements that in our view must be reported on qualitative grounds.

Our focus on fraud and non-compliance with laws and regulations

Our responsibility

Although we are not responsible for preventing fraud or non-compliance and cannot be expected to detect non-compliance with all laws and regulations, it is our responsibility to obtain reasonable assurance that the financial statements, taken as a whole, are free from material misstatement, whether caused by fraud or error. Non-compliance with laws and regulations may result in fines, litigation or other consequences for the company that may have a material effect on the financial statements.

Our audit response related to fraud risks

In order to identify and assess the risks of material misstatements of the financial statements due to fraud, we obtained an understanding of the entity and its environment, including the entity's internal control relevant to the audit and in order to design audit procedures that are appropriate in the circumstances. As in all of our audits, we addressed the risk of management override of internal control. We do not audit internal control per se for the purpose of expressing an opinion on the effectiveness of the company's internal control.

We considered available information and made enquiries of relevant executives, directors (including internal audit, risk, legal and compliance) and the supervisory board. As part of our process of identifying fraud risks, we evaluated fraud risk factors with respect to financial reporting fraud and misappropriation of assets in close co-operation with our forensic specialists. In our risk assessment we considered the potential impact of performance based bonus schemes which the company has in place and the increased regulatory supervision on laws and regulations and organizational changes.

We evaluated the design and the implementation and, where considered appropriate, tested the operating effectiveness, of internal controls that mitigate fraud risks. In addition, we performed procedures to evaluate key accounting estimates for management bias in particular relating to important judgment areas and significant accounting estimates as disclosed in Note 3 to the financial statements. We have also used data analysis to identify and address high-risk journal entries.

We incorporated elements of unpredictability in our audit. We considered the outcome of our other audit procedures and evaluated whether any findings were indicative of fraud or non-compliance. If so, we re-evaluate our assessment of fraud risk and its resulting impact on our audit procedures.

Our audit response related to risks of non-compliance with laws and regulations

We assessed factors related to the risks of non-compliance with laws and regulations that could reasonably be expected to have a material effect on the financial statements from our general industry experience, through discussions with the managing board, reading minutes, inspection of reports from internal audit, risk, legal and compliance, and performing substantive tests of details of classes of transactions, account balances or disclosures.

We also inspected lawyers' letters and correspondence with regulatory authorities and remained alert to any indication of (suspected) non-compliance throughout the audit. Finally we obtained written representations that all known instances of non-compliance with laws and regulations have been disclosed to us.

Going concern

In order to identify and assess the risks of going concern and to conclude on the appropriateness of management's use of the going concern basis of accounting, we consider based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause a company to cease to continue as a going concern.

Scope of the group audit

Euronext N.V. is at the head of a group of entities. The financial information of this group is included in the consolidated financial statements of Euronext N.V.

Because we are ultimately responsible for the opinion, we are also responsible for directing, supervising and performing the group audit. In this respect we have determined the nature and extent of the audit procedures to be carried out for group entities. Decisive were the size and/or the risk profile of the group entities or operations. On this basis, we selected group entities for which an audit or review had to be carried out on the complete set of financial information or specific items.

We have:

- Performed audit procedures ourselves at group entities Euronext Paris SA, Euronext Technologies SAS, Euronext Amsterdam N.V. and Euronext N.V.
- Used the work of EY auditors when auditing entity Euronext Dublin plc
- Used the work of non-EY auditors when auditing Oslo Børs VPS Holding ASA
- Performed risk-focused specific audit procedures at group entities Fastmatch Inc and Interbolsa SA

By performing the procedures mentioned above at group entities, together with additional procedures such as analytical reviews on out of scope entities at group level, we have been able to obtain sufficient and appropriate audit evidence about the group's financial information to provide an opinion about the consolidated financial statements.

Teaming and use of specialists

We ensured that the audit teams both at group and at component levels included the appropriate skills and competences which are needed for the audit of a listed client in the market infrastructure industry. We included specialists in the areas of IT audit, forensic, compliance and income tax and have made use of our own experts in the areas of valuation of derivatives, hedge accounting, employee benefits, fair value disclosures, purchase price accounting, impairment analysis of goodwill and other intangibles.

General audit procedures

Our audit further included among others:

- Performing audit procedures responsive to the risks identified, and obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion
- Evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management
- Evaluating the overall presentation, structure and content of the financial statements, including the disclosures
- Evaluating whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation

Our key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements. We have communicated the key audit matters to the supervisory board. The key audit matters are not a comprehensive reflection of all matters discussed.

These matters were addressed in the context of our audit of the financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Two key audit matters changed compared to the audit of the financial statements 2018 of Euronext N.V. The key audit matter related to accounting for the acquisition of business specifically addresses the Oslo Børs VPS, whereas in 2018 it regarded the acquisition of the Dublin stock exchange. The implementation of IFRS 15 *Revenue Recognition* is no longer a key audit matter as it specifically related to 2018.

Accounting for the acquisition of Oslo Børs VPS	
Risk	<p>In 2019, Euronext acquired all shares of Oslo Børs VPS. As disclosed in notes 2 and 5 to the financial statements the total considerations was €693 million. The acquisition has been included in the consolidated financial position and results of Euronext from the moment control was obtained in June 2019. Based on the purchase price allocations performed, with the support of external valuation experts, separately identifiable intangible assets of €252 million and goodwill of €503 million have been recognized.</p> <p>Accounting for business combinations involves a number of judgments, such as the identification of intangible assets, the choice of valuation techniques and underlying assumptions, as well as the allocation to cash generating units. The use of different techniques and assumptions could produce significantly different estimates. Given the relative size of the amounts involved and the inherent complexity, we consider this as a key audit matter.</p>
Our audit approach	<p>We gained an understanding of the acquisition and made an assessment of the process that management has undertaken to determine the allocation of the purchase price, including understanding the scope of work, assessing the qualifications and competence of the external valuation experts and evaluating whether the correct accounting treatment has been applied in accordance with IFRS 3.</p> <p>We tested the considerations paid and the identification and valuation of the identifiable tangible and intangible assets acquired, in particular the customer relations and software. We have audited the fair value measurements prepared by management and their valuation experts including assessing the key valuation assumptions used and engaged our valuation specialists to evaluate the methodology and assumptions applied by Euronext.</p> <p>Furthermore, we benchmarked key data inputs used in the valuation model such as the EBIT margin, longevity of acquired customer relationships and reviewed the reasonableness of the amortization period applied.</p> <p>Finally, we have evaluated the appropriateness of the disclosure related to business combinations, included in notes 2 and 5 to the financial statements.</p>
Key observations	<p>We found the identification and measurement of the goodwill, identifiable assets and liabilities related to the 2019 acquisition of Oslo Børs VPS reasonable.</p> <p>The disclosures on the business combination are in accordance with the requirements under EU-IFRS.</p>
Measurement of financial assets at fair value through other comprehensive income	
Risk	<p>Euronext holds a direct and an indirect minority interest in Euroclear S.A./N.V. As described in note 20 to the financial statements this interest is classified as a financial asset at fair value through other comprehensive income.</p> <p>As Euroclear is a non-listed company, Euronext applies an internally developed model to estimate the fair value. Since 2018, a weighted approach is applied which is based on the return on equity, dividend growth rate and cost of capital of comparable regulated entities and market observable transactions less a discount for illiquidity. In 2019, Euronext revalued its interest by EUR 9 million, increasing the fair value to €197 million.</p> <p>The determination of the fair value of the interest in Euroclear involves significant management judgment and assumptions as certain unobservable inputs are used. The use of different valuation techniques and assumptions could produce significantly different estimate of fair value. Given the inherent subjectivity we determined this a key matter for our audit.</p>

Our audit approach	<p>Our audit procedures comprised, among others, an assessment of the methodology and the appropriateness of the valuation model for consistency and an assessment against generally accepted market practice and inputs used to value the investments. Further, we used our valuation specialists to independently assess the valuation performed. As part of these audit procedures we tested the reasonability of key inputs used in the valuation such as the market observable transfers, the return on equity and expected dividend growth rates.</p> <p>Finally, we evaluated the completeness and appropriateness of the disclosure related to financial assets at fair value through other comprehensive income as included in note 20 to the financial statements.</p>
Key observations	We found the valuation techniques used to be adequate, and the key inputs and fair value of the financial investment reasonable. The disclosures on the financial assets at fair value through other comprehensive income are in line with the requirements under EU-IFRS.
Reliability and continuity of the IT environment	
Risk	<p>The activities and financial reporting of Euronext N.V. are highly dependent on the reliability and continuity of the IT environment. Effective general IT controls with respect to change management, logical access, infrastructure and operations, secure to a large extent the integrity and continuity of the IT systems as well as the operating effectiveness of the automated controls. Furthermore, the increased granularity of financial and non-financial data are important to stakeholders and supervisors and require processing of high quality data.</p> <p>As described in the risk management section 2 in the universal registration document, the IT environment and the IT organization of Euronext N.V. are constantly changing in the context of process improvement and digitization. During these changes there is a risk that the generic IT control measures may not always operate as intended. Therefore we identified the reliability and continuity of the IT environment a key audit matter.</p>
Our audit approach	With the assistance of our IT audit specialists, we assessed the reliability and continuity of the IT environment, to the extent necessary for the scope of our audit of the financial statements. In this context, we performed walk through procedures on the IT processes and tested the operating effectiveness of the general IT controls. In some areas we performed additional substantive procedures on access management for the related systems. We also assessed the possible impact of changes during the year resulting from the internal transformation activities on the general IT controls.
Key observations	Our testing of the general IT controls and the other tests performed, provided sufficient evidence to enable us to rely on the adequate and continued operation of the IT systems relevant for our audit of the financial statements.

Emphasis of matter relating to Covid-19

The developments surrounding the Covid-19 virus epidemic have a profound impact on people's health and our society as a whole, as well as on the operational and financial performance of organizations. The situation changes on a daily basis giving rise to inherent uncertainty. The impact of these developments on Euronext are disclosed in par 1.2.3 "strategic targets and prospects for 2020" and in the risk section par 2.1. both part of the director's report and in note 40 'events after the reporting period' of the financial statements. We draw the attention to these disclosures.

Our opinion is not modified in respect of this matter.

Report on other information included in the universal registration document

In addition to the financial statements and our auditor's report thereon, the universal registration document contains other information that consists of:

- The section Risks and the chapters 1, 2, 3, 4 (excluding 4.3 and 4.4), 5, 6 and 7 comprise the managing board report within the meaning of 2:391 of the Dutch Civil Code
- The section 4.3 Report of the supervisory board and the section 4.4 Remuneration report
- Other information

Based on the following procedures performed, we conclude that the other information:

- Is consistent with the financial statements and does not contain material misstatements
- Contains the information as required by Part 9 of Book 2 and Section 2:135b of the Dutch Civil Code

We have read the other information. Based on our knowledge and understanding obtained through our audit of the financial statements or otherwise, we have considered whether the other information contains material misstatements. By performing these procedures, we comply with the requirements of Part 9 of Book 2 and Section 2:135b sub-Section 7 of the Dutch Civil Code and the Dutch Standard 720. The scope of the procedures performed is substantially less than the scope of those performed in our audit of the financial statements.

Management is responsible for the preparation of the other information, including the managing board report in accordance with Part 9 of Book 2 of the Dutch Civil Code, other information required by Part 9 of Book 2 of the Dutch Civil Code and the remuneration report in accordance with Section 2:135b of the Dutch Civil Code.

Report on other legal and regulatory requirements

Engagement

We were engaged by the general meeting of shareholders as auditor of Euronext N.V. on 19 May 2017, as of the audit for the year 2017 and have operated as statutory auditor since that date.

No prohibited non-audit services

We have not provided prohibited non-audit services as referred to in Article 5(1) of the EU Regulation on specific requirements regarding statutory audit of public-interest entities.

Description of responsibilities for the financial statements

Responsibilities of the managing board and the supervisory board for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with EU-IFRS and Part 9 of Book 2 of the Dutch Civil Code. Furthermore, management is responsible for such internal control as management determines is necessary to enable the preparation of the financial statements that are free from material misstatement, whether due to fraud or error.

As part of the preparation of the financial statements, management is responsible for assessing the company's ability to continue as a going concern. Based on the financial reporting frameworks mentioned, management should prepare the financial statements using the going concern basis of accounting unless management either intends to liquidate the company or to cease operations, or has no realistic alternative but to do so. Management should disclose events and circumstances that may cast significant doubt on the company's ability to continue as a going concern in the financial statements.

The supervisory board is responsible for overseeing the company's financial reporting process.

Our responsibilities for the audit of the financial statements

Our objective is to plan and perform the audit engagement in a manner that allows us to obtain sufficient and appropriate audit evidence for our opinion.

Our audit has been performed with a high, but not absolute, level of assurance, which means we may not detect all material errors and fraud during our audit.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

We have exercised professional judgment and have maintained professional skepticism throughout the audit, in accordance with Dutch Standards on Auditing, ethical requirements and independence requirements. The Our audit approach section above includes an informative summary of our responsibilities and the work performed as the basis for our opinion.

Communication

We communicate with the supervisory board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant findings in internal control that we identify during our audit. In this respect we also submit an additional report to the audit committee in accordance with Article 11 of the EU Regulation on specific requirements regarding statutory audit of public-interest entities. The information included in this additional report is consistent with our audit opinion in this auditor's report.

We provide the supervisory board with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the supervisory board, we determine the key audit matters: those matters that were of most significance in the audit of the financial statements. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, not communicating the matter is in the public interest.

Amsterdam, 1 April 2020

Ernst & Young Accountants LLP

Signed by A.B. Roeders

GLOSSARY

ACPR	The French Prudential Supervision and Resolution Authority (<i>Autorité de Contrôle Prudentiel et de Résolution</i>)
AFM	<i>Stichting Autoriteit Financiële Markten</i> , the Netherlands Authority for the Financial Markets
Alternext	Multilateral trading facilities operated by the Company in Paris, Brussels and Lisbon
AMF	French Authority for the Financial Markets (<i>Autorité des Marchés Financiers</i>)
Articles of Association	The Articles of Association (<i>statuten</i>) of the Company
Brexit	British exit, referring to the UK's decision in a referendum on 23 June 2016 to leave the European Union
CAGR	Compounded annual growth rate
Cash Clearing Agreement	The Cash Clearing Agreement entered into between Euronext and certain of its affiliates and LCH SA S.A. and LCH SA Group Limited on 22 January 2013
CCPs	Central counterparties
CDP	<i>Carbon Disclosure Project</i> : CDP is a not-for-profit organization that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.
CEO	Chief Executive Officer
CFO	Chief Financial Officer
Clearing Services	Clearing Services is the procedure by which an organisation (CCP) acts as an intermediary and assumes the role of a buyer and seller in a transaction through the process of novation in order to reconcile orders between transacting parties.
CMVM	<i>Comissão do Mercado de Valores Mobiliários</i> , the Portuguese Securities Markets Commission
Code of conduct and ethics	Code that reaffirms the Euronext N.V.'s commitment to high standards of ethical conduct and reinforces its business ethics, policies and procedures
Company	Euronext N.V. and its consolidated subsidiaries, unless otherwise indicated
Compliance department	The Compliance department of Euronext N.V.
COO	Chief Operating Officer
Core Items	The intellectual property in the UTP and other trading technology, including core software and technology
CSD	Central Securities Depositories
CSD Regulation	EU Regulation on securities settlement and central securities depositories (published on the Official Journal of the European Union on 23 July 2014)
DBAG	Deutsche Börse AG
DMA	Direct market access
Derivatives Clearing Agreement	The Derivatives Clearing Agreement entered into between Euronext and certain of its affiliates and LCH SA S.A. and LCH SA Group Limited on 14 October 2013. The revenue sharing agreement became effective as of 1 April 2014
Code	The Dutch Corporate Governance Code
Dutch Financial Supervision Act	The Dutch Financial Supervision Act (<i>Wet op het Financieel Toezicht</i>) and the rules promulgated thereunder
EBITDA	Operating Profit Before Exceptional Items and Depreciation and Amortisation
ECB	European Central Bank
EEA	European Economic Area

EMEA	Europe, Middle East and Africa
EMIR	The EU Regulation on OTC derivative transactions, central counterparties and trade repositories (Regulation 648/2012)
ESG	Environmental, Social and Governance
ESMA	European Securities and Markets Authority
ETF or ETFs	Exchange traded funds
ETPs	Exchange traded products
EU	European Union
EU Market Abuse Rules	The EU Market Abuse Regulation 596/2014/EU, providing for specific rules that intend to prevent market abuse, such as the prohibitions on insider trading, divulging inside information and tipping, and market manipulation
€, Euro	The lawful currency of the Member states of the European Union that have adopted it
Euroclear	Euroclear Bank S.A./N.V.
Euronext	Euronext N.V. and its consolidated subsidiaries, unless otherwise indicated
Euronext Amsterdam	Euronext Amsterdam N.V. and/or the Regulated Market of the Company in Amsterdam
Euronext Brussels	Euronext Brussels S.A./N.V. and/or the Regulated Market of the Company in Brussels
Euronext College of Regulators	The parties to a Memorandum of Understanding between the competent authorities regarding the co-ordinated regulation and supervision of Euronext being the FCA, the AMF, the AFM, the FSMA and the CMVM
Euronext Dublin	Irish Stock Exchange Plc and/or the Regulated Market of the Company in Dublin
Euronext Lisbon	Euronext Lisboa-Sociedade Gestora de Mercados Regulamentados and/or the Regulated Market of the Company in Lisbon
Euronext London	Euronext London Ltd. and/or the Regulated Market of the Company in London
Market Operator	The operator of a Regulated Market
Euronext Market Subsidiary or Subsidiaries	(A) each and any of (1) Euronext Paris S.A., (2) Euronext Amsterdam N.V., (3) Euronext Brussels S.A./N.V., (4) Euronext Lisbon S.A., (5) Euronext London Ltd and (6) any other Subsidiary of the Company operating a Regulated Market, and (B) any other Subsidiary that is subject to regulatory supervision controlled, directly or indirectly, by any of the entities listed in sub-paragraph (A), including without limitation Interbolsa S.A.
Euronext Paris	Euronext Paris S.A. and/or the Regulated Market of the Company in Paris
Euronext Rulebooks	The Euronext Rulebook containing the rules applicable to the Euronext Market Operators (Rulebook I) and the various non-harmonised Euronext Rulebooks containing local exchange-specific rules (Rulebook II)
Exchange Licence	(A) each declaration of no-objection or approval granted by or on behalf of the College of European Regulators to the Company in relation to the operation or holding of one or more Regulated Markets and/or the operation of one or more multilateral trading facilities by the Company or any of the Euronext Market Subsidiaries, (B) each licence granted by or on behalf of the Minister of Finance of the Netherlands to the Company in relation to the operation or holding of one or more Regulated Markets, as well as (C) each declaration of no-objection granted by or on behalf of the Minister of Finance of the Netherlands to any person holding a qualifying participation in the Company and/or any of its Euronext Market Subsidiaries in the Netherlands within the meaning of section 1 of the Act, in each case such licence, approval or declaration of no-objection (i) as granted pursuant to the Act or other applicable law implementing Directive 2004/39/EC or the relevant memorandum of understanding constituting the College of European Regulators and (ii) as in force and as amended at the relevant time
Facilities Agreement	The Facilities Agreement relates to a term loan facilities and a revolving loan facilities entered into between Euronext N.V. and Bank syndicates
FCA	The UK Financial Conduct Authority
FCPE	Fonds Commun de Placement d'Entreprise "Euronext group"
FICC	Fixed Income, Currencies and Commodities

Finanstilsynet	Financial Supervisory Authority of Norway
FinTech or fintech	Abbreviation for Financial Technology
FRSA	The Dutch Financial Reporting Supervision Act (<i>Wet toezicht financiële verslaggeving</i>)
FSMA	Belgian Authority for the Financial Markets (Financial Services and Markets Authority)
FTEs	Full-time employee equivalents
FTT	The Financial Transaction Tax proposed by the European Union
General Meeting	The general meeting of shareholders (<i>algemene vergadering van aandeelhouders</i>) of Euronext N.V.
GHG	Green House Gaz
GOA	The further amended and restated governance and option agreement, to which ICE, the <i>stichting</i> and the Company are parties
Group	The Company and its consolidated subsidiaries
ICE	Intercontinental Exchange, Inc. (formerly named Intercontinental Exchange Group, Inc.), together with its consolidated subsidiaries
IFRS	International Financial Reporting Standards as adopted by the European Union
IOI	Indication of interest
IPO	Initial public offering
IT	Information technology
Interbolsa	The CSD in Portugal for the Portuguese market
JV SPV	Joint Venture Special Purpose Vehicle
LCH SA	Banque Centrale de Compensation, trading as LCH SA
LCH SA Agreements	The Cash Clearing Agreement and the Derivatives Clearing Agreement
LIFFE	LIFFE Administration and Management
LTI	Long Term Incentive
LSEG	London Stock Exchange Group plc,
MAD	The EU Market Abuse Directive (2003/6/EC), now superseded by MAR
Managing Board	The Managing Board (<i>bestuur</i>) of Euronext N.V.
MAR	EU Regulation on insider dealing and market manipulation (published on the Official Journal of the European Union on 16 April 2014) which replaces MAD since its entry into force on 3 July 2016
MiFID I	The EU Markets in Financial Instruments Directive (2004/39/EC)
MiFID II	The revised EU Directive on MiFID (published on the Official Journal of the European Union on 12 June 2014)
MiFID II / MiFIR legislation e	MiFID II and MiFIR
MiFIR	EU Regulation on Markets in Financial Instruments (published on the Official Journal of the European Union on 12 June 2014)
MTFs	Multilateral trading facilities designated under MiFID and MiFID II
NYSE Euronext	The Parent through 13 November 2013
Offering	The offering of Ordinary Shares as that took place on 20 June 2014
Optiq®	Euronext new enhanced multi-market proprietary trading platform
Ordinary Shares	Issued and outstanding ordinary shares in the share capital of the Company
OTC	Over-the-counter
Parent	NYSE Euronext, through 13 November 2013, and ICE, from 13 November 2013 until 20 June 2014

Priority Share	Priority share in the share capital of the Company
Prospectus Directive	Directive 2003/71/EC of the European Union, and any amendments thereto, including Directive 2010/73/EU
Qualifying Participation	Direct or indirect interest of 10% or more of the share capital or voting rights
Quantitative Easing	Quantitative easing is a monetary policy in which a central bank purchases government securities or other securities from the market in order to lower interest rates and increase the money supply
Reference Shareholders	A group of institutional investors comprised of Novo Banco., an affiliate of Banco Espírito Santo, S.A., BNP Paribas S.A., BNP Paribas Fortis S.A./N.V., ABN AMRO Bank N.V. through its subsidiary ABN AMRO Participaties Fund I B.V., ASR Levensverzekering N.V. (a company of the ASR Nederland group), Caisse des Dépôts et Consignations, Bpifrance Participations, Euroclear S.A./N.V., Société Fédérale de Participations et d'Investissement/Federale Participatie- en Investeringsmaatschappij, Société Générale and BancoBPI Pension Fund represented by BPI Vida e Pensões – Companhia de Seguros, S.A.
Reference Shareholders Agreement	The agreement entered into by the Reference Shareholders dated 3 June 2014
Regulated Market	A multi-lateral system or trading venue designated to be a “regulated market” under MiFID and MiFID II
RIE	Recognised investment exchange
Selling Shareholder	ICE Europe Parent Ltd
Separation	Establishment of Euronext as an independent, publicly traded company by means of an initial public offering
SFTI®	Secure Financial Transactions Infrastructure
Shareholder	Any shareholder of the Company at any time
Share Purchase Agreement	The sale and purchase agreement of Ordinary Shares in Euronext N.V. entered into between ICE, the Selling Shareholder and the Reference Shareholders dated 27 May 2014
Single Order Book	Single Order Book for Euronext Paris, Euronext Amsterdam, Euronext Brussels and Euronext London which unites trading, clearing and settlement across the exchanges in France, Belgium, the Netherlands and the United Kingdom, which results in one single trading line for all listed securities, including those listed currently on more than one Euronext markets for which the Single Order Book executes trades on the designated market of reference
SLAs	Transitional services agreements and related agreements
SMEs	Small and medium enterprises
SRI	Socially Responsible Investing refers to investment strategies that seek to maximise financial return while maximising social good and minimizing environmental footprint
Subsidiary	Has the meaning as referred to in section 2: 24a of the Dutch Civil Code
Supervisory Board	The Supervisory Board of Euronext N.V.
Support Items	Related support items to the Core Items
Tech or tech	abbreviation for technology
Transparency Directive	The EU Transparency Directive 2004/109/EC, as amended by Directive 2013/50/EU with respect to transparency and disclosure obligations
T2S	TARGET2-Securities, the European technical platform set up and operated by the Eurosystem that allow core, neutral and borderless settlement of securities transactions on a DvP (delivery-versus-payment) basis in Central Bank Money
UK FSMA	UK Financial Services and Markets Act 2000
UTP or Euronext UTP	Universal Trading Platform or Euronext Universal Trading Platform

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END