



AFK's digital energy companies.

Trond Straume

CEO, Powel

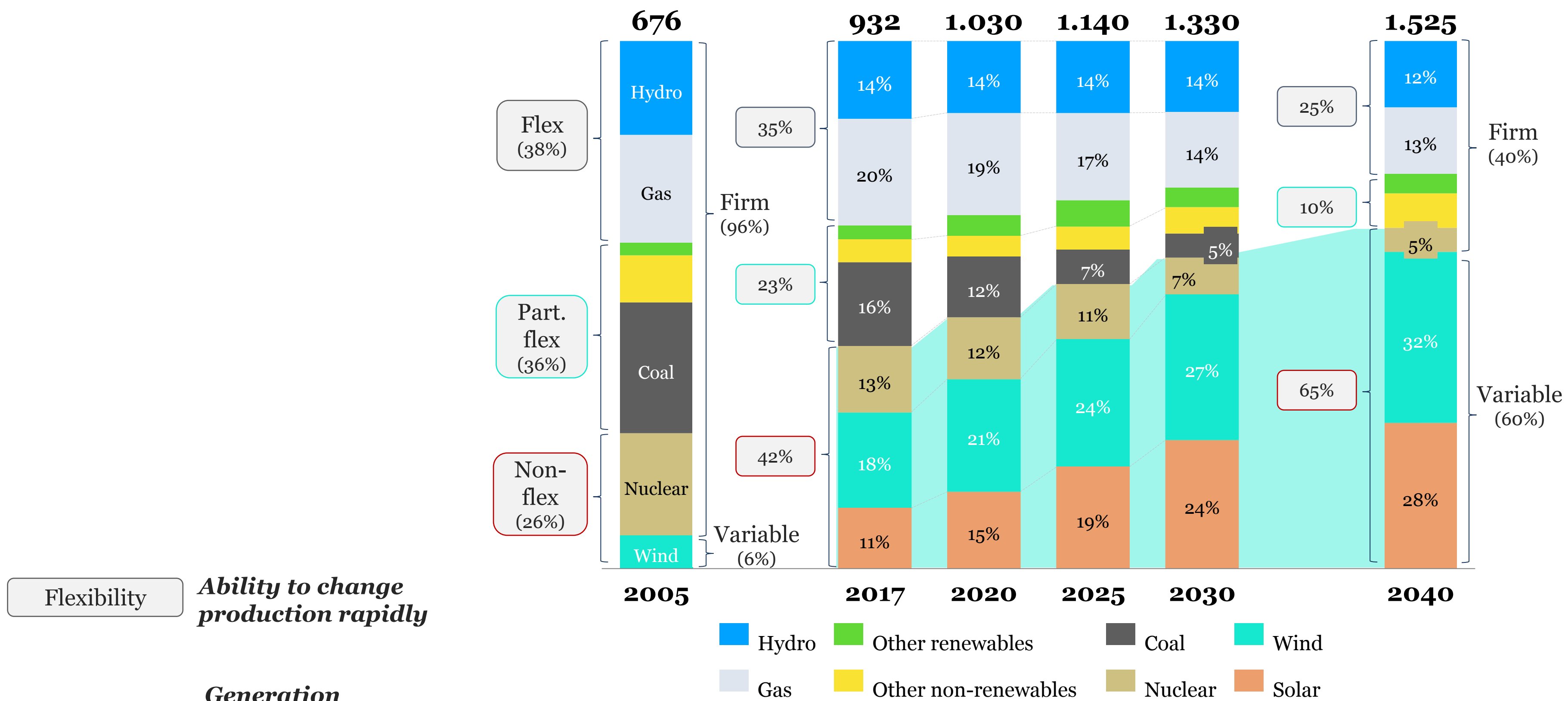


Observed trends



Renewables on the rise

European installed capacity



Flexibility
Ability to change production rapidly

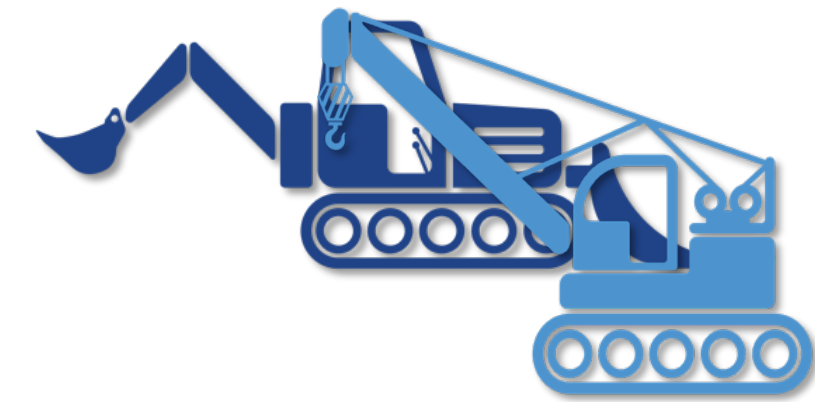
Firm/variable
Generation dependency on external factors

Figures in GW
Based on national energy & climate plans

Electrification of society



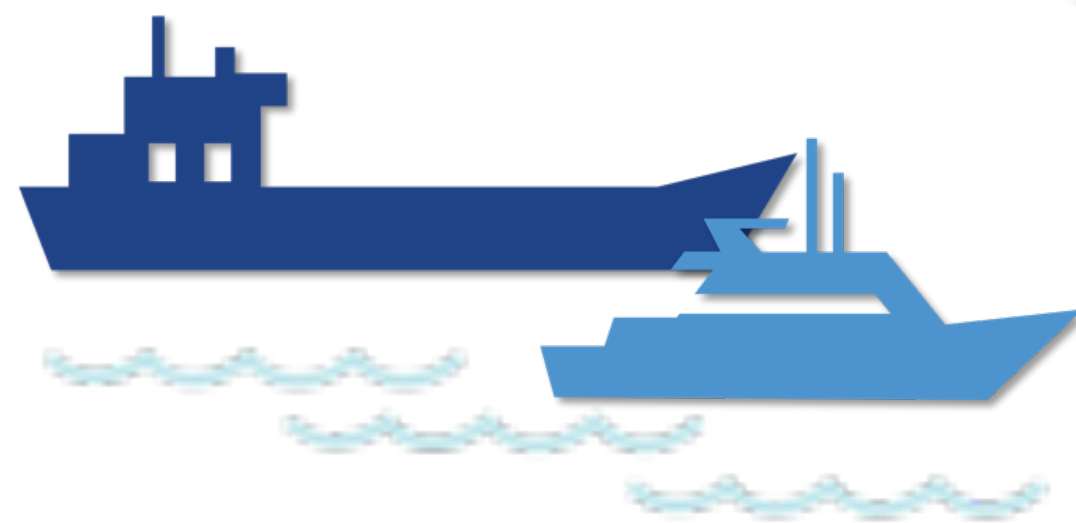
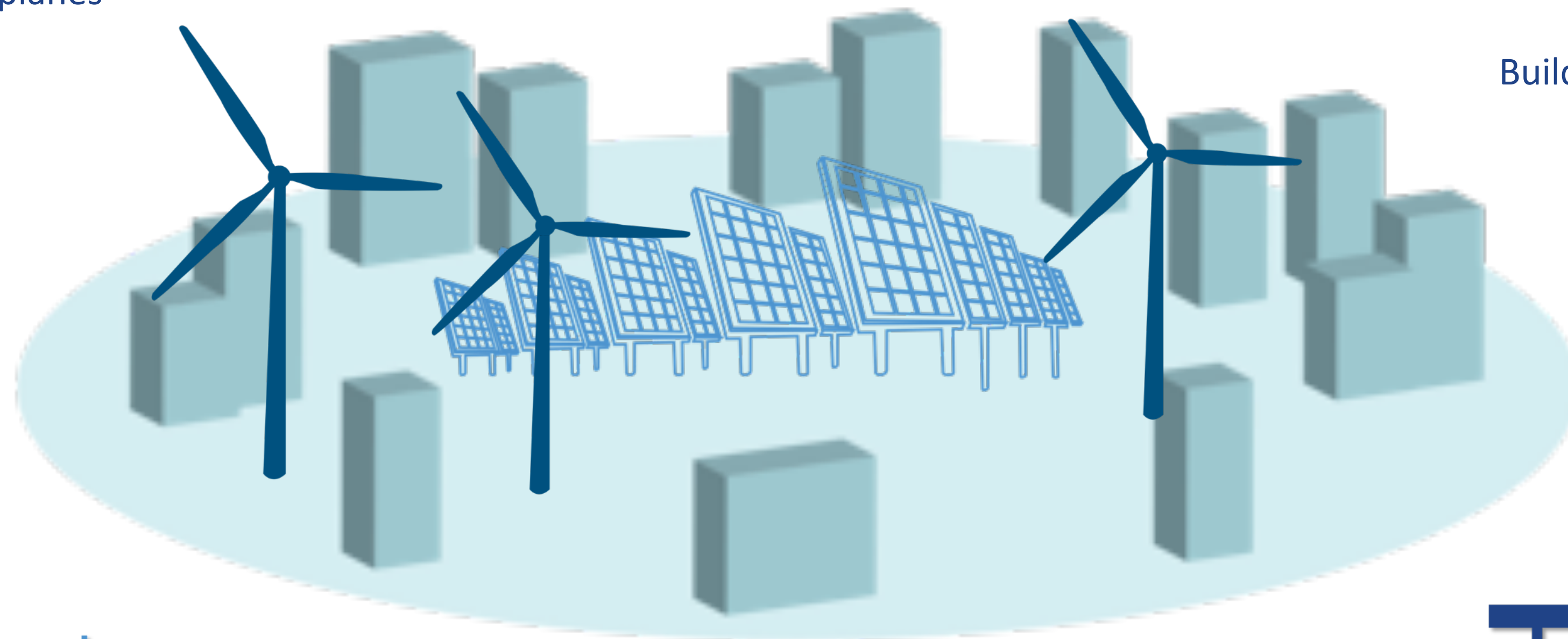
Airplanes



Building sites



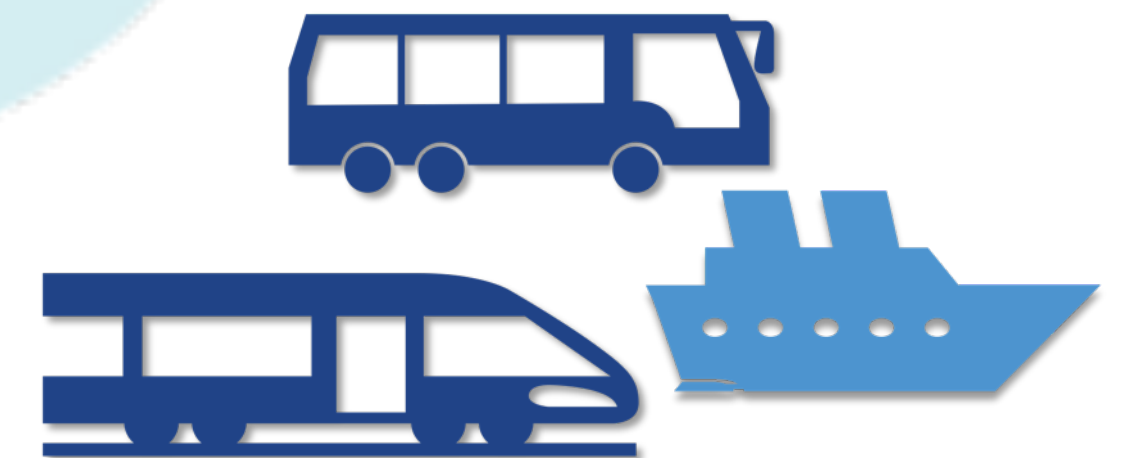
Long-distance transport



Ship with electrical power
from shore

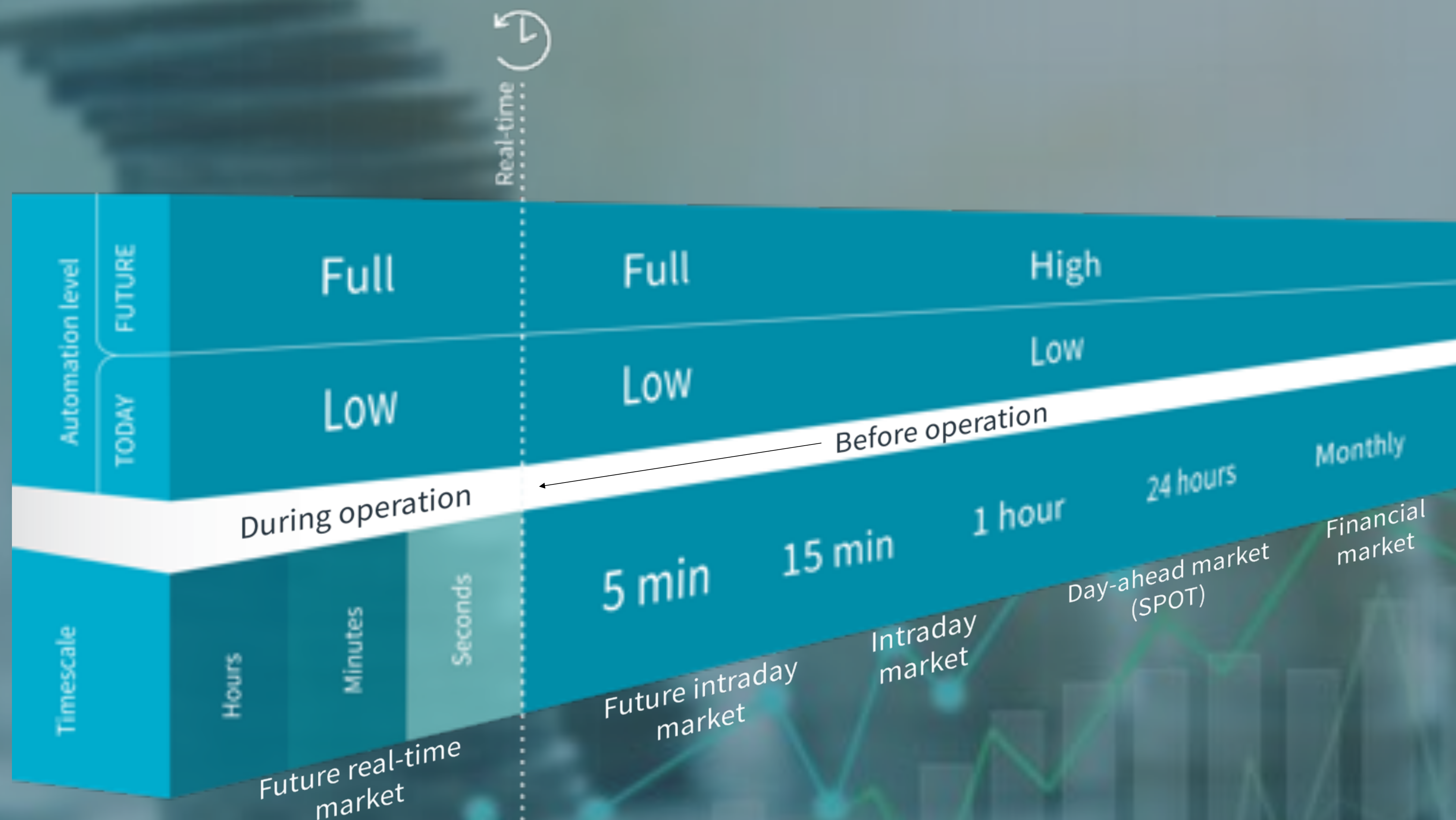


Electric Vehicle



Public transport

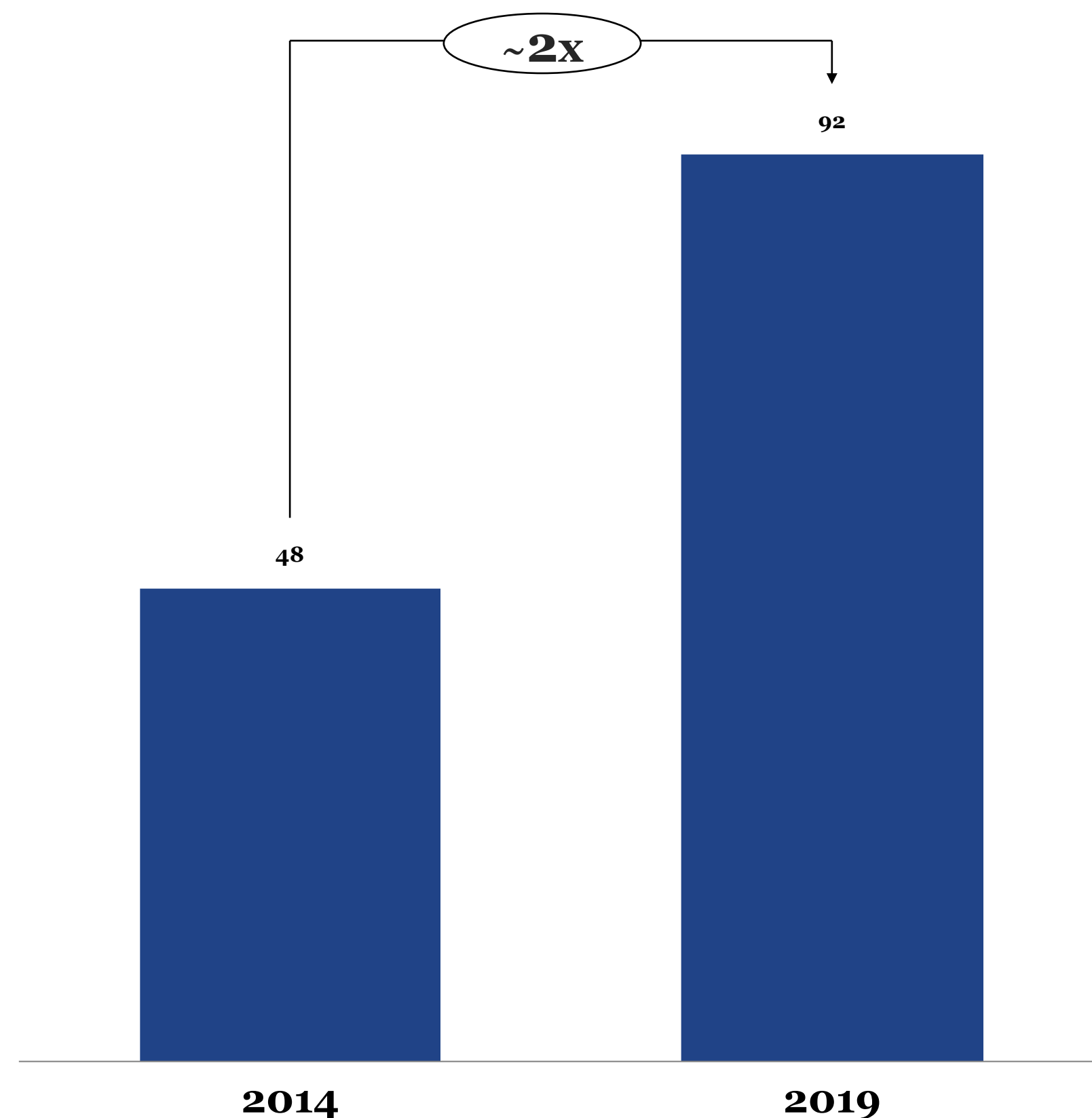
Value and relevance of data will increase towards and beyond real-time



Power trading volume shifting towards intraday and physical markets

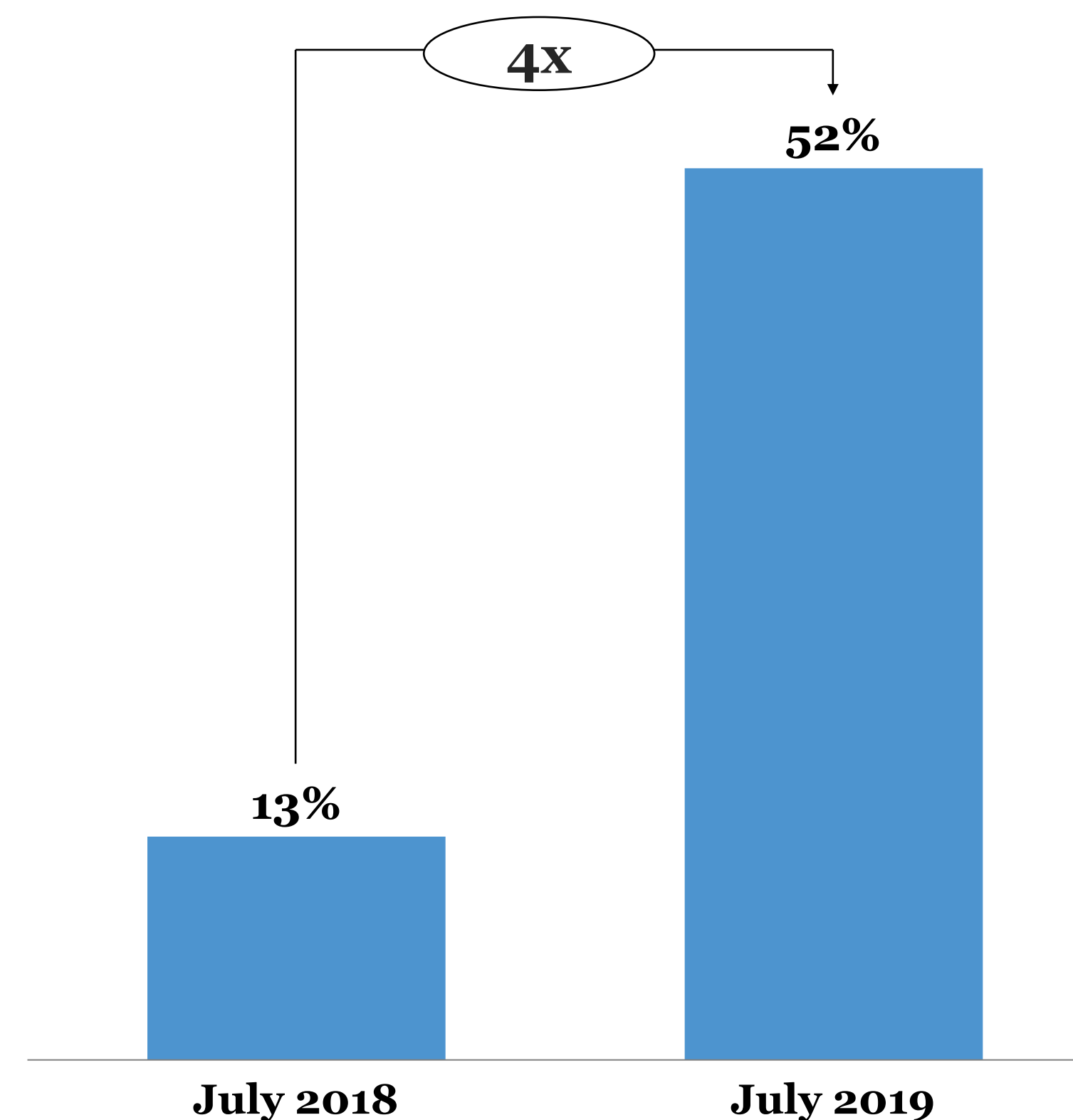
Up-tick in Intra-day market volumes

Figures in GW, traded volumes on EPEX Intraday

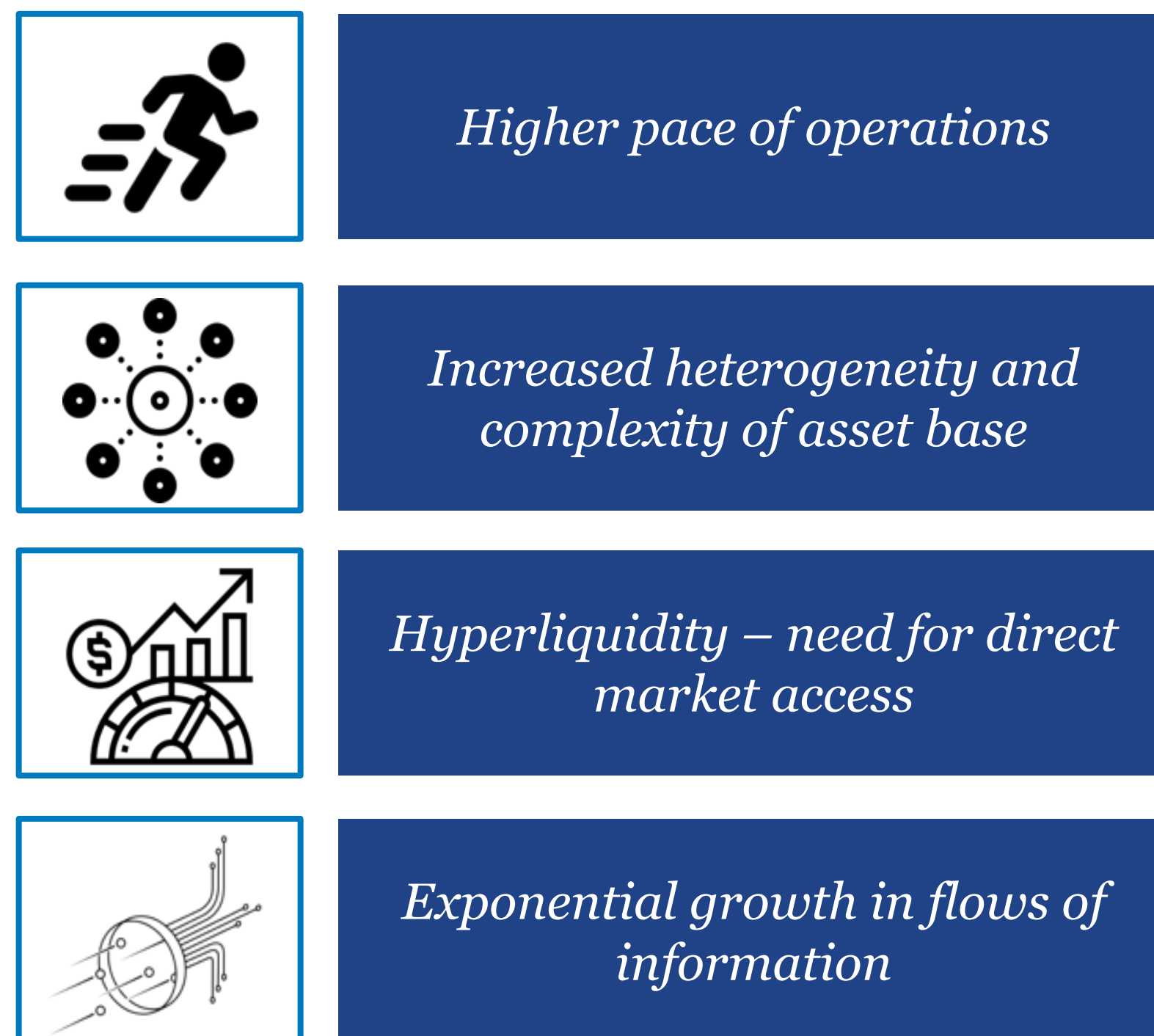


Algorithmic trading with up to 50% of volumes

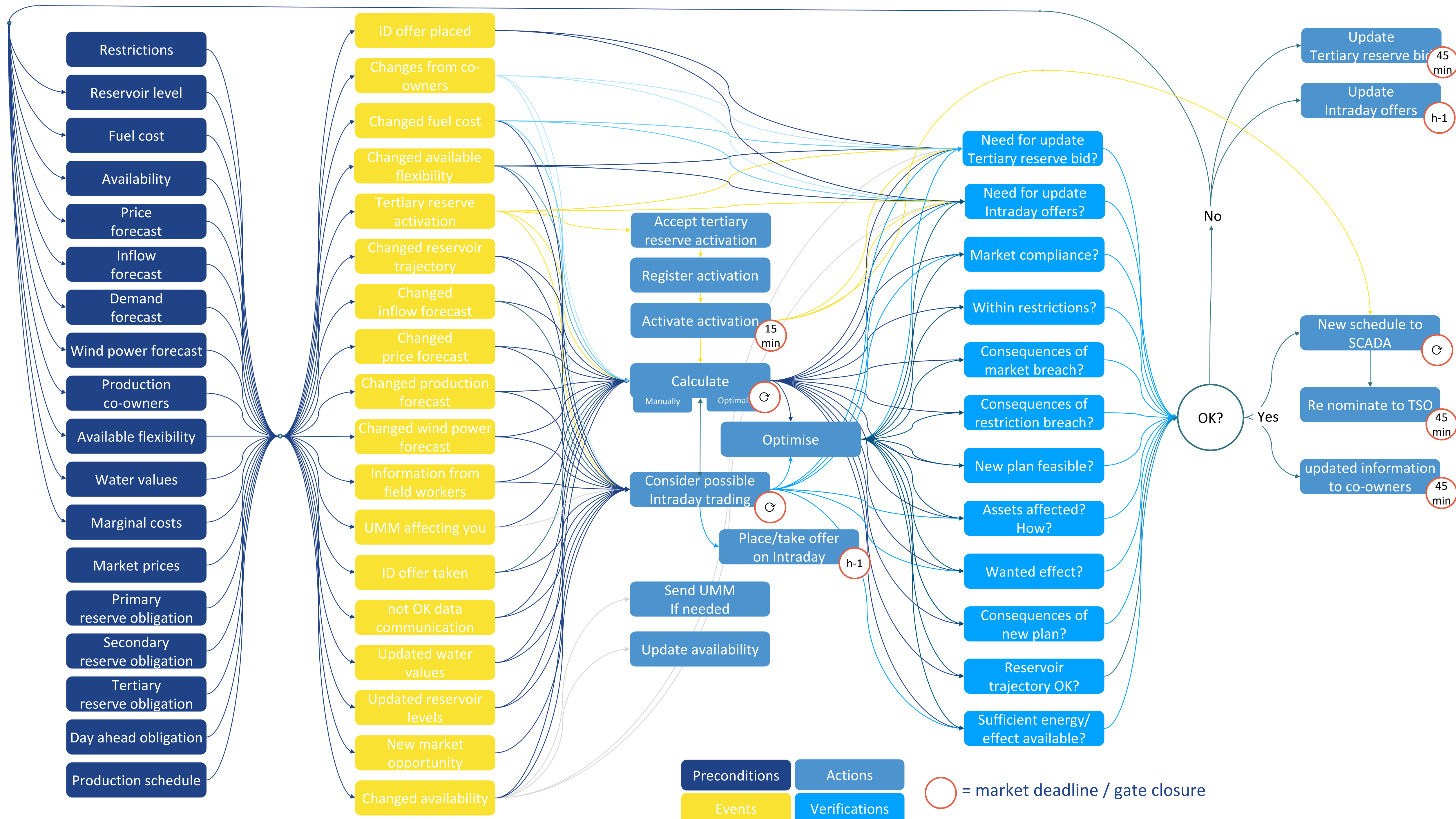
Share of API traded volume, Nord Pool Intraday



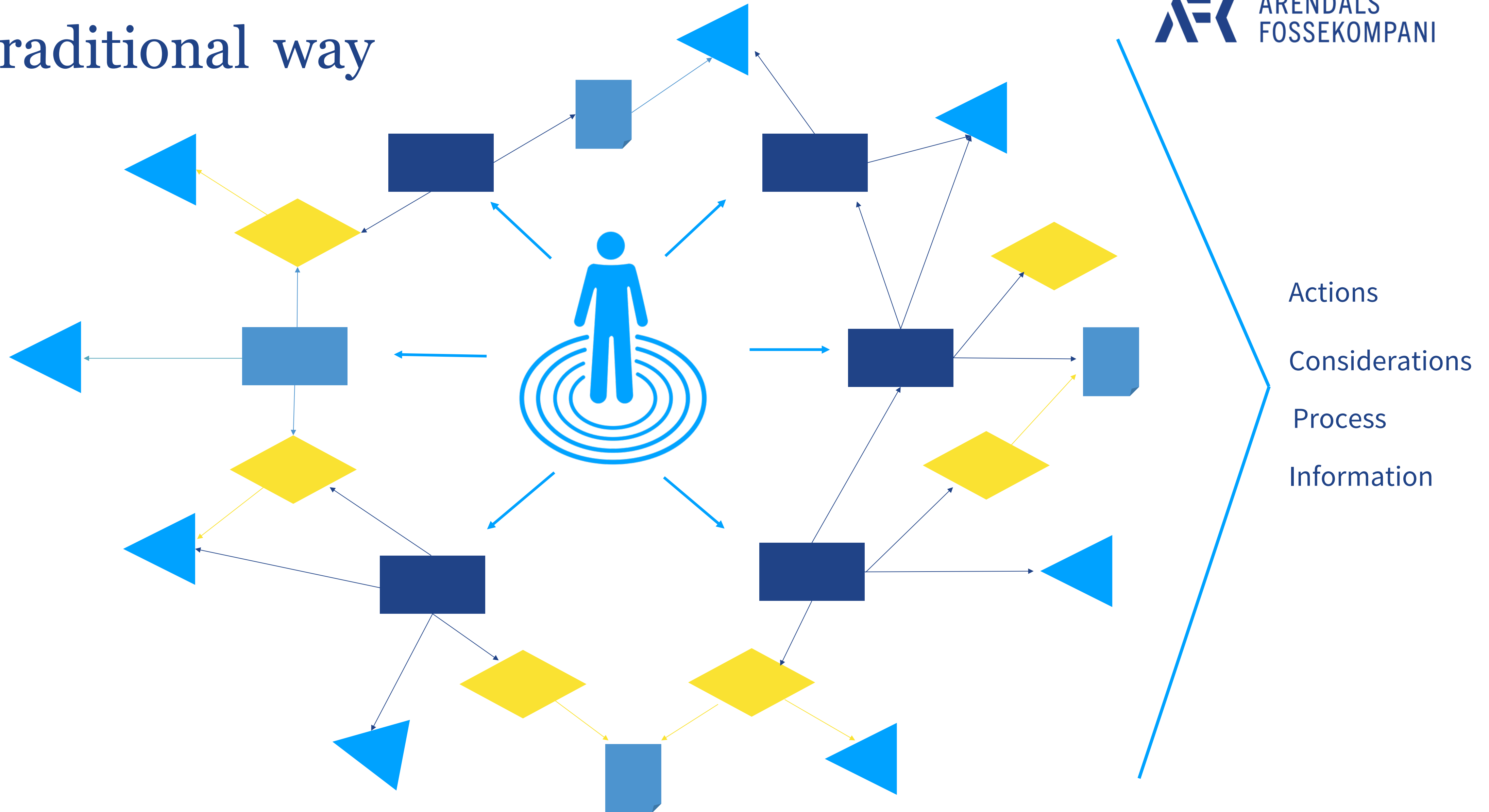
A new landscape for power generators



Profitability of industrial commodity companies depends on ability to adapt in real-time to market movements

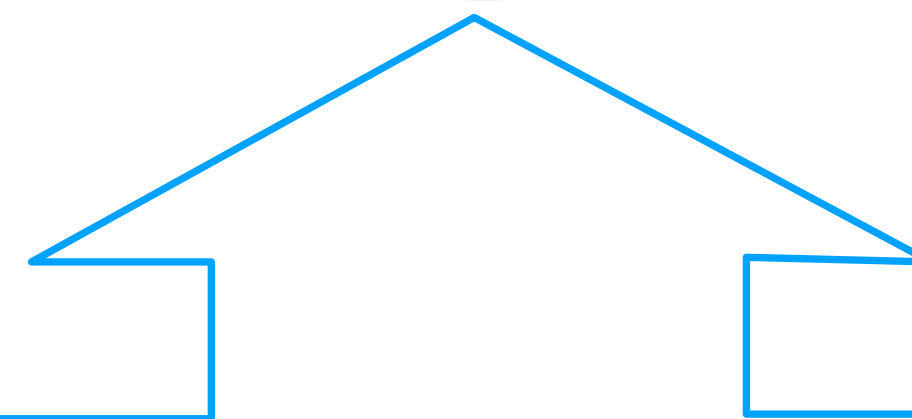


Traditional way

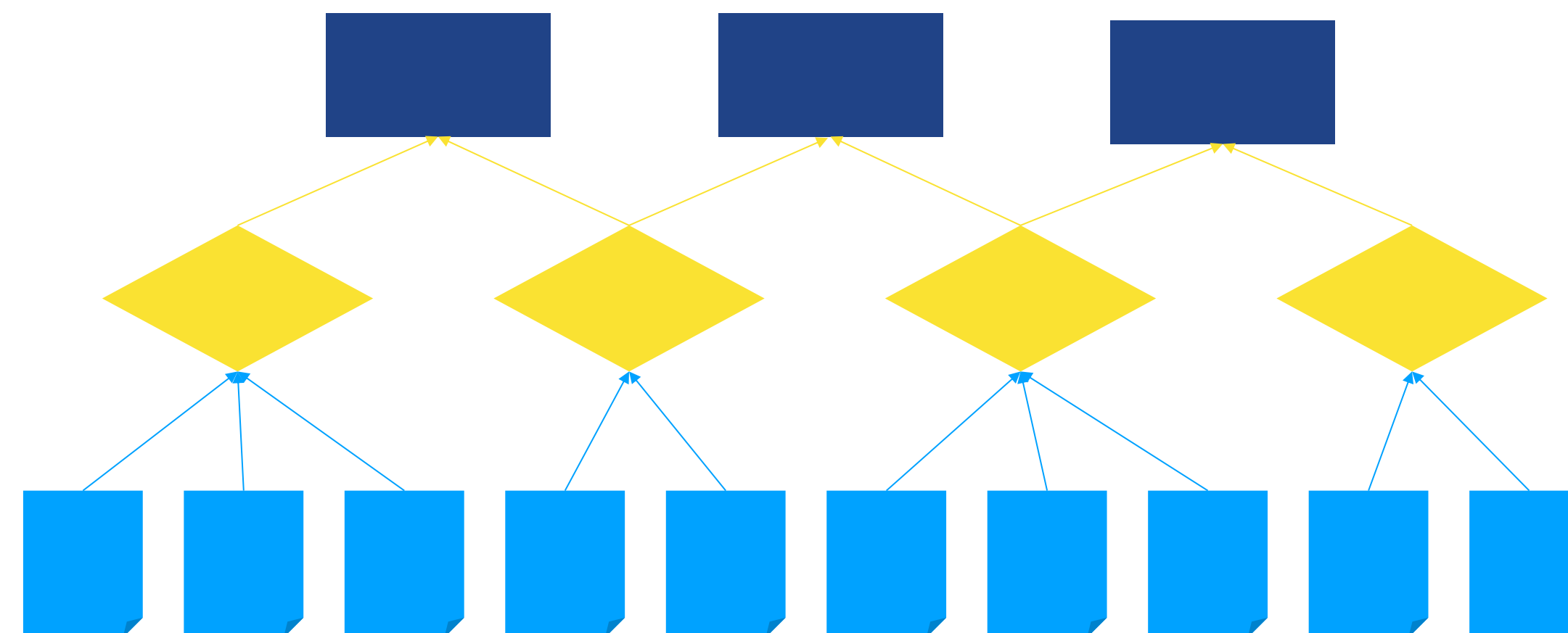


New way

Human decisions



Machine Decisions



Technological enablers



New technology for increased value creation

Data aggregation and big data management

- Advanced forecasts
- Multi-asset optimisation
- Data-driven maintenance

Artificial intelligence

- Real-time responsiveness
- Automation
- Algo-trading

IT-requirements



Future-proof IT architecture

- ✓ Robust towards new and unanticipated regulations
- ✓ Flexible data-flow
- ✓ Automation-ready, particularly for back office tasks

Why AFK will be an enabler of Europe's green transition



Strong portfolio of companies covering both the asset and operations life cycle



- Industrial software for forecasting, optimisation, production planning and energy trading and distribution.
- Demonstrated ability to help increase profitability.
- Solid European foothold with large energy companies and leading on Nordic utilities and power producers
- Also strong position on water/wastewater and construction industry.

PRODUCTION AND TRADING

- ➔ Forecasting
- ➔ Optimisation
- ➔ Trading

DISTRIBUTION

- ➔ Network documentation
- ➔ Operations
- ➔ Streamlined execution

Revenues 2019: 548 MNOK

Office locations: 20

Employees: 370

1300+ customers in 22 countries.

- Data- and service provider to the European energy market.
- Expert on forecasting supply, demand and prices for power for all time horizons
- Business intelligence, consultations with analysts and cost-efficient decision support for investments in power and energy assets.
- 350 + customers including Europe's largest power and energy companies and financial institutions

Forecasting the European power market:

- ➔ Prices
- ➔ Fundamentals
- ➔ Hydrology
- ➔ Emissions
- ➔ Fuels

Revenues 2019: 73 MNOK

Office locations: 4

Employees: 40

350 customers in 26 countries.

- High quality products and solutions for instrumentation, surveillance, control systems to industrial.
- Tailormade sensor- and communication solutions for hydro power and wind power producers.
- Vast majority of Norwegian power production
- Also position on defence, offshore and maritime industry

DATA CAPTURE

- ➡ Weather
- ➡ Operations Information
- ➡ Environment

Revenues 2019: 111 MNOK

Office locations: 4

Employees: 40

330 customers in 2 countries.

- Specialized knowledge company, covering risk- and portfolio management services.
- Neutral service provider between clients and the marketplace.
- No market position of its own, meaning the entire value of the market is given back to the customer. MiFID II license that serves as a promise of transparency and value to their customers.
- Solid position in the Nordics.

PORTFOLIO MANAGEMENT

- ➔ Production
- ➔ Distribution
- ➔ Consumption

Revenues 2019: 70 MNOK

Office locations: 6

Employees: 40

150 customers in 5 countries.

Technology - Maximising profit across the operations lifecycle



Technology - Maximising profit across the operations lifecycle



Summary

- Renewables, electrification and new technological opportunities drive IT investments across the energy segment
- AFK companies have experience, products, services and market positions across the energy value chain
- AFK is determined to enhance coordination and cooperation to release synergies and address a whitespace

Thanks!

