

Value beyond measure

Spectris plc Annual Report and Accounts 2019



Value
beyond
measure

Our purpose

Precision is at the heart of what we do. Spectris provides customers with specialist insight through our high-tech instruments and test equipment, augmented by the power of our software.

Through a combination of our hardware, and analytical and simulation software, we provide superior data and invaluable insights that enable our customers to work faster, smarter and more efficiently. This also equips them with the ability to reduce their time to market, improve processes, quality and yield. In this way, our know-how creates value for the wider society, as our customers manufacture and develop new products to make the world cleaner, healthier and more productive.

Delivering value beyond measure.

2019 performance

Financial

Sales

£1,632.0m

(2018: £1,604.2m)
+1.7%
LFL +0.4%

Adjusted operating profit¹

£258.1m

(2018: £248.3m)
+3.9%
LFL +3.7%

Statutory operating profit

£84.3m

(2018: £176.4m)
-52.2%

Adjusted cash flow conversion¹

91%

(2018: 59%)
+32pp

Adjusted operating margin¹

15.8%

(2018: 15.5%)
+30bps
LFL +50bps

Statutory operating margin

5.2%

(2018: 11.0%)
-580bps

Dividend per share

65.1p

(2018: 61.0p)
+6.7%

Adjusted earnings per share¹

168.0p

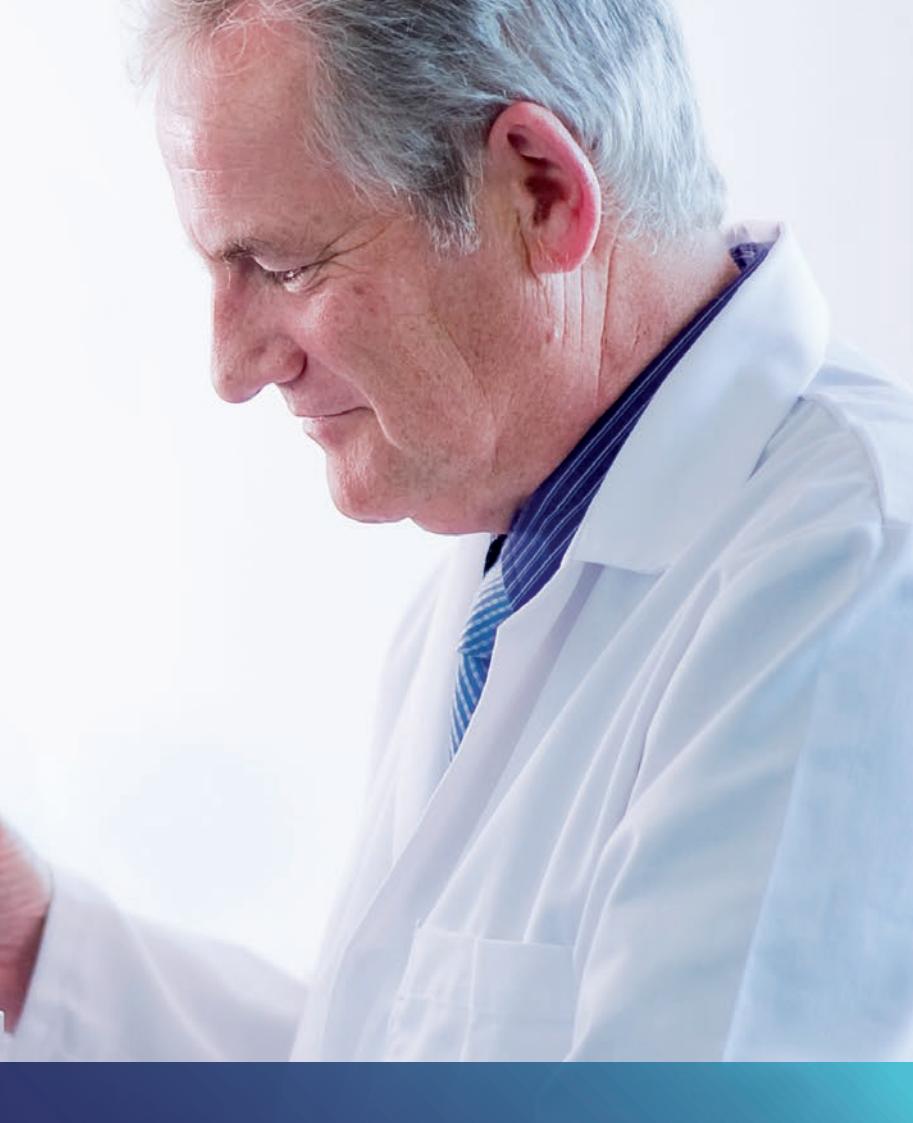
(2018: 164.9p)
+1.9%

Statutory earnings per share

202.2p

(2018: 157.6p)
+28.3%

¹ Alternative performance measures ('APMs') are used consistently throughout this Annual Report and are referred to as 'adjusted' or 'like-for-like' ('LFL'). These are defined in full and reconciled to the statutory measures in Note 2 to the Financial Statements.



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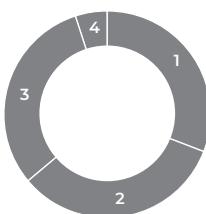
Executing our Strategy for Profitable Growth

- Sales of £1,632.0 million, reflecting a 0.4% LFL sales increase
- Adjusted operating profit increased 3.7%, on a LFL basis, to £258.1 million
- Adjusted operating margin of 15.8%, a 50-basis point expansion on a LFL basis
- Improved adjusted cash flow conversion of 91%; net cash of £33.5 million at year end
- Adjusted earnings per share up 1.9%, dividend per share increase of 6.7%
- Profit improvement programme delivered annualised benefits of £25.5 million, restructuring costs totalled £52.2 million; activities to continue into 2020
- Further restructuring as part of the strategic review, leading to a non-cash charge of £35.1 million relating to an impairment of goodwill and £47.1 million relating to other intangibles, mostly recorded at the first half results
- Divestment of BTG Group completed and sale of EMS Brüel & Kjær joint venture agreed
- Proposed £175 million special dividend and share consolidation

Spectris in focus

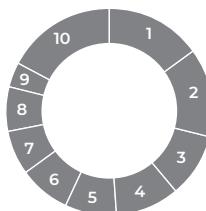
Spectris harnesses the power of precision measurement to equip our customers to make the world cleaner, healthier and more productive. We are focusing on where we have competitive and differentiated offerings, and where we can maintain and build defendable positions, in attractive tech-driven end markets.

Group sales by location (%)



1	North America	31
2	Europe	33
3	Asia	31
4	Rest of the world	5

Group sales by end-user market (%)



1	Pharmaceutical	15
2	Automotive	14
3	Energy & utilities	10
4	Semiconductors, telecoms & electronics	10
5	Academic research	8
6	Metals, minerals & mining	8
7	Machine manufacturing	7
8	Pulp & paper	7
9	Aerospace & defence	4
10	Other	17

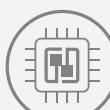
Our key markets



Pharmaceutical



Automotive



Electronics and semiconductors



Primary and advanced materials



Technology-led industrials

Our organisational structure

During 2019, to reflect the new strategy, we changed our organisational structure and reclassified our segmental reporting. We now disclose financial information on the three platform businesses – Malvern Panalytical, HBK and Omega – which, in total, represent 62% of Group sales. The financials for the remaining operating companies are presented as a combined Industrial Solutions division.

Our operating companies

What we do

We provide high-tech instruments, test equipment and software for many of the world's most technically demanding industrial applications.

Our technical expertise and deep domain knowledge enables us to provide the data and insights customers need to solve their challenges.

What our products equip our customers to do

We provide customers with our leading instrument and sensor technology, along with complementary software and services. Through a combination of our hardware, and analytical and simulation software, we provide superior data and invaluable insights that enable customers to work faster, smarter and more efficiently. This also equips them with the ability to reduce their time to market, improve processes, quality and yield. In this way, our know-how creates value for our wider society, as our customers manufacture and develop new products to make the world a cleaner, healthier and more productive place.

We also provide a broad range of support services such as training, technical support, spare parts, calibration and maintenance.

Where we are

We have a predominantly direct sales model through a worldwide network of sales, marketing and support offices enabling us to be close to customers and gain a deep understanding of the challenges they are seeking to address.

Read more: Market overview pages 6 and 7

Read more: Operational review pages 20 to 35



Malvern Panalytical is a leader in the advanced measurement and characterisation of materials. The company provides best-in-class sensor technologies, insightful data science and domain knowledge. They create superior solutions to accelerate innovation and deliver greater efficiency in R&D and manufacturing.

Read more: Pages 20 to 23

% Group sales

27%

% LFL sales growth

1.4%

Adjusted operating margin

17.0%

Employees

2,400



HBK provides a strongly differentiated and integrated physical sensing, testing, modelling and simulation solution which helps customers create leading products and accelerate product development.

Read more: Pages 24 to 27

% Group sales

26%

% LFL sales growth

-1.2%

Adjusted operating margin

14.1%

Employees

3,000



Omega is a market-leading, specialist, omni-channel sensor provider to process engineers. They provide a curated and differentiated product offering via a class-leading e-commerce platform.

Read more: Pages 28 to 31

% Group sales

9%

% LFL sales growth

-9.1%

Adjusted operating margin

12.2%

Employees

700

Industrial Solutions

The Industrial Solutions division ('ISD') comprises a portfolio of high-value, niche businesses. A number of ISD companies have platform potential, with strong market positions, growth prospects and margins while others are run for value.

Read more: Pages 32 to 35

Read how we deliver value beyond measure: Pages 20 to Page 35

Driving the business forward

The Group's progress in 2019 was positive. With the new Executive management team in place and the strategic direction clearly articulated, the focus has turned to its efficient execution.

How we help customers



Malvern Panalytical instruments help customers better understand a wide variety of materials, from proteins and polymers to metals and building materials.

Read more: Pages 20 to 23



HBK provides technologies and services that integrate the entire test and measurement chain. Its solutions help product developers align the test and simulation process, providing insight from more accurate analysis and helping to shorten development cycles and optimise products.

Read more: Pages 24 to 27



Omega provides sensing, control and monitoring technologies and expertise to process engineers. It provides proprietary and third-party sensors to measure and control temperature, pressure, flow and level.

Read more: Pages 28 to 31

Industrial Solutions

Our Industrial Solutions businesses provide instruments, services and expertise in a broad range of end markets, providing customers with solutions during the R&D phase and in their manufacturing processes.

Read more: Pages 32 to 35

Performance

In 2019, sales increased 2% to £1,632.0 million reflecting a 0.4% increase in like-for-like ('LFL') sales. The Group delivered a 4% LFL increase in adjusted operating profit to £258.1 million, with adjusted operating margins of 15.8%. Adjusted earnings per share ('EPS') increased 2% to 168.0 pence. Statutory operating profit was £84.3 million, resulting in statutory operating margins of 5.2% and statutory basic EPS was 202.2 pence. The Group divested BTG Group ('BTG') as we commenced the implementation of our revised



"Delivery of the strategy during 2020 and beyond will further simplify the Group and focus it on sustainable growth that, in turn, should enhance profitability and create long-term value for all our stakeholders."

Mark Williamson
Chairman

Adjusted EPS

+1.9%

Dividend per share

+6.7%

strategy and as a consequence of the sale, together with improved adjusted cash conversion of 91%, we ended the year with net cash of £33.5 million.

The Board is proposing a final dividend of 43.2 pence per share which, when combined with the interim dividend of 21.9 pence, gives a total of 65.1 pence per share for the year, an increase of 6.7%, consistent with our policy of making progressive dividend payments based on affordability and sustainability. I am pleased to note that this is the 30th consecutive year that the Group has increased its dividend since becoming a publicly listed company in 1988. The dividend will be paid on 22 June 2020 to shareholders on the register at the close of business on 22 May 2020. The ex-dividend date is 26 May 2020. The Board is also proposing a special dividend of 150 pence per share and share consolidation, which will require shareholder approval at the AGM.

Strategy update

Against a challenging macroeconomic backdrop, our LFL sales growth was limited to 0.4% in 2019. However, we delivered margin expansion following a greater focus on cost control and the successful implementation of an efficiency improvement programme. During the year, the Board finalised its strategic review to develop and sustainably grow the business and this was formally presented to the City by the Executive team at a Capital Markets Day in June. The review identified three platform businesses – Malvern Panalytical, HBK and Omega – which are scalable, aligned to target growth markets and offer the greatest value creation opportunity for our customers and shareholders. The remaining high-quality businesses have been grouped together to form the Industrial Solutions division and work was undertaken to determine which of these businesses will remain key to the Group and those where Spectris may not be the best future owner. As part of this strategic process, BTG was identified for sale and successfully sold during the year. The Board ensured

that all employees in BTG were either employed by the new owners or appropriately compensated based on their length of service with the Group.

Stakeholder engagement and section 172

In accordance with section 172 of the Companies Act 2006, the Board recognises the importance of our wider stakeholders to the sustainability of our business. The Sustainability Report (pages 48 to 53) and the Governance section (pages 54 to 96) set out in more detail how the Board has approached its duty under section 172. Integral to the success of Spectris are the skills, experience and technical capability of our workforce and I would like to thank them for their commitment and focus during the year. We are committed to engaging with and supporting all our employees through the period of change as we enact our strategy. An employee engagement survey was carried out in June to monitor the impact on employees and this was followed up with a further survey in January 2020. The Board reviewed the results of the initial survey and agreed a number of improvement actions in response to the initial employee feedback. How we go about our business activities is important and we have reviewed our values, purpose and code of business ethics to align them with our revised strategy, following consultation with our employees.

The Group also increased its focus on health and safety with the establishment of a group-wide Health and Safety Committee and several health and safety initiatives were implemented in 2019. We have also improved our processes for collating environmental and emissions data to allow us to reduce our impact on climate change and monitor our progress towards our sustainability objectives.

The Board is kept abreast of the views of shareholders on a regular basis and this has been particularly important during 2019 to ensure that the new strategy is both understood and endorsed by shareholders. During the year, we also extensively engaged with

shareholders on our new remuneration policy, which had been amended to align management objectives and performance targets with the new strategy. This new policy was put to shareholders at a General Meeting in December and was strongly supported, with a 94% vote in favour of the policy. Accordingly, the new policy was implemented on 1 January 2020.

Board update

The new UK Corporate Governance Code has been another area of focus for the Board in 2019. We appointed our first Workforce Engagement Director and I am pleased to confirm that Spectris has complied with all aspects of the new Code, further details of which are contained within the Governance section.

In March, we appointed Derek Harding as Chief Financial Officer. Derek has a wide-ranging financial background and has been integral to driving the new strategy forward with Andrew Heath and the rest of the Executive management team. In September, Cathy Turner joined the Spectris Board and will Chair the Remuneration Committee from March 2020. Cathy is an experienced non-executive director with significant knowledge of HR and remuneration matters, having served as Group HR director at Barclays plc where she was also a member of its executive committee.

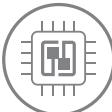
Summary

Our progress in 2019 was positive. With the new Executive management team in place and the strategic direction agreed by the Board and communicated to the City, the focus has turned to its efficient execution. Delivery of the strategy during 2020 and beyond will further simplify the Group and focus it on sustainable growth that, in turn, should enhance profitability and create long-term value for all our stakeholders. The Board is confident that the Group is well placed for the future.

Mark Williamson
Chairman
19 February 2020

A focus on our markets

Our key addressable markets have attractive, structural demand drivers underpinning long-term growth.

Industry	Market trends	Key trends shaping our offer
 Pharmaceutical	<p>An aging population and increasing middle class around the world is driving long-term demand for better healthcare. Drug discovery and development is facing a number of complex challenges to meet this demand. More stringent expectations around efficacy and efficiency improvements, complex disease pathways requiring more sophisticated therapies and personalised medicine are increasing requirements for more precise testing to ensure safety and reduce time to market.</p>	<ul style="list-style-type: none"> Increasing drug complexity Reducing development time and cost More stringent trials Advanced data analytics
 Automotive	<p>The growing proliferation of new car platforms, new entrants, the shortening of platform life cycles and the introduction of new technologies (e.g. electrification and autonomous vehicles) is increasing the overall volume, complexity and pace of change in research and development, testing and measurement.</p>	<ul style="list-style-type: none"> Rate of new product launches Vehicle electrification hybrid/EVs Connected and autonomous vehicles Rising use of simulation and software
 Electronics and semiconductors	<p>Electronic components are becoming increasingly complex and advances in semiconductor technology are enabling more chips to be embedded in a broader range of products, requiring more sophisticated quality control and testing equipment and techniques at the chip fabrication level as well as at the system level (e.g. full vehicle testing, phone performance testing).</p>	<ul style="list-style-type: none"> Processing power and speed Miniaturisation 5G
 Primary and advanced materials	<p>Primary materials – alongside an increasing emphasis on health and safety as well as environmental awareness, our customers are focusing on delivering improved yields, productivity, product quality and cost reduction in the extraction and processing of raw and bulk materials.</p> <p>Advanced materials – the development and manufacture of advanced materials (e.g. 3D printing, Li-ion batteries) has rapidly increased and has also been enhanced by the availability of more advanced processing techniques.</p>	<ul style="list-style-type: none"> Energy efficiency Autonomous operations Predictive analytics Environmental and sustainability
 Technology-led industrials	<p>The increased focus on optimising production processes in real-time, enabled by embedding more sensors on the production line to underpin industrial internet of things ('IIoT') and drive further improvements to operational efficiency, is increasing demand for smart sensors, testing hardware, control systems and software solutions. The continued consumer demand for smartphones and adoption of 5G is expected to drive growth in the telecoms sector. In aerospace, new development programmes are being undertaken with testing requirements becoming more advanced. Conditions affecting the automotive supply chain will continue to impact sales to the machine manufacturing sector.</p>	<ul style="list-style-type: none"> IIoT Process automation Additive manufacturing



Growth drivers in our end markets

Increasing spend on pharmaceutical R&D by worldwide pharmaceutical and biotech companies

3%
Expected CAGR to 2024

Aging population driving demand for medication

7%
Forecast prescription drug sales CAGR to 2024

Semiconductor wafer shipments growth

2%
Forecast growth in silicon shipment volumes in 2020

Growing demand across IIoT applications

25%
Growth in worldwide installed capacity and sensors fabs to 2023

Increasing competition among OEMs to launch EV models

101
New models expected to launch in 2020

Growing need to curb carbon emissions to boost EV battery demand

21%
EV battery market CAGR to 2026

Simpler and more focused

Performance was good against a weakening market backdrop as we delivered improved margin and cash flow. We implemented our new Strategy for Profitable Growth as we move to become a more focused and simplified business.

Delivering value beyond measure for all our stakeholders

In 2019, we defined, communicated and started implementing the new Spectris strategy. Our strategic direction is clear, as is the basis by which we will deliver value for all our shareholders. We have reviewed the composition of the portfolio, established a path to simplify and focus the Group, and determined where we will play, how we will win and how we will configure. We are prioritising investment in our platform and potential platform businesses, which in turn are focused on high-growth markets where they offer competitive advantage. By focusing on sales growth, improving margins and producing enhanced cashflow and capital returns, we have the opportunity to deliver significant value to our shareholders.

This work has further clarified our purpose; the role that Spectris currently plays, and where we want to progress in terms of our proposition to customers. Precision is at the heart of what we do. Our businesses provide global customers with specialist insight through our high-tech instruments and test equipment, augmented by the power of our software. We are well positioned in our markets with compelling and differentiated offerings that our customers value highly. We ensure our customers get the measurements and insights they need to meet their challenges and this, in turn, enables them to deliver significant benefits to their own consumers.

We can see how this is being delivered in our key end markets, where there is rapid change underway. In pharmaceutical, the ever-increasing demand for better healthcare continues to drive the development of sophisticated new drugs and generic versions. In automotive, new hybrid, electric and autonomous technologies are rapidly being developed, and safety, environmental and sustainability concerns are driving lower emissions, yield improvements

and compliance. There is also a digital revolution in the home as well as the workplace. Each advance in technology, or tightening of regulations, or certifications sets new challenges for measurement, data gathering, modelling, simulation and interpretation. In addition, we help our customers become more effective and more productive in their existing operations or in meeting higher regulatory, certification or quality demands.

As such, the demand for data, analytics and insights continues to grow. In turn, this is driving the need for more sensors and instruments, with greater levels of sensitivity and accuracy, and more integrated software and services, including predictive and prognostic analytics. This is the space where Spectris is going to build and grow. We are harnessing the power of precision measurement to equip our customers to make the world cleaner, healthier, and more productive. In this way, Spectris know-how is also creating significant value for society at large.

Fulfilling these strategic and operational priorities relies on having the right people with the relevant skills. We invest in innovating our products to ensure we provide our customers with specialist insight. Likewise, we invest in our people to ensure we have the skills, experience and knowledge to deliver this value for our customers. It also helps to ensure that our people thrive and have challenging and rewarding careers, while working in an ethical and safe company.

For our investors, being positioned in attractive end markets means we are best placed to drive growth and profitability. Our objective is to improve profitability through better operational leverage and optimising our assets, supported by active portfolio management. We are deploying a more rigorous approach to capital allocation to increase returns. This, in turn, will deliver enhanced value to our shareholders.

Financial performance

In 2019, sales increased by 1.7% to £1,632.0 million (2018: £1,604.2 million). On an organic, constant currency (like-for-like, 'LFL') basis, sales increased 0.4%. The sales contribution from acquisitions were broadly offset by disposals and there was a 1.5% positive impact from foreign currency exchange movements.

Adjusted operating profit was £258.1 million (2018: £248.3 million) with an adjusted operating margin of 15.8% (2018: 15.5%). On a LFL basis, operating margin improved by 50 basis points ('bps'), in part reflecting the successful impact of the profit improvement programme, which helped drive a 50bps LFL decrease in overheads. The Group's adjusted cash flow conversion rate improved to 91% (2018: 59%). The Group recorded a return on gross capital employed of 13.5% (2018: 13.7%) with the increase in adjusted operating profit offset by a higher capital base as a result of acquisitions completed in 2018.

By region, there was good growth in Asia, although LFL sales were slightly lower in China. Both North America and Europe posted lower sales on a LFL basis. In our end markets, there was strong LFL sales growth to academic research and energy and utility customers as well as growth in aerospace, semiconductor and pharmaceutical, with declines in the electronics, telecoms, metals and mining industries. Automotive was also lower, partly reflecting a tough prior year comparator.

"In my first full year as Chief Executive, we have delivered on numerous fronts with improved margins and cash flow, a more transparent organisational structure and renewed management team plus the divestment of BTG. There is more to deliver in 2020 and beyond."

Andrew Heath
Chief Executive



Adjusted operating profit

£258.1m

Adjusted operating margin

15.8%

Investment case

Leading technologies, strong brands and talented employees

Spectris provides leading instrument and sensor technology alongside complementary software and services. Our technologies reflect strong intellectual property, underpinned by investment in R&D, and highly recognised, award-winning brands. Our people have strong domain knowledge and expertise and combined with our direct-selling model, this helps create long-term customer relationships.

Attractive technology-driven end markets

We are positioned in attractive markets with favourable growth trends. Our businesses are leaders in defendable markets that have high barriers to entry. Our broad global presence and diversity of end market exposure helps ensure we are cyclically durable.

Clear goals

Our businesses are focused on clear goals, both financial and non-financial. Our financial goals centre around growth, improved margins, enhanced cash flow and return on capital whilst non-financial goals such as on-time delivery and net promoter scores reflect our customer focus. This is supported by a strong ethics and health and safety agenda.

Strong cash conversion

The majority of our businesses have an asset-light manufacturing model, resulting in low capital requirements. Combined with high gross margins, this results in strong operating cash flow conversion.

Robust balance sheet and capital discipline

We have a strong balance sheet which supports investment, both organically in our businesses and through acquisition, as well as a progressive dividend policy with a 30-year track record of dividend growth. We have a disciplined and rigorous capital allocation approach with a focus on returns.

Malvern Panalytical delivered a 1.4% LFL sales increase, with strong growth in Asia and to its academic research and advanced materials customers, partly offset by lower LFL sales into pharmaceutical. LFL adjusted operating profit increased 5%, with margin expansion of 60bps, held back by the weaker performance at Concept Life Sciences.

Malvern Panalytical has been focusing on identifying and executing further growth opportunities across its three key end markets, as well as launching new products which significantly improve the quality and speed of the characterisation of materials. It also continues to actively foster partnerships and collaborations with academia to further expand the value it provides to customers via data analytics, machine learning and artificial intelligence. Combining best-in-class sensor products with increased domain knowledge and newly developed AI capabilities will aid Malvern Panalytical in expanding its capabilities into more predictive and prescriptive value-adding solutions, a key focus area for 2020.

At HBK, LFL sales declined 1.2% in the year reflecting more difficult end markets, although there was good growth in North America and to the aerospace industry, with a stronger overall second half performance. Against this more challenging backdrop, HBK delivered a solid financial performance with LFL adjusted operating profit and margin increasing by 8% and 130bps, respectively.

Considerable progress has been made on the merger with the senior leadership team now established and a good part of the restructuring completed. Merger activities will continue into 2020, bringing additional benefits through further rationalisation and focus, aligned to the execution of the strategy to accelerate growth and further improve operating margins. Its simulation offering, centred on VI-grade, and its new eDrive product will be target growth areas into 2020 and beyond.

At Omega, LFL sales were 9.1% lower, impacted by USA-China tariffs and slowing US industrial production, with sales weaker in both these regions. The outsourcing of a significant product line and the launch of the new digital platform also impacted sales, as customers transitioned to the new website. As a result of the decline in sales and the increased overheads

incurred in developing the website, LFL adjusted operating profit and margin both contracted, by 39% and 600bps, respectively.

The launch of the new digital platform was a significant step in providing customers with an industry-leading e-commerce capability. While the customer transition was slower than anticipated, key operating metrics have improved notably since the launch. Omega also accelerated its product refresh programme during the year, introducing 133 new product lines, with more planned for 2020. These investments consolidate Omega's position as a leading, specialist, digital provider in the process engineering distribution space. Continuing to drive volume through the website to deliver sales growth will be a key objective for 2020 and beyond.

The Industrial Solutions division delivered 3.2% higher LFL sales, with particularly strong growth in Asia. The majority of the operating companies posted increased sales, against a tough year-on-year comparator. Since July, these businesses have been operating together under a new leadership team with a focus on improving operational and financial performance. As a result, LFL adjusted operating profit has increased 13% and LFL adjusted operating margin has expanded 150bps.

The sale of BTG was successfully completed during the year, which resulted in a net cash inflow of £262.7 million and a profit on disposal of £206.1 million. In early 2020, we announced the sale of our interest in the EMS Brüel & Kjær ('EMS B&K') joint venture. During 2020, we will continue to execute on our portfolio management strategy, selectively investing in those operating companies with platform potential and divesting where Spectris is not the best long-term owner.

Capital allocation

As part of the strategic review, the capital allocation framework was refreshed in 2019. Our strategy will result in the Group being a highly cash-generative business. We will invest in R&D and capital expenditure to maintain and grow the business, supplemented by acquisitions, while maintaining an efficient balance sheet, with target leverage between 1-2x EBITDA. In 2019, the Group's adjusted cash flow conversion rate was 91%, an improvement from the 59% recorded in 2018. We invested £100.9 million (6.2% of sales) in R&D (2018: £103.4 million, 6.4% of sales).

Capex totalled £81.6 million (2018: 94.1 million) following the peak investment in Millbrook in the prior year. With the net cash inflow from the divestment of BTG, the Group ended the year with net cash of £33.5 million (2018: net debt £297.1 million).

The Board is proposing to pay a final dividend of 43.2 pence per share which, combined with the interim dividend of 21.9 pence, gives a total of 65.1 pence per share for the year, an increase of 6.7%. This is consistent with our policy of making progressive dividend payments based upon affordability and sustainability and represents the 30th year in succession of dividend growth.

In addition, Spectris is proposing to return £175 million to shareholders via a special dividend, combined with a share consolidation. A special dividend of 150 pence per existing ordinary share is proposed, and in order to maintain the comparability of the Group's share price and per-share metrics before and after the special dividend, the Group plans to undertake a supporting share consolidation, which will be subject to shareholder approval. The payment and record dates for the special dividend will be aligned with those for the full-year dividend. Further information regarding the special dividend, share consolidation and related resolutions will be set out in the Company's Notice of Annual General Meeting.

This will take the Group's leverage to 0.4x, still leaving sufficient headroom for M&A, which remains a central part of our strategy. We will remain disciplined on this front with a focus on synergistic acquisitions to build out the platforms or create new platforms, from within our Industrial Solutions division.

Profit improvement programme and Spectris Business System

We successfully executed on the profit improvement programme through 2019. Implementation of the initiatives are now mostly complete, with savings arising from improving the sales mix, product profitability, restructuring, site rationalisation and reducing the size of the centre. We have closed facilities at Malvern Panalytical, HBK, NDCT and CLS, reduced headcount through organisational restructuring and retired lower margin products and activities at NDCT, HBK and Malvern Panalytical.

The gross recurring benefit exceeded our original targets, totalling £25.5 million, with a further £10 million still to be delivered in 2020.

Spectris Business System ('SBS')

Number of participants in Kaizen events

730

Increase in SBS activity

We continue to focus on the SBS as a major enabler for productivity improvement. 2019 has been a busy year with a 190% increase in employee involvement at more than 70 Kaizen events in all business areas. These events have realised material benefits in our core value drivers relating to safety, on-time delivery, working capital and quality.

The one-off restructuring costs totalled £52.2 million which were higher than the anticipated £45 million, with the increase reflecting further restructuring action which has been taken against the backdrop of slowing sales growth. We also took decisive action in restructuring CLS. The total cash cost was £34.3 million. Against the current lower growth backdrop, further activities under the profit improvement programme will continue in 2020 as we embed our platform strategy. We anticipate further costs in the range of £20-25 million with incremental benefits of £10 million. This predominantly relates to additional costs that are being incurred to support the ongoing merger activity at HBK.

We are also fostering a continuous improvement culture to ensure we operate at a lower overall cost and expand margins, while continuing to drive growth and deploy our chosen strategic initiatives. The Spectris Business System ('SBS') is key to delivering this. This is a set of time-tested and proven tools to address growth and product profitability, as well as waste reduction, with Lean principles at its centre.

During 2019, we almost doubled the number and level of participation in Kaizen events across the Group. These events have realised material benefits in our core value drivers relating to safety, customer satisfaction, on-time delivery, working capital and quality. The events also demonstrate the talent in our people and their passion to continue to enhance customer experience and improve business performance.

During 2020, we will further strengthen the deployment of the SBS across the Group, accelerating the Lean implementation through increased leadership training and building on the existing tool set. The areas of focus will be on product profitability, value-based selling and sales force effectiveness to help our businesses deliver more profitable growth; R&D effectiveness to reduce the support burden and ensure spend is aligned with our strategic initiatives; and interrogating structural costs and ways of working to reduce G&A. As such, these initiatives are targeted at improving sales, gross margin, accelerating product and service vitality and optimising overheads to improve operating margins.

Our people deliver the strategy

To support the execution and delivery of the new strategy, a new leadership structure was established during 2019. The Presidents of the platforms and the Industrial Solutions Business Group Director have joined the Group Executive Committee. Amongst other things, this change provides greater clarity and transparency in managing the performance of the Group. We have also introduced a set of core value drivers to ensure a consistent approach and measurement of success across all our operating companies.

We have highly talented people. As the Group focuses on strategy execution, there has been increased engagement with our employees to keep them informed of the new direction and change programme. Embedded in our new purpose statement is an emphasis on also delivering value for the people who work across Spectris; providing a great place to work, where everyone has the opportunity to reach their full potential and feel that they are truly contributing to sustainable growth and progress within our wider society.

Our values underpin our behaviour. They represent what we believe and guide our behaviours, so that we are principled in what we do and our culture reflects what we want to see in Spectris: ambition, accountability and integrity. Work has been underway to refresh our values, in line with the new strategy. Our new values and code of business ethics will be launched early in 2020.

Coronavirus

We are experiencing less activity in China in February than would normally be expected, as a result of the ever-changing situation regarding coronavirus (COVID-19). We will continue to monitor the situation closely to assess the extent and duration of the potential impact on Spectris and provide updates, as necessary.

Summary and outlook

2019 saw demonstrable progress in executing our Strategy for Profitable Growth. The successful delivery of our profit improvement programme, combined with an increased emphasis on deploying the Spectris Business System, enabled us to deliver increased profit and operating margin expansion, against a weakening macroeconomic backdrop. Cashflow improved significantly in the year and we successfully completed the sale of BTG and announced the sale of the EMS Brüel & Kjær joint venture. Additionally, we have announced a special dividend of £175 million, in line with our capital allocation policy. 2019 has been a year of delivery upon which to build in 2020. We are intent on further improving our operating margin, to at least previous highs, and enhancing capital returns, as we continue to work on asset optimisation and managing the portfolio.

Absent a material impact from coronavirus, for 2020, we anticipate that markets will remain challenging in the first half with a recovery only currently forecasted to emerge later in the year. We expect limited top-line growth and will, therefore, continue to concentrate on self-help initiatives to drive further cost-efficiency and ensure a more resilient and profitable business.

The combination of focusing on our customers, driving operating leverage and the repositioning and simplification of our portfolio, alongside a refreshed capital allocation framework, form the basis for delivering a significant and sustainable increase in shareholder value.

Andrew Heath
Chief Executive

19 February 2020

Andrew Heath,
Chief Executive,
and Derek Harding,
Chief Financial Officer,
reflect on their first
year at Spectris

Q&A

Andrew, what are your reflections on your time at Spectris so far?

Overall, I am pleased with the Group's performance during the year. The macro environment has become more challenging which has had an impact on our top-line sales growth. However, the resilience of our businesses combined with a keener focus on costs through the implementation of our profit improvement programme has seen us grow our profit and deliver margin expansion.

Since joining, we have undertaken the strategic review and this provides a clear roadmap to simplify and focus the Group; which we are now focused on executing. We are clear on the characteristics of the businesses we want to own: scalable, positioned in growth markets, having high gross margins, being asset-light with the potential to deliver growth, expand margins, generate free cash flow growth and enhanced capital returns. We will be owners of businesses that customers really value, but also provide a great place for our people to work – where they feel engaged and work in a safe and ethical environment. It has been a busy and exciting year.

Derek, where have you been focusing your attention?

I am thoroughly enjoying my time at Spectris. We have achieved a great deal already and yet, there is still much to deliver on.

As part of the strategic review, my initial focus was a re-assessment of our capital allocation framework and policy. There will be an increased focus on return on capital and we will be more disciplined in our use of funds going forward. We have established a new KPI – return on gross capital employed – to measure this and we intend to improve on that in the future.

We have also re-visited our internal reporting schedule and, to reflect the new organisational structure, a new cadence of engagement with our operating companies has been introduced with more detailed and consistent reporting requirements. Externally, we started presenting our financials under this new structure and I believe this provides greater detail and transparency around the performance of our platform businesses.

Andrew, can you explain the concept of Value beyond measure?

It's about delivering value to all of our stakeholders, be they customers, employees, suppliers, shareholders and wider society. Through our technology and instruments, we provide measurements and data to our customers, but more importantly, specialist insight and analytics to ensure they get the understanding they need to create important benefits to their consumers. This might be getting a new drug to market quicker, developing electric and autonomous vehicles, improving the productivity of manufacturing processes or meeting regulatory requirements for food quality, environmental or emissions controls. In this way, Spectris know-how is creating value and improving the quality of life for society. We work closely with our suppliers and partners to ensure the high quality of our products. With regards to our employees, we want to create a working environment that they value and where they can develop their full potential. And for shareholders, by optimising our assets and focusing where we have scale, we will increase returns and drive operational leverage.



"Great products and services are only as good as the people standing behind them. As I have travelled around Spectris, since I started in September 2018, I have continued to be impressed by the breadth and depth of capability and talent we have across the business."

Andrew Heath

"We want to grow highly cash generative operations and deploy the cash in a structured and considered way."

Derek Harding

How do you perceive the culture and values of Spectris?

Andrew: I continue to be struck by the openness and willingness of everyone I meet in Spectris. There is a strong desire to be successful, win right and also to improve. Behaving ethically and with integrity is at the core of Spectris' values. While our businesses have differing end market and product focuses, their deep product and application expertise, and the desire to serve our customers are common attributes I have witnessed across the Group.

What will drive future performance and what most excites you about the road ahead?

Andrew: Most of our businesses face off to end markets with good long-term growth prospects, underpinned by attractive drivers. More so, our product and service offerings are also particularly relevant, which is a great place to be. We are harnessing the power of precision measurement to equip our customers in making the world cleaner, healthier and more productive. In the short-term, the

macro-economic environment and how our end markets perform will be a key determinant, so we are also looking to drive our performance with internal improvements through the rigorous application of the Spectris Business System – be it through our sales team effectiveness, a tighter focus on costs or improving how and where we allocate our R&D spend. Together with our high-quality products, market positions and long-term customer relationships, my initial impressions of Spectris leads me to firmly believe that collectively our business has a great deal of potential that we are yet to unlock, and I'm excited to help deliver on that.

Derek: I agree – our businesses have their own strong attractions, opportunities for growth and margin expansion. Delivering on that potential, deploying capital in a methodical and returns-focused way whilst streamlining the portfolio will reposition Spectris to deliver value for shareholders, customers and employees and I am excited to have joined the company to help it execute on that.

How has the strategic review been received by your stakeholders?

Derek: We formally presented the strategic review to investors at a Capital Markets Day event in June and feedback was very positive. Investors appreciate the focus on higher growth markets where we have a competitive edge and strong fundamentals, and they like the move to simplify the portfolio.

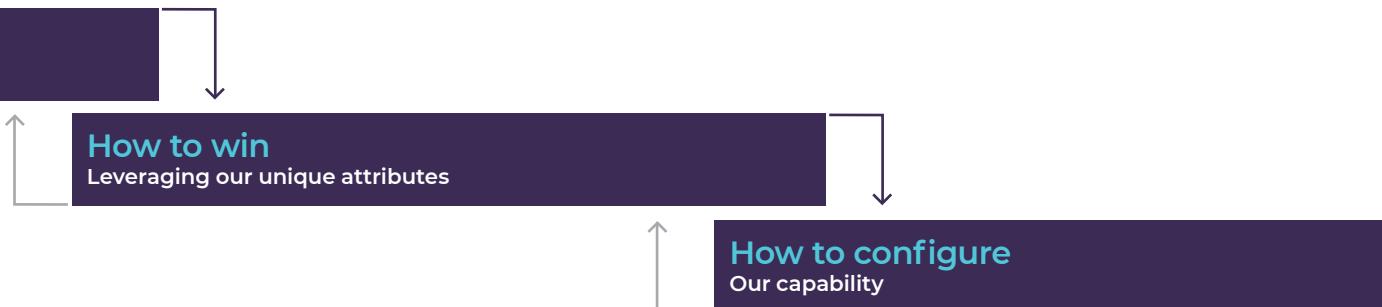
Andrew: Internally, the feedback has also been very positive. Our people are excited about what we are doing for our customers and the benefits we bring to society, as well as the renewed focus for the Group. But we are not being complacent. As we go through this period of change, it is important to keep our colleagues informed and motivated. There has been increased engagement across the Group to ensure that our people are kept informed of the new strategic direction. Ultimately, the success of Spectris depends on the skills, experience and technical capability of our people and ensuring they are enthusiastic about the direction of the Company. Also, it is key they have the chance to develop, grow and help us deliver for our customers.



Our Strategy for Profitable Growth

The strategic review involved a rigorous and consistent assessment framework applied at both a Group and operating company level. Through this, we established our Strategy for Profitable Growth, which sets out our goals, where to play, how to win and how we will configure Spectris.





Clear, compelling customer value proposition

- Leading instrument/sensor technology
- Strong domain knowledge and customer intimacy
- Complementary software and service
- Generating superior insights

Digitally-enabled

Innovation focused on growth and maintaining leadership positions

Group-wide focus on continuous performance improvement through:

- Spectris Business System
- Talent management
- Performance management
- Ethics and safety

Ethical leadership

M&A strategy

- Synergistic acquisitions focused on existing and potential platforms

Operational review:
Pages 20 to 35

Core capabilities reside in the operating companies

- Customer intimacy and value selling
- Go-to-market
- Strong domain knowledge
- Application and technical expertise
- Commercial excellence
- R&D effectiveness
- G&A efficiency
- Acquisition integration

Lean head office

- Group strategy
- Financial performance
- Target setting
- Capital allocation
- Portfolio transition
- Corporate governance and services

Operational review:
Pages 20 to 35

Focus on creating value

Our business model is centred around providing customers globally with specialist insight through our high-tech instruments, test equipment and software to provide the data and insights they need to solve their challenges and create important benefits to their consumers.

Our strategy

Customer focused

Targeting attractive end markets where we are best placed to drive growth and profitability and where we have compelling and differentiated offerings.

Operational leverage

Improving profitability as we grow.

Portfolio management

Optimising our assets, supported by active portfolio management and synergistic acquisitions.

Read more:

Pages 14 and 15

Our resources

Our technology and brands

Our products use high-quality, innovative technologies which are award-winning and have strong, recognisable brands.

Our expertise

We have a highly-qualified team of people who have in-depth product, application and industry expertise in their sectors.

Our customer relationships

We build strong, collaborative customer relationships, underpinned by a deep understanding of our customers' businesses.

Our financial strength

Spectris is a highly cash-generative business with a strong balance sheet and a disciplined and rigorous approach to capital allocation.

Our suppliers and partners

Our global supply chain and partners are an essential and integral part of our business.

Our values and culture

Our values underpin the way we work, guide our decision making and shape our culture.

Our operating model

We have a devolved operating model, with core capabilities embedded in our operating companies and a lean head office.

Operating companies

Our core capabilities:

- Customer knowledge
- Sales expertise
- Strong domain knowledge
- Application and technical expertise
- Commercial excellence
- R&D effectiveness
- G&A efficiency
- Acquisition integration

Lean head office

At a Group level, we will drive a consistent approach to:

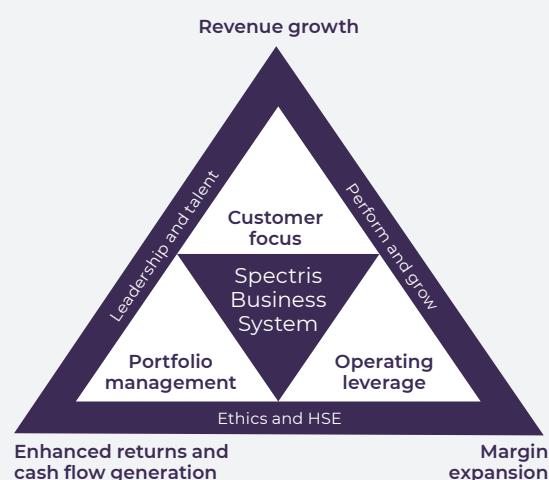
- Developing our talent and leadership;
- Developing consistent performance management;
- Underpinned by a strong ethics and safety culture.

Spectris Business System

To drive continuous performance improvement and increase profitability, we have put in place the Spectris Business System, which follows Lean principles and will be central to delivering enhanced operational efficiency and process improvements.

For more information about our businesses see pages 20 to 35

Strategy for Profitable Growth



Our financial model

Our businesses will be characterised by the following attributes:

- asset light;
- scalable and strongly aligned to attractive markets;
- high gross margins;
- opportunity to drive revenue growth; expand margins and generate strong cash flows; and
- strong capabilities and performance.

Sources of capital

• We are a highly cash-generative business. As we execute on our portfolio optimisation strategy, this will be supplemented by disposal proceeds. We also have access to the debt and equity markets to raise further capital.

Sources of capital



Use of capital/capital allocation

We operate a rigorous and disciplined capital allocation process:

- Capital will be deployed in R&D and capex to maintain our businesses and grow them organically. We expect to spend around 7% of sales on R&D.
- We will also grow our businesses through acquisition and M&A will primarily be focused on our platform businesses. Our aim is to cover our cost of capital by at least the third year.
- From time to time, we may return surplus capital to shareholders.
- Our ideal balance sheet leverage will be 1-2x EBITDA.

Use of capital

Appropriate capital structure

- Efficient balance sheet

Maintaining the business

- Maintenance capex
- Maintenance R&D (product refresh)

Growing the business organically

- Growth capex
- Growth R&D (new products and technology)
- Working capital

Growing the business inorganically

- Acquisition spend

Returning surplus capital to shareholders

- Special dividends
- Share repurchases

Delivering value to our stakeholders

Shareholders

4%

adjusted operating profit growth

10%

dividend CAGR since 1988

Customers

6.2%

of sales spent on R&D

0.4%

LFL sales growth

People

80%

participation in first Group-wide senior leadership employee survey

Suppliers

SA 8000

accreditation demonstrating quality management for key suppliers

For more information on our stakeholder engagement under section 172, see pages 5, 48 and 49

Measuring our performance

We monitor progress against the delivery of our strategic goals using both financial and non-financial key performance indicators ('KPIs'). Reflecting the change in strategy, we have introduced a new KPI and our new remuneration policy is linked to three of these KPIs.

Following the appointment of a new leadership team and implementation of the Strategy for Profitable Growth, an assessment of our KPIs was undertaken to ensure we utilise the best metrics to monitor our performance. Alongside this, a new remuneration policy was designed to ensure alignment between the interests of the Executive Directors and the senior management team with the core aims of the new strategy, as well as to align management with the interests of shareholders in the reward for significant outperformance against the market.

As a result, a new Long Term Incentive Plan ('LTIP') replaces the current Performance Share Plan ('PSP') and the economic profit KPI will be withdrawn. A new metric, return on gross capital employed ('ROGCE'), has been introduced and will be a key criteria for the LTIP (see the Directors' Remuneration Report page 72).

The aim of our Strategy for Profitable Growth is to deliver sustainable growth over the medium to long term and therefore we show the KPIs for the last five years.

A number of the KPIs are adjusted operating metrics, as we believe these are the primary indicator of our performance because they exclude foreign exchange movements and the impact of acquisitions and disposals. See Note 2 to the Financial Statements, for a reconciliation between adjusted and statutory items.



Link to strategy

Customer focus	1
Operating leverage	2
Portfolio management	3
Perform and grow	4
Ethics and HSE	5
Leadership and talent	6

Financial

Like-for-like sales growth (%)

2019	0.4	1
2018	5.2	
2017	6.2	
2016	-1.9	
2015	-0.3	

Like-for-like sales growth

LFL sales growth is a measure of how our R&D and other investments help to grow our business organically, i.e. excluding the effects of currency translation and acquisitions or divestments.

Performance

In 2019, sales were £1,632.0 million, a 0.4% increase on a LFL basis compared with 2018. LFL sales increased at Malvern Panalytical and in our Industrial Solutions division, and were lower at HBK and Omega.

By region, Asia posted LFL sales growth, with North America and Europe both seeing a decline in LFL sales.

Objective

Our aim is to achieve year-on-year growth in LFL sales.

Adjusted operating margin (%)

2019	15.8	2
2018	15.5	
2017	15.7	
2016	15.2	
2015	15.2	

Adjusted operating margin

Adjusted operating margin is a measure of improving profitability in our business and is defined as adjusted operating profit as a percentage of sales.

Performance

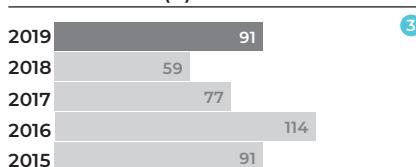
Adjusted operating margin was 15.8%, an increase of 30 basis points ('bps') from 15.5% in 2018. On a LFL basis, adjusted operating margins improved by 50bps, reflecting a flat gross margin year-on-year and a decrease in overhead costs.

Objective

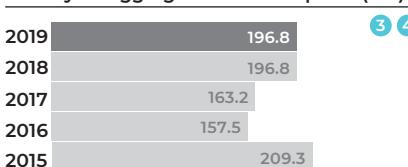
Our aim is to improve gross margin and constrain overheads to drive future operating margin expansion, and return our operating margin to at least our previous highs of around 18%.

Non-financial

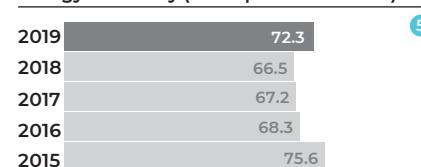
Cash conversion (%)



Three-year aggregate economic profit (£m)



Energy efficiency (MWh per £m revenue)



Cash conversion

Cash conversion represents an effective measure of the quality of our earnings. Cash conversion is defined as adjusted cash flow as a percentage of adjusted operating profit.

Performance

Cash conversion was 91%, an increase from 59% in 2018. This reflected the growth in profitability, a favourable working capital movement, a lower level of capital expenditure and the impact of the introduction of IFRS16.

Objective

Our aim is deliver a high level of cash conversion each year.

Link to remuneration

Cash conversion is one of the new criteria introduced for the annual bonus. See page 72 for more information.

Economic profit

Economic profit is the annual result derived from deducting a capital charge (based on a weighted average cost of capital of 11% and applied to average capital employed) from adjusted operating profit, aggregated over a three-year period.

Performance

Three-year aggregated economic profit was £196.8 million, unchanged from the prior year, with the increase in adjusted operating profit offset by a higher capital charge.

Objective

Our aim is to maintain a positive result over the three-year period.

Link to remuneration

Economic profit is one of the criteria for the current PSP award, but does not feature in the new remuneration policy. See page 72 for more information.

Energy efficiency

Energy efficiency makes a significant contribution to environmental sustainability and helps us to reduce our operating costs.

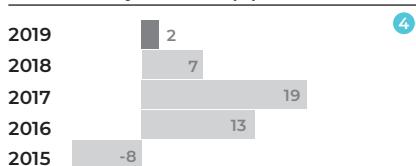
Performance

Energy efficiency, measured in MWh per £m revenue, was 72.3 in 2019, an increase of 9% compared with the prior year, partly reflecting the impact of acquisitions made in 2018.

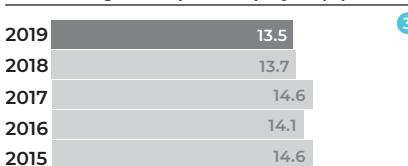
Objective

We monitor our use of key sources of energy (electricity, gas, oil and steam) with the aim of reducing our carbon emissions and improving energy efficiency.

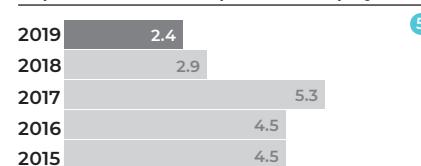
Growth in adjusted EPS (%)



Return on gross capital employed (%) *New



Reportable accidents per 1,000 employees



Adjusted earnings per share growth

Adjusted earnings per share ('EPS') is the ratio of adjusted earnings for the year to the weighted average number of ordinary shares outstanding during the year, excluding certain items.

Performance

Adjusted EPS increased 2% to 168.0p, reflecting a 2% rise in adjusted profit before tax and a decrease in the weighted average number of shares, partly offset by a higher effective tax rate.

Objective

Our aim is to achieve year-on-year growth in adjusted EPS.

Link to remuneration

EPS performance is one of the criteria for the current PSP award and the new LTIP. See page 72 for more information.

Return on gross capital employed ('ROGCE')

ROGCE is calculated as adjusted operating profit divided by the average of opening and closing gross capital employed. Gross capital employed is net assets excluding net debt and excluding accumulated amortisation and impairment of acquisition-related intangible assets including goodwill.

Performance

ROGCE was 13.5% in 2019, with the rise in adjusted operating profit offset by an increase in the capital base as a result of acquisitions completed in 2018.

Objective

Our aim is to improve ROGCE year-on-year.

Link to remuneration

ROGCE is a new KPI and one of the criteria for the new LTIP. See page 72 for more information.

Accident incidence rate

We are committed to ensuring the health, safety and wellbeing of our people and monitor how we are performing by measuring work-related accidents or ill health resulting in lost time in excess of one day (years prior to 2017, three days).

Performance

There were 2.4 reportable accidents per 1,000 employees in 2019. This is a further improvement over prior years, following an increased focus on health and safety across the Group.

Objective

Our aim is to reduce accidents and injuries at our sites to as low a level as reasonably practical.

Streamlining the drug development process

Client: Dolomite Microfluidics**Challenge**

Dolomite Microfluidics specialises in high-performance nano and micro-particles, used for applications such as drug delivery. To characterise these particles, they used transmission electron microscopy, a reliable yet expensive and time-consuming process which limited production efficiency and could not verify the state of the entire sample.

Results

Using Malvern Panalytical's Zetasizer Ultra, they proved that the new data collected was more reliable and accurate, enabled much higher sample throughput and provided an overall particle size distribution for each sample, ensuring a homogenous distribution through the product. This streamlined their R&D process and quality control, and significantly reduced costs with a development cycle of around one month, compared to the previous cycle length of 12 months.



Malvern Panalytical

Malvern Panalytical is a leader in the advanced measurement and characterisation of materials. It provides best-in-class sensor technologies, insightful data science and domain knowledge, helping customers accelerate innovation and deliver greater efficiency in R&D and manufacturing.

"After making progress in 2019, Malvern Panalytical continues to focus on identifying and executing further growth opportunities across its three key end markets, as well as expanding its capabilities into more predictive and prescriptive value-adding solutions."

Paolo Carmassi
President, Malvern Panalytical



Financial performance

Sales increased 3% to £448.2 million, reflecting a 1% increase in LFL sales, a 1% positive impact from foreign currency exchange movements and 1% from acquisitions, net of disposals.

Sales growth for the year was driven by strong demand in Asia, particularly in China, Japan and South Korea. LFL sales were lower in both North America and Europe, continuing a similar trend to the first half of the year.

On a LFL basis, adjusted operating profit increased 5% and adjusted operating margins increased 60bps, with the positive impact from higher LFL sales, reflecting favourable pricing, and good overhead cost control partly offset by the dilutive impact of Concept Life Sciences ('CLS'). Following the weak first half performance at CLS, new senior management were brought in and a detailed strategic review was undertaken. As a result, the environmental analytical laboratories business was exited, with four sites being closed, and an impairment of goodwill and other intangible assets was recognised at the half year. In addition, CLS sold its environmental consultancy business in October. CLS's focus is now solely on the pharmaceutical, life sciences and food markets where it can collaborate with Malvern Panalytical.

Product launches

New product launches during the year included the latest generation of Epsilon 1 X-ray fluorescence spectrometers which provide fast and reproducible elemental analysis with greater flexibility and precision than before. Also, the newest member of the laser particle size analyser family, Topsizer Plus, was launched for the Chinese market. Topsizer Plus retains the main optical structure, consistent with the original product, but with enhanced functionality and capability.

We have seen strong growth in the academic research sector during the year, particularly in North America and Asia, with funding benefiting from a number of government initiatives across both geographies. Partnerships and collaborations with academia were also an area of significant activity in 2019. For example, a formal partnership was agreed with the University of Bristol, focusing on areas of mutual interest, including data analytics, machine learning and artificial intelligence ('AI'). The partnership follows the opening of Malvern Panalytical's new Data Science Hub at the University-run innovation space. These types of collaboration are key in the move from providing diagnostic solutions into more predictive and prescriptive offerings as we combine our best-in-class sensors with increased domain knowledge and newly developed AI application capabilities.

Market trends and outlook

Pharma and food

Partly reflecting a tough year-on-year comparison, sales to the pharmaceutical and food industries were lower on a LFL basis. 2019 saw uncertainty within the innovator pharmaceutical space, as governments and other healthcare providers introduced tighter pricing controls in order to manage rapidly increasing costs. In response, a significant number of customer restructuring and portfolio optimisation programmes were initiated. However, the drive to reduce healthcare costs has prompted increased generic drug product development, with global regulators expanding the support they provide to companies to ensure new generics can be rapidly brought to market. This has led to investment within generic manufacturing hubs in India, China and south-east Asia, offsetting the decline within the innovator segment. Additionally, innovator portfolio developments have targeted more complex biologic and novel gene-based therapies. This, coupled with increased application of advanced analytics and modelling to improve development pipeline efficiency and manage lifecycle costs, is generating increased demand for our solutions. The outlook for the sector therefore remains positive.

Food is, traditionally, a lower growth market, being driven by consumer spending. However, there are higher growth niches, such as confectionery products and beverages, where we have realised opportunities in 2019.

Sales (£m)

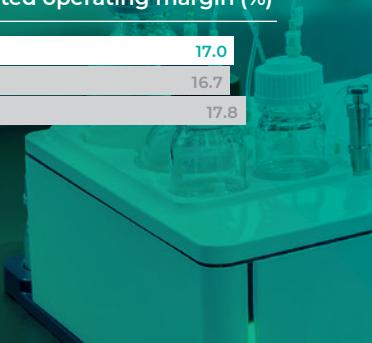
2019	448.2
2018	436.7
2017	372.1

Adjusted operating profit (£m)

2019	76.2
2018	73.0
2017	66.1

Adjusted operating margin (%)

2019	17.0
2018	16.7
2017	17.8



A continued focus on food safety, and the need for sustainable sourcing and manufacture, represent further opportunities relevant to our solution portfolio moving forward.

Primary materials

LFL sales to primary materials customers were lower year-on-year. This primarily reflected lower levels of activity in the metals market during the year, although we expect this to stabilise in the coming months, with leading mining companies expecting an uplift in demand and supply in 2020 (particularly in iron ore, nickel, zinc).

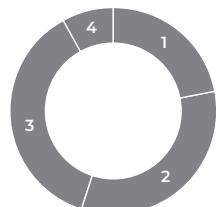
This recovery, combined with our online and automation solutions, as well as enhanced cross selling within the segment, should help drive a resumption in growth in 2020. With customers focusing on delivering improved yields, productivity, product quality and lowering costs in the extraction and processing of raw materials, Malvern Panalytical instruments are well placed to help them to deliver these improvements.

Advanced materials

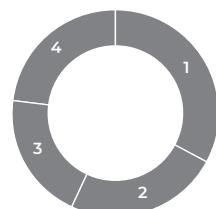
Sales into the advanced materials industries have been strong, particularly in North America and Asia, driven by China, with a strong growth in aftermarket sales across all territories. From an industry standpoint, the main growth drivers have been in academia and the electronics, batteries, additive layer manufacturing and catalysts markets. Demand is being driven by new product development. For example, innovations in mobile devices,

electric cars and intelligent power management solutions are driving significant growth in the research and development of batteries. This includes Li-ion batteries as well as new emerging battery technologies, such as Na-ion, Li-sulphur and zinc-air. Malvern Panalytical instruments help customers control the quality and function of battery materials, to enhance battery performance and improve the cycle life. For example, a partnership was established with the Next-Generation Energy Conversion and Storage Technologies Lab at the University of Pittsburgh's Energy Innovation Center to monitor the chemistry of what is happening inside a battery while it is in use, which could provide opportunities for identifying new materials as well as improving the battery itself.

We expect growth in this sector to continue, resulting from new emerging applications, particularly in batteries and additive layer manufacturing. Our focus is on customers involved in the research, development and manufacturing of these novel materials and complex systems and devices. Asia will be a key region driving this growth.

Sales by location (%)

1	North America	22
2	Europe	33
3	Asia	37
4	Rest of the world	8

Sales by end-user market (%)

1	Pharmaceuticals & fine chemicals	33
2	Metals, minerals & mining	24
3	Academic research	20
4	Other	23

Solving EV noise challenges to support public safety

**Client: Applus+ IDIADA****Challenge**

New standards have been introduced specifically for electric and hybrid vehicles that enforce minimum noise requirements to ensure the safety of pedestrians. Electric vehicles are so quiet that ambient noise can be an issue when testing. When performing minimum noise testing outdoors, they may be influenced by external noise from surrounding areas, making it difficult for testers to determine if the vehicle is complying with the standard.

Results

HBK equipment has been used to test for minimum noise compliance requirements and additionally provide design and system development. Data provided ensures a simple assessment of compliance or otherwise, and a safer world for the public.





HBK provides a strongly differentiated and integrated physical sensing, testing, modelling and simulation solution which helps customers accelerate product development.

"Against a more challenging market backdrop, our performance in 2019 was solid. Importantly, we have made considerable progress on the merger as we drive to deliver growth and operating margin expansion."

Joe Vorih
President, HBK



Financial performance

Sales increased 1%, including a 1% positive impact from foreign currency exchange movements and a 1% contribution from acquisitions, net of disposals, and a 1% LFL sales decline, partly reflecting some high one-off orders in 2018.

By region, North America posted an increase in LFL sales, while Europe and Asia both saw a decline in LFL sales growth, with Germany and China being the most challenging, reflecting the downturn in automotive and the industrial markets in both regions.

On a LFL basis, adjusted operating profit increased 8% and operating margins rose by 130bps. The year-on-year improvement reflected favourable pricing and lower overheads, as operational improvements came through from the merger and execution of the profit improvement programme, as well as some one-off costs in 2018.

HBK merger

During the year, work continued on the merger. The new senior leadership team is now established and the strategy execution plan is being implemented. Combining the sales and marketing teams led to some disruption to sales activities earlier in the year, but the integrated, global, go-to-market model is now in place and delivering improved order flow, despite a more challenging market environment. VI-grade is now part of the HBK platform and will lead the development of an expanded simulation offering for customers. Restructuring associated with the

merger will continue into 2020, to further bring down overhead costs, through additional headcount reductions, site consolidations and closures. Further restructuring costs will be incurred in 2020. These projects, will further harmonise processes and systems across the business, bringing additional benefits from the merger.

Product launches

HBK released a number of new products during 2019. These included the next version of its BK Connect product, a highly innovative sound and vibration software analytics platform, which seamlessly integrates data acquisition, monitoring, analysis, data viewing and reporting in the same system.

A new sound level meter, B&K 2245, was launched in April. It is a reliable stand-alone noise measurement device, which works seamlessly with specially-created apps, to undertake accurate noise measurement, analysis and documentation. The meter can be tailored for specific jobs across a wide range of industries and users; from simple noise complaint investigations to more specialised tasks, such as exhaust noise testing.

A new miniature pressure transducer series was also launched. Being smaller, more lightweight and compact, it allows engineers to carry out reliable pressure tests within confined areas, such as gearboxes or coolant systems. Again, it can be deployed in a wide variety of industries, for instance in automotive, aerospace and shipping.

2019 also saw HBK significantly updating and standardising its range of optical sensors, which are ideal for carrying out strain, tilt, temperature and acceleration tests. The newLight sensors are suitable for structural health monitoring used for highly stressed structures (e.g. composite materials in wind turbines) and are insensitive to electromagnetic fields and other harsh environmental conditions.

Market trends and outlook

Automotive

Within the automotive sector, LFL sales declined in both Europe and Asia, but grew in North America. The overall slowdown reflected a tough comparator in 2018 and some impact from the downturn in automotive.

With the HBK platform being mostly exposed to R&D within the automotive sector, we still see robust demand for the development of electric, hybrid and connected and autonomous vehicles ('CAV') globally, as well as continued developments to internal combustion engines, driven by the growing need to reduce carbon and GHG emissions. This is underpinned by tightening emissions regulations and policies, such as tax exemptions and subsidies, to encourage the uptake of electric vehicles. Asia in particular, is anticipated to lead the electric vehicle ('EV') market, owing to the increasingly stringent regulations in the region and the availability of nickel-metal/lithium-ion batteries at competitive prices.

Sales (£m)

2019	429.0
2018	426.5
2017	417.6

Adjusted operating profit (£m)

2019	60.4
2018	56.6
2017	71.3

Adjusted operating margin (%)

2019	14.1
2018	13.3
2017	17.1



These technologies are also requiring new tests. For example, the lack of engine noise from EVs is driving demand for new, minimum sound level testing and driving demand for our simulators and eDrive products, both of which are focus growth areas for HBK into 2020 and beyond.

Our driving simulators allow customers to change vehicle parameters and test hundreds of different configurations, as if they were physically on a proving ground, with minimal effort, time and cost, significantly reducing development time. For example, Maserati has deployed our dynamic simulator, featuring the latest generation driver-in-motion technology, that makes it possible to achieve a 50% reduction in time-to-market for new cars, by carrying out 90% of all development virtually on the simulator, and to reduce the use of physical prototypes by 40%.

HBK's eDrive Testing is a revolutionary system for testing electrical inverters and electrical machines. It provides an all-in-one solution for simultaneous and continuous acquisition of electric (voltage, power) and mechanical (torque, speed) signals in order to understand the electric drive and its losses in minutes. This is important for the optimisation of the electric drive, as well as increasing efficiency.

Machine manufacturing

A significant portion of our sales in machine manufacturing are for the automotive supply chain, where LFL sales rose year-on-year in our two key regions, Europe and Asia. LFL sales were lower in North America.

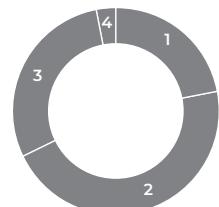
While activity is expected to remain soft into 2020, machine building fundamentals continue to make this an attractive market for HBK.

Aerospace and defence

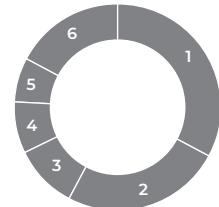
LFL sales grew in Europe but declined in North America and Asia, although commercial business was good in all regions. We continue to see notable R&D investment in the industry and good opportunities, particularly for software products. For example, the proven Catman Enterprise DAQ software is ideal for aerospace testing applications, such as static and fatigue testing, and its applications range from testing of sub-systems, such as landing gear, up to a full-scale 'iron bird' test, where all major flight controls, hydraulics and electrics are functionally tested. Demand will be primarily driven by new development programmes and we expect increasing demands of aircraft and space testing in 2020 and beyond.

Consumer electronics and telecoms

LFL sales were lower in 2019, primarily reflecting fewer new product launches by customers. The underlying trends in the consumer electronics and telecoms market remain healthy, in our view. Noise and sound have become critical marketing factors and are often key differentiators in such products as smartphones and voice-activated, smart home products. In addition, manufacturers must comply with increasingly stringent noise legislation which also drives the demand for testing. This is underpinning demand for our electro-acoustic products where we expect to see moderate growth in 2020.

Sales by location (%)

1	North America	22
2	Europe	46
3	Asia	29
4	Rest of the world	3

Sales by end-user market (%)

1	Automotive	33
2	Machine building	25
3	Aerospace & defence	10
4	Telecoms & electronics	8
5	Academic research	7
6	Other	17

Deploying cost-effective smart sensors in space



**Client: University
of Southern California**

Challenge

Identifying whether commercial off-the-shelf sensors and a very low-cost satellite can measure the magnetosphere around the earth and achieve similar results to a \$50 million spacecraft.

Solution

The CubeSat satellite, which measures just 4-by-4-by-4 inches, will use two Omega magnetometer sensors to measure the earth's magnetic field. The magnetometers will be placed on the satellite's arms and are part of Omega's new 'smart sensor' suite of products. Omega met extremely tight timelines and also supported the mechanical integration, the software programming required for autonomous operations and the initial calibration. The CubeSat is set to launch in April 2020 with data set to be collected immediately.

Ω OMEGA™

Omega

Omega is a global leader in the technical marketplace, offering more than 100,000 state-of-the-art products for measurement and control of temperature, humidity, pressure, strain, force, flow, level, pH and conductivity. Omega also provides a complete line of data acquisition, electric heating and custom-engineered products.

"Our performance in 2019 was impacted by a number of internal and market factors. However, the launch of the new digital platform was a key achievement and, along with the introduction of 133 new products, positions us as a digital leader in the process engineering distribution space."

Greg Wright
President, Omega



Financial performance

LFL sales decreased 9%. There was a 3% positive impact from foreign currency exchange movements, resulting in reported sales being 6% lower year-on-year. Omega has a high exposure to North America (71%), where it recorded a decline in LFL sales, reflecting slowing US industrial production, as well as some initial disruption with the outsourcing of a product line to a third-party supplier, a temporary disruption to order flows from the launch of the new digital platform and some high one-off government orders in 2018. In Asia, LFL sales were also lower as a result of the USA-China tariff situation and lower semiconductor demand, after a strong year in 2018. LFL sales growth in Europe was lower, led by Germany and the UK.

LFL adjusted operating profit declined 39% and LFL operating margins fell 600bps. This resulted from the lower LFL sales and an increase in overheads, due to extra licence costs and higher depreciation in relation to the new digital platform.

New e-commerce platform

During 2019, Omega launched its new digital e-commerce platform in its primary North American markets in order to strengthen its market presence and position as a digital leader in the process engineering distribution space. After experiencing some initial customer adoption issues, as customers learned to navigate the new website, key operating metrics have improved notably. Continuing to drive volume through the website to deliver sales growth will be a key objective through 2020 and beyond.

Product launches

Omega launched the first phase of its Industrial Internet of things ('IIoT') platform during 2019. This included adding non-contact, infra-red temperature smart sensors, as well as extending the capabilities, and ease of use, of its wireless transmitters for the core temperature sensing offer. Both series are part of a broader Omega IIoT cloud platform launch planned for early 2020.

Omega continues to innovate its temperature sensing offering, by introducing a new patented, surface mount technology connector, bringing temperature readings directly to the printed circuit board in an automated, efficient way. The product results in superior accuracy and reduced labour costs for customers.

As well as introducing new technologies, Omega continues to strengthen key categories in growth areas. In total 133 new product lines were launched in 2019, including a new line of differentiated, price competitive thermal imaging devices. The series stands out for its user-friendly software interface and smartphone interface.

Finally, a new cross-platform strategy saw an HBK signal conditioner introduced via Omega's digital channel, resulting in the best performing product of this category for Omega – the ClipX signal conditioner, which is setting new standards within industrial control. The ClipX can help reduce the likelihood of machine downtime because it is self-monitoring and able to detect faults early on, with smart functions including health monitoring, remote diagnosis, and pre-calculated channels.

Sales (£m)

2019	138.3
2018	147.2
2017	148.8

Adjusted operating profit (£m)

2019	16.9
2018	26.8
2017	23.0

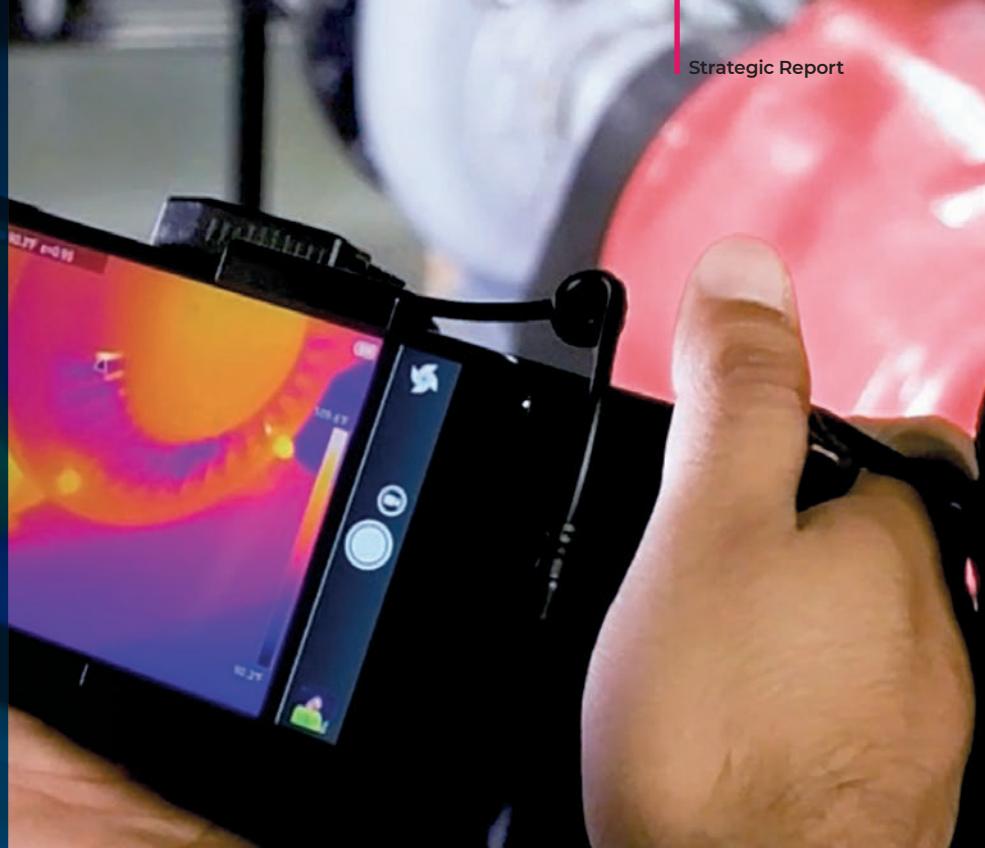
Adjusted operating margin (%)

2019	12.2
2018	18.2
2017	15.5

Omega's core pressure-sensing expertise was recognised with large orders for load pins and load cells (assists in the measurement of force) in multiple applications, including testing of cable integrity and lift operations in helicopter rescue hoists and applications in life science research and clinical diagnostics. Omega also secured a significant order for temperature transmitters in medical imaging and scanning machines and remained as a key supplier to one of the leading manufacturers in the offshore wind turbine industry.

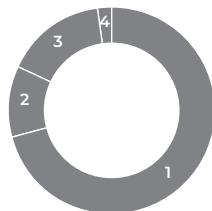
Market trends

LFL sales growth was down in North America, Omega's main market, reflecting slowing US industrial production. Growth is expected to be modest in 2020, with recovery starting in the second half. In Asia, LFL sales decreased, particularly in China and South Korea, reflecting a tough comparator, weaker macroeconomic conditions in China and lower semiconductor demand globally. The semiconductor market improved in the second half, with stronger growth projected in 2020. Omega

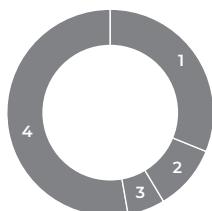


also felt the impact of tariffs in its Chinese market as many of the components Omega sells there are incorporated into OEM products destined for the USA. This impact is expected to continue into 2020.

We continue to see an increasing trend of bringing intelligence closer to or into the sensor, and a demand for features that allow for connected applications that bypass manual configuration and reduce installation labour. The expansion of our smart IIoT range of sensors and control systems, and our ability to provide rapid, custom-configuration places us in a strong position to grow in line with these trends. Across all product segments, Omega is actively working on addressing the increasing intersection of connectivity, flexibility and ease-of-use demanded by its customers to drive growth.

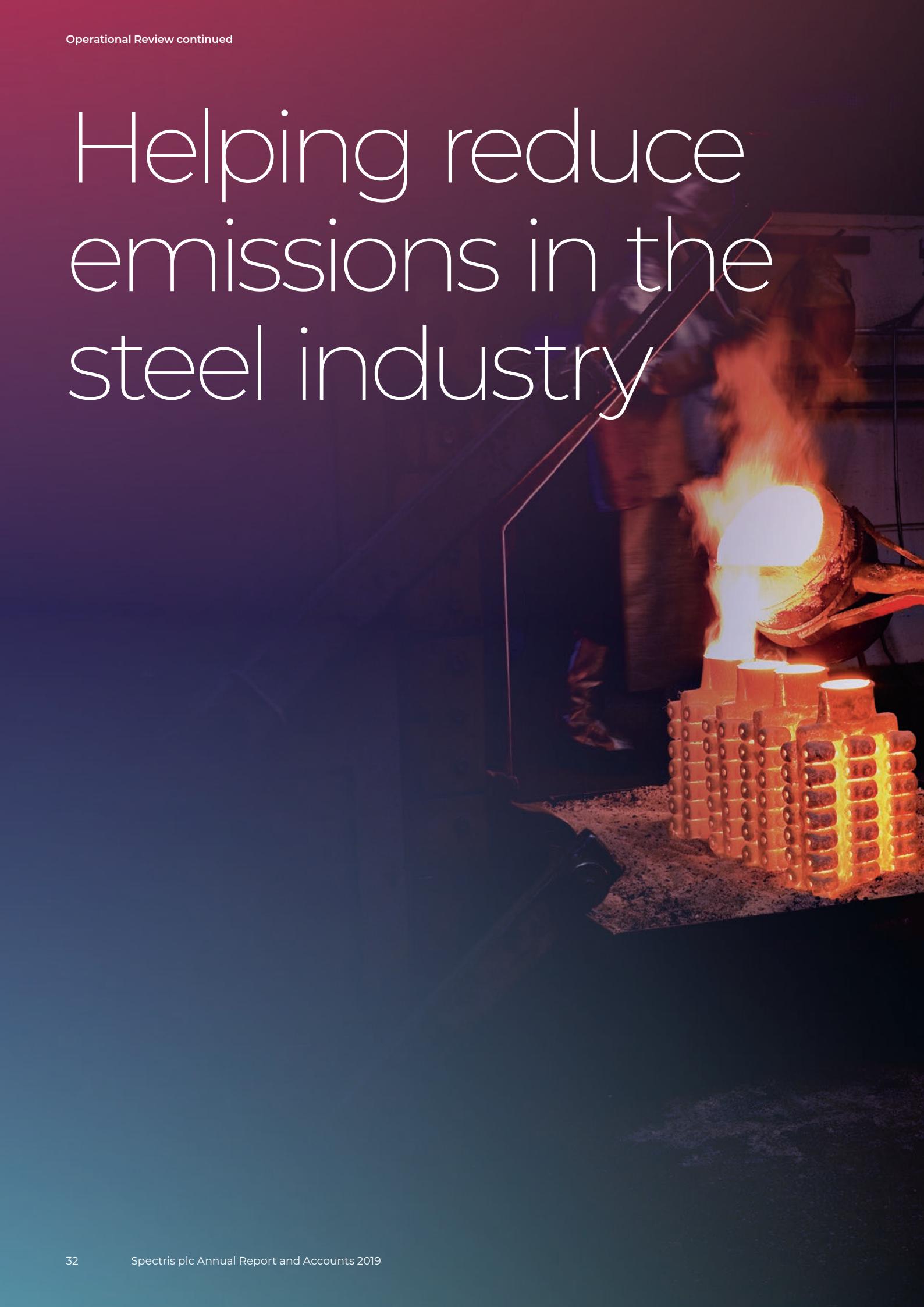
Sales by location (%)

1	North America	71
2	Europe	11
3	Asia	16
4	Rest of the world	2

Sales by end-user market (%)

1	Semiconductors, telecoms & electronics	31
2	Distribution	10
3	Metals, minerals & mining	6
4	Other	53

Helping reduce emissions in the steel industry

A photograph of a steel industry scene. In the foreground, several glowing red and orange cylindrical blocks, likely steel billets or heat exchangers, are arranged in a stack. In the background, a large industrial furnace or ladle is shown, with intense orange and yellow flames and molten metal glowing from its opening. The overall atmosphere is dark and industrial, with the bright fire being the primary light source.

**Client: Midrex Technologies****Challenge**

Midrex Technologies, Inc. was selected to design, engineer and procure the core equipment of a new hot-briquetted iron ('HBI') production plant, a key input for steelmaking. Key considerations for the project included environmental sustainability and higher grade steel requirements.

Results

Servomex provided 40 gas analysers and the sampling system as well as a continuous emissions monitoring system to Midrex. Producing steel using HBI requires significantly less energy and generates lower greenhouse gas emissions compared to traditional processes and no hazardous or toxic by-products will be generated from the process. Using Servomex's products to monitor and control will help further mitigate the environmental impact by improving the energy efficiency and lowering the carbon footprint of both the plant and the local steel industry.

SERVOMEX 

Industrial Solutions

The Industrial Solutions division ('ISD') comprises a portfolio of high-value, niche businesses.

A number of ISD companies have platform potential, with strong market positions, growth prospects and margins. It comprises: BTG Group (divested December 2019), Brüel & Kjær Vibro, ESG Solutions, Millbrook, NDC Technologies ('NDCT'), Particle Measuring Systems ('PMS'), Red Lion Controls and Servomex.

"Good progress has been made on enhancing the operational and financial performance of the ISD businesses in 2019. The divestment of BTG was a key milestone and the ISD businesses will be assessed continually for either investment or potential disposal in 2020."

Mark Fleiner
Business Group Director, ISD



Financial performance

Sales rose 3% to £616.5 million, reflecting a LFL sales increase of 3%. There was a 21% positive impact from foreign currency exchange movements and a 1% negative impact from acquisitions, net of disposals, reflecting the sale of BTG. On a regional basis, LFL sales rose strongly in Asia and were up in Europe, but this was partly offset by lower LFL sales in North America.

LFL adjusted operating profit increased 13% and LFL adjusted operating margins increased 150bps. This resulted from the increase in LFL sales, particularly at PMS and Servomex, plus a higher gross margin reflecting favourable pricing at all operating companies. In addition, growth in overheads was constrained at a lower level than the increase in sales, as a consequence of the successful implementation of the profit improvement programme across the operating companies.

Divisional strategy

The Industrial Solutions division ('ISD') comprises a portfolio of high-value, niche businesses that compete globally. A new divisional leadership team was established in 2019, with good progress being made on improving the operational and financial performance of these businesses while also executing on the divestment strategy.

In December, the divestment of BTG was completed, in line with the strategy to simplify and focus the portfolio on high-growth end markets. Given BTG's presence in the pulp and paper industry, Spectris believed its next stage of development would be better

fulfilled under different ownership. In January 2020, the sale of the EMS Brüel & Kjær joint venture was announced. During 2020, the ISD operating companies will be assessed continually for either investment or potential disposal in line with Spectris' strategy.

Market trends and outlook

Semiconductor and electronics

The semiconductor industry posted good LFL sales growth with particularly strong growth in Asia (outside China), more than offsetting a slowdown in North America. This growth was underpinned by a strong order backlog at the start of 2019, supported by notable sales of gas analysers and particle counters to major chip manufacturing facilities in Asia. The backlog reduced through the year, however, as the sector saw a decline in capital equipment orders. Growth is expected to resume in 2020 and we are well positioned with key customers and channel partners to benefit as it does.

In addition, the roll-out of 5G networks is expected to support growth, for example in the manufacture of chips and in manufacturing applications and supporting solutions. This enhanced mobile broadband network with improved reliability and uptime will enable manufacturers to utilise wireless communications in applications previously only attainable with wired communications, reducing installation costs and enabling real-time connectivity to stranded assets. Red Lion's next generation automation platform will be 5G-ready and is expected to benefit from this market opportunity.

The current softness in the electronics sector is expected through the first quarter and potentially first half of 2020, although recovery in the second half is anticipated based on industry and customer forecasts.

Pharmaceutical and life sciences

The pharmaceutical and life sciences industries saw good LFL sales growth in 2019, particularly in Asia, driven by China. LFL sales were also higher in North America, although the pharmaceutical pricing legislation in the USA could impact the level of future investment. However, the continued increase in regulatory scrutiny with emphasis on data and process integrity should support demand for PMS' contamination monitoring hardware, and high-level consulting services, to meet the latest environmental monitoring needs. These requirements support PMS' move to increase the number of partnerships with adjacent life sciences businesses to expand the scope of its offering. For example, PMS is working with Becton, Dickinson and Company to provide customers with a complete portfolio of active air monitoring systems and high-quality prepared plated media, to meet their environmental monitoring needs and regulatory requirements.

Energy and utilities

In energy and utilities, environmental monitoring is also becoming more stringent and this is where Servomex's gas analysers play a critical role. This position underpinned strong sales into the hydrocarbon processing and petrochemicals sectors across all regions. Servomex has been realigning its organisational structure around its core customer markets and expanding its sales and customer service

Sales (£m)

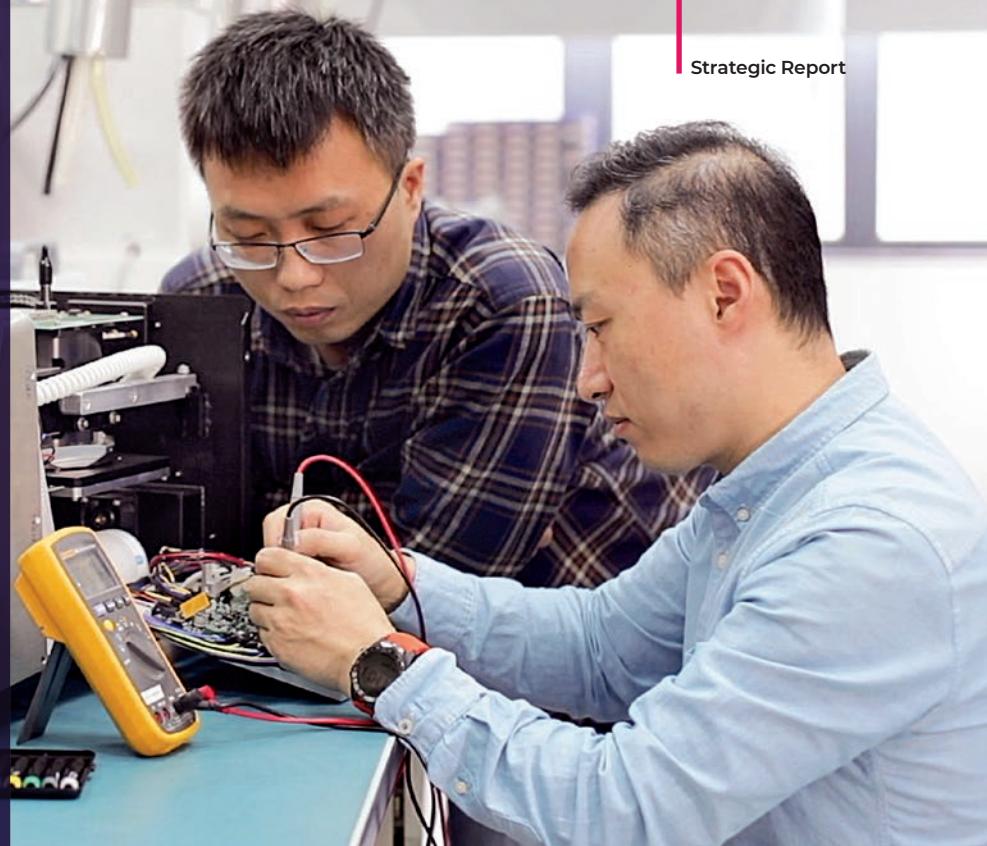
2019	616.5
2018	593.8
2017	587.1

Adjusted operating profit (£m)

2019	104.6
2018	91.9
2017	78.9

Adjusted operating margin (£m)

2019	17.0
2018	15.5
2017	13.4



infrastructure into under-represented markets. In addition, it is simplifying and expanding its product portfolio to develop modular sensor and analyser products. These initiatives should help underpin further growth in 2020 and beyond.

Similarly, B&K Vibro saw strong growth in sales in this sector, particularly in North America and Asia. Two product releases during the year will help underpin future growth. The flagship machinery protection system, VC-8000, received certification such that it can now be used in functional safety applications. A new, fully integrated displacement transmitter was also launched, which is simple to install and can halve the cost of the installation. This sensor offers a unique streamlined solution for both shaft displacement and vibration monitoring across a wide range of industrial rotating machinery.

At ESG, sales were lower primarily reflecting financial pressure and consolidation amongst its customers, as a result of the downward pressure on oil pricing and lower cost, alternative competition. A number of counter-measures were implemented which has led to an enhanced pipeline coming into 2020, which should underpin an improved performance.

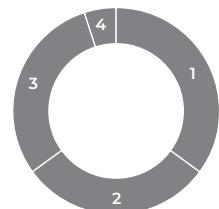
Automotive

LFL sales into automotive increased, reflecting the investment in new test facilities at Millbrook which added capacity for electrified powertrain testing in Leyland, in Detroit and in a new facility in California, serving the emerging technology cluster in this region. In September, Millbrook formally opened its battery test facility, a leading facility for testing large battery packs for

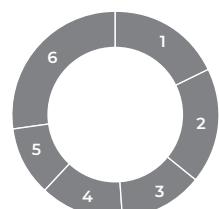
performance and durability, and also opened its CAV Village, part of the UK government-backed TestBed UK. It includes a VI-grade simulator, complete with virtual representation of Millbrook proving ground, allowing CAV developers to operate in the virtual and real environments, simultaneously. The development and validation of CAVs is further supported by the installation of a 5G-enabled network at Millbrook. In Finland, the extended indoor winter test facility was opened adding much-needed capacity for snow and ice testing of tyres and vehicles, ahead of the introduction of new European ice labelling regulations. Millbrook has benefited from significant capital investment aligned with priority testing for automotive OEMs and tier one suppliers and is well positioned to serve customers into 2020 and beyond. The peak year of capex investment is now behind us.

Other

In our other end markets, which are primarily served by NDCT, the converting and film extrusion industries saw sales increase due to stronger performance in the Americas. Cable and tubing saw a decline due to the impact of tariff prices in China. A healthy backlog entering 2019 drove very strong LFL sales to the food, drink and tobacco sector in all regions and good growth into metals, minerals and mining. In the latter, as part of the profit improvement programme, a decision was taken to exit certain product lines serving this industry and so the focus into 2020 will be on its other key end markets.

Sales by location (%)

1	North America	35
2	Europe	30
3	Asia	30
4	Rest of the world	5

Sales by end-user market (%)

1	Energy & utilities	18
2	Pulp & paper	18
3	Pharmaceutical	13
4	Automotive	13
5	Semiconductors, telecoms and electronics	11
6	Other	27

Improving our performance

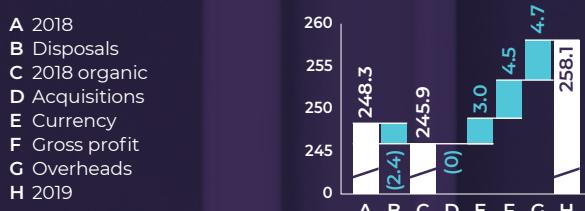
Our new reporting structure provides greater transparency on the performance of our businesses. The impact from the initiatives that we have launched are starting to show through in the financial performance of the Group.

Financial highlights

Sales (£m)



Adjusted operating profit (£m)



Operating performance

	2019	2018	Change	Like-for-like change
Adjusted				
Sales (£m)	1,632.0	1,604.2	1.7%	0.4%
Operating profit (£m)	258.1	248.3	3.9%	3.7%
Operating margin (%)	15.8%	15.5%	30bps	50bps
Statutory				
Sales (£m)	1,632.0	1,604.2	1.7%	
Operating profit (£m)	84.3	176.4	(52.2%)	
Operating margin (%)	5.2%	11.0%	(5.8pp)	



"Since joining Spectris in March 2019, I am pleased with the financial progress the Group has made. We have delivered enhanced margins and cashflow, in some challenging end markets, and are positioning the Group to be more resilient going forward."

Derek Harding
Chief Financial Officer

Financial performance

Sales increased by 1.7% or £27.8 million to £1,632.0 million (2018: £1,604.2 million). Favourable foreign exchange movements contributed £23.6 million (1.5%) and LFL sales increased by £6.8 million (0.4%). These were partly offset by acquisitions, net of disposals, which reduced sales by £2.6 million (0.2%).

Adjusted operating profit increased by 3.9% or £9.8 million to £258.1 million (2018: £248.3 million). Favourable foreign exchange movements contributed £3.0 million (1.2%) and LFL adjusted operating profit increased by £9.2 million (3.7%), partly offset by the impact of acquisitions, net of £2.4 million (1.0%) of disposals.

Adjusted operating margins improved by 30bps, with LFL adjusted operating margins up 50bps compared to 2018, with the difference being explained by the dilutive effects of acquisitions and foreign exchange movements. The improvement in the LFL operating margin was due to a 50bps decrease in LFL overhead costs as a percentage of sales with LFL gross margin flat at 56.7% (2018: 56.7%).

The flat gross margin reflects favourable pricing and procurement savings offset by cost inflation and mix impacts. LFL overheads were down by 0.7% (2018: up 4.7%) with savings generated from the profit improvement programme through headcount reductions and other targeted savings that more than offset overhead cost inflation. The operating margin improvement was driven by Industrial Solutions, up 150bps, which benefited from both positive volume and pricing as well as positive reorganisation impacts, and HBK up 130bps, mainly due to favourable pricing and overhead savings. Malvern Panalytical's operating margin was up 60bps, which benefited from positive pricing and procurement savings and the benefits of restructuring. This was offset by production cost inflation, and a higher sales volume related growth in overheads. These improvements were partially offset by Omega down 600bps, where positive price impacts were offset by lower volumes, together with increased IT and depreciation costs as a result of the ongoing e-commerce investment.

Investment in our R&D programmes amounted to £100.9 million or 6.2% of sales (including £7.3 million of capitalised development costs) (2018: £103.4 million or 6.4% of sales, including £4.7 million of capitalised cost).

Statutory operating profit was down £92.1 million to £84.3 million (2018: £176.4 million) as the improvement in adjusted operating profit was offset by restructuring costs of £52.2 million (2018: £15.6 million); net transaction-related costs, depreciation and fair value adjustments of £7.1 million (2018: £13.0 million); impairment of goodwill of £35.1 million; amortisation and impairment of acquisition-related intangible assets of £84.6 million (2018: £43.3 million) and a profit on disposal of property of £5.2 million. Statutory operating margins of 5.2% were 580bps lower than the prior year.

Statutory net finance costs decreased by £10.0 million to £3.5 million (2018: £13.5 million) principally due to foreign exchange gains arising during the year on retranslation of short-term inter-company loan balances compared to foreign exchange losses in respect of the same items in the prior year. Adjusted net finance costs were up £1.1 million at £6.8 million (2018: £5.7 million) due to the inclusion of interest on leases following the adoption of IFRS 16 of £2.9 million, partly offset by the inclusion of a full year of income on the Group's receivable from the EMS B&K joint venture (2018: seven months of income) and lower interest charges.

Statutory profit before tax increased by £41.3 million to £259.3 million in 2019 from £218.0 million in 2018. Statutory profit before tax in 2019 and 2018 benefited from profits on disposal of businesses of £204.7 million and £56.3 million, respectively. In 2019, statutory profit before tax was also impacted by the impairment by £21.3 million of the non-current receivable from the EMS B&K joint venture. Adjusted profit before tax increased by 2.5% to £247.4 million.

Reconciliation of statutory to adjusted measures

	2019			2018		
	Statutory £m	Adjustments £m	Adjusted £m	Statutory £m	Adjustments £m	Adjusted £m
Sales	1,632.0	–	1,632.0	1,604.2	–	1,604.2
Gross profit	914.2	7.0	921.2	907.4	0.3	907.7
Overheads and other operating costs	(829.9)	166.8	(663.1)	(731.0)	71.6	(659.4)
Operating profit¹	84.3	173.8	258.1	176.4	71.9	248.3
Share of post-tax results of joint venture	(4.9)	1.0	(3.9)	(1.2)	–	(1.2)
Impairment of non-current receivable from joint venture	(21.3)	21.3	–	–	–	–
Profit on disposal of businesses	204.7	(204.7)	–	56.3	(56.3)	–
Financial income	7.9	(4.0)	3.9	2.5	–	2.5
Finance costs	(11.4)	0.7	(10.7)	(16.0)	7.8	(8.2)
Profit before tax¹	259.3	(11.9)	247.4	218.0	23.4	241.4
Taxation charge	(25.2)	(27.7)	(52.9)	(32.8)	(14.8)	(47.6)
Profit after tax¹	234.1	(39.6)	194.5	185.2	8.6	193.8

¹ Further detail on the reconciliation of statutory operating profit, profit before tax and profit after tax to their related adjusted measures is provided in Note 2 to the Financial Statements.

The effective tax rate on adjusted profit before tax was 21.4% (2018: 19.7%), an increase of 170bps primarily due to changes in tax laws affecting the Group's intra-group financing arrangements. On a statutory basis, the tax rate of 9.7% (2018: 15.0%) was below the weighted average expected tax rate of 18.6% (2018: 26.0%), primarily resulting from the majority of the BTG disposal proceeds being received in respect of the sale of shares in Group companies, which qualified as tax-exempt disposals under the relevant local tax law. In 2020, the Group expects its effective tax rate to be broadly in line with the rate in 2019. The Group's approach to tax matters is set out in its tax strategy which, in compliance with the Finance Act 2017, has been made available on our website at www.spectris.com/sustainability/tax-strategy.

Adjusted earnings per share increased by 1.9% to 168.0 pence (2018: 164.9 pence), reflecting the net impact of the 2.5% increase in adjusted profit before tax and the decrease in the weighted average number of shares from 117.5 million in 2018 to 115.8 million in 2019, following the share buyback. This was partly offset by the increase in the effective tax rate. Statutory earnings per share increased to 202.2 pence from 157.6 pence.

Acquisitions and disposals

The Group completed one acquisition during the year with a total cost of £3.8 million. A net £5.9 million was paid in respect of prior year acquisitions, making the net cash outflow in the year £9.7 million. Furthermore, an amount of £1.6 million was spent on transaction-related costs, which makes the total transaction-related cash outflow for the year £11.3 million.

On 2 December 2019, the Group completed the disposal of BTG for gross consideration of £274.5 million which resulted in a net cash inflow of £262.7 million. The profit on disposal was £206.1 million. Sales of £118.9 million and adjusted operating profit of £22.6 million relating to BTG were included in the operating results for the 11-month period of ownership prior to its disposal.

On 17 January 2020, as part of the plan to simplify the Group's portfolio, an announcement was made that agreement had been reached for the sale of our interest in the EMS B&K joint venture for consideration of £17.9 million in cash and approximately £1.2 million in shares in Envirosuite Limited. The closing of the deal is subject to approval by Envirosuite's shareholders at a meeting to be held on 24 February 2020 and the conditional placement of shares by Envirosuite required to fund the consideration for the transaction, with completion expected to take

place shortly thereafter. As a result, the receivable from the joint venture has been impaired by £21.3 million to the expected recoverable amount and the remaining balance of £18.9 million has been included within assets held for sale at 31 December 2019 (see Note 13).

Restructuring costs

The Group has incurred costs of £52.2 million relating to restructuring in 2019 (2018: £15.6 million). In 2019, this relates wholly to one-off costs of the profit improvement programme (2018: £10.8 million relating to Project Uplift and £4.8 million relating to the profit improvement programme). These restructuring costs include £27.5 million of staff-related costs including redundancy and related costs, £11.6 million related to impairments of assets including inventory, property, plant and equipment and intangible assets and £13.1 million of other costs.

Impairments

During the year, £35.1 million was recognised as an impairment of goodwill and £47.1 million as an impairment of intangible assets. The impairment of goodwill of £35.1 million and £32.4 million of the impairment of intangible assets were in respect to Concept Life Sciences, as announced at the half year results. The remaining £14.7 million impairment of intangible assets resulted from restructuring activities undertaken during the year following decisions made at the strategic review.

Operating profit

	2019 £m	2018 £m
Adjusted operating profit	258.1	248.3
Restructuring costs	(52.2)	(15.6)
Net transaction-related costs and fair value adjustments	(6.1)	(12.2)
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	(1.0)	(0.8)
Profit on disposal of property	5.2	–
Impairment of goodwill	(35.1)	–
Amortisation and impairment of acquisition-related intangible assets	(84.6)	(43.3)
Statutory operating profit	84.3	176.4

Adjusted cash flow

	2019 £m	2018 £m
Adjusted operating profit	258.1	248.3
Adjusted depreciation and software amortisation ¹	58.3	35.3
Working capital and other non-cash movements	(0.6)	(42.8)
Capital expenditure, net of government grants	(81.6)	(94.1)
Adjusted cash flow²	234.2	146.7
Adjusted cash flow conversion	91%	59%

Other cash flows

	2019 £m	2018 £m
Tax paid	(37.0)	(37.7)
Net interest paid	(6.3)	(8.8)
Dividends paid	(72.3)	(68.2)
Acquisition of businesses, net of cash acquired	(9.7)	(196.4)
Transaction-related costs paid	(1.6)	(10.8)
Proceeds from disposal of businesses, net of tax paid of £1.2 million (2018: £0.6 million)	260.1	43.8
Loan to joint venture	(2.2)	(0.9)
Lease payments	(20.5)	–
Adjusting proceeds from disposal of property	9.1	–
Restructuring costs paid	(34.3)	(8.6)
Share buyback	–	(100.5)
Exercise of share options	1.0	0.7
Foreign exchange	10.1	(5.9)
Total other cash flows	96.4	(393.3)
Adjusted cash flow	234.2	146.7
Decrease/(increase) in net debt	330.6	(246.6)

1 Adjusted depreciation and software amortisation represents depreciation of property, plant and equipment, software and internal development amortisation, adjusted for depreciation of acquisition-related fair value adjustments to property, plant and equipment.

2 Adjusted cash flow excludes cash outflows of £20.5 million associated with IFRS 16 (see Note 2 to the Financial Statements).

Further detail on the reconciliation of net cash inflow from operating activities to adjusted cash flow are provided in Note 2 to the Financial Statements.

Cash flow

Adjusted cash flow improved by £87.5 million to £234.2 million during the year, resulting in an adjusted cash flow conversion rate of 91% (2018: 59%). The improvement principally resulted from the favourable working capital movement mainly attributable to improved receivables collection, growth in profitability, a favourable impact from IFRS 16, and lower capital expenditure, principally in Millbrook and Omega. This was partially offset by an increase in inventory, principally in the Industrial Solutions division, and a decrease in trade payables across the Group. We expect capital expenditure to be at similar levels in 2020.

Average trade working capital (the monthly average of the sum of inventory, trade receivables, trade payables and other current trading net assets), expressed as a percentage of sales, increased by 230bps to 13.7% (2018: 11.4%). Excluding acquisitions, disposals and foreign exchange, the LFL average trade working capital increased by 250bps to 13.9%, with increases across all platforms, mainly at Malvern Panalytical and Omega which experienced a higher level of trade receivables and inventory, respectively. The year-end trade working capital to sales ratio decreased by 110bps to 13.5% in 2019 (2018: 14.6%).

"We ended the year in a net cash position of £33.5 million, largely as a result of the receipt of proceeds from the sale of BTG, as well as improved cash flow."

Capital expenditure (net of grants) on property, plant and equipment and intangible assets during the year of £81.6 million (2018: £94.1 million) equated to 5.0% of sales (2018: 5.9%) and was 140% of adjusted depreciation and software amortisation (2018: 267%).

Financing and treasury

The Group finances its operations from both retained earnings and third-party borrowings. The year-end gross debt balance consists entirely of fixed rate borrowings.

As at 31 December 2019, the Group had £786.0 million of committed facilities denominated in different currencies, consisting of an \$800.0 million (£606.4 million) revolving credit facility maturing in July 2024 with a one-year extension option, subject to approval by the lenders, a seven-year €94.8 million (£80.7 million) term loan maturing in October 2020, and a seven-year €116.2 million (£98.9 million) term loan maturing in September 2022. The revolving credit facility was undrawn at the year end. In addition, at 31 December 2019, the Group had a cash balance of £213.1 million and various uncommitted facilities and bank overdraft facilities available.

At the year end, the Group's gross borrowings amounted to £179.6 million, 100% of which were at fixed interest rates (2018: 51%). The ageing profile at the year end showed that 45% (2018: 6%) of borrowings are due to mature within one year, nil (2018: 23%) between one and two years, and 55% between two and five years (2018: 71%).

Overall, net debt decreased by £330.6 million (2018: increase of £246.6 million) from £297.1 million to a net cash position of £33.5 million, largely as a result of the receipt of proceeds from the sale of BTG. Net bank interest costs were covered by adjusted operating profit 40 times (2018: 37 times).

Currency

The Group has both translational and transactional currency exposures. Translational exposures arise on the consolidation of overseas company results into Sterling. Transactional exposures arise where the currency of sale or purchase invoices differs from the functional currency in which each company prepares its local accounts. The transactional exposures include situations where foreign currency denominated trade receivables, trade payables and cash balances are held.

After matching the currency of revenue with the currency of costs wherever practical, forward exchange contracts are used to hedge a proportion of the remaining forecast net transaction flows where there is reasonable certainty of an exposure. At 31 December 2019, approximately 62% of the estimated transactional exposures for 2020 were hedged using forward exchange contracts, mainly against Sterling, the Euro and the Danish Krone.

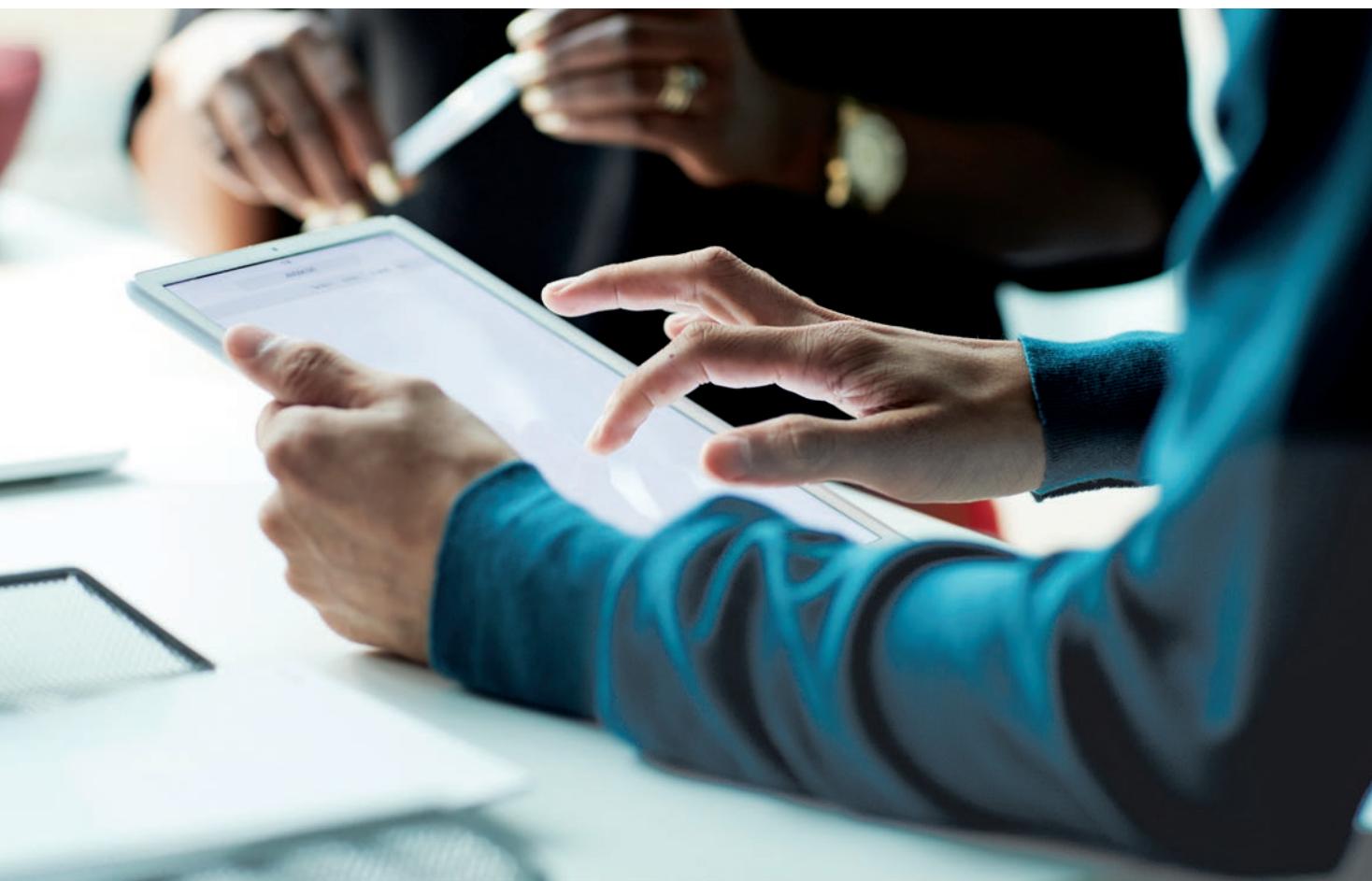
The largest translational exposures during the year were to the US Dollar, Euro, Danish Krone, Chinese Yuan Renminbi and Swiss Franc, although

since the disposal of BTG, the Group no longer has a significant translational exposure to the Swiss Franc. Translational exposures are not hedged. The table opposite shows the average and closing key exchange rates compared to Sterling.

During the year, currency translation effects resulted in operating profit being £3.0 million higher (2018: £0.1 million lower) than it would have been if calculated using prior year exchange rates. Transactional foreign exchange losses of £3.5 million (2018: £2.1 million gain) were included in administrative expenses, whilst sales include a loss of £2.9 million (2018: £1.4 million loss) arising on forward exchange contracts taken out to hedge transactional exposures in respect of sales.

Brexit

The Group operates in a range of end-user markets that may be affected by Brexit developments in the future. Mitigating actions have been put in place through an enhanced analysis including stress testing for Brexit to determine severe but plausible potential scenarios and the Group is continuously monitoring events. As part of this analysis, management have considered the measurement impact on the Group's balance sheet. Now that the UK has officially left the EU, close attention is being paid to any emerging details relating to potential trade deals and their associated impact, both positive and negative, on the Group. Although the outcome of Brexit is difficult to quantify, we do not expect the direct consequences of Brexit to have a material impact to the Group.



Dividends

The Board is proposing to pay a final dividend of 43.2 pence per share (2018: 40.5p) which, combined with the interim dividend of 21.9 pence per share (2018: 20.5 pence), gives a total dividend of 65.1 pence per share for the year (2018: 61.0 pence), an increase of 6.7%. In addition, Spectris is proposing to return £175 million to shareholders via a special dividend, combined with a share consolidation. A special dividend of 150 pence per existing ordinary share is proposed, and in order to maintain the comparability of the Group's share price and per-share metrics before and after the special dividend, the Group plans to undertake a supporting share consolidation, which will be subject to shareholder approval.

Derek Harding
Chief Financial Officer
19 February 2020

	2019 (average)	2018 (average)	Change
US Dollar (USD)	1.28	1.34	(4%)
Euro (EUR)	1.14	1.13	1%
Chinese Yuan Renminbi (CNY)	8.82	8.83	–
Swiss Franc (CHF)	1.27	1.31	(3%)

	2019 (closing)	2018 (closing)	Change
US Dollar (USD)	1.32	1.28	3%
Euro (EUR)	1.17	1.12	4%
Chinese Yuan Renminbi (CNY)	9.18	8.80	4%
Swiss Franc (CHF)	1.28	1.26	2%

Our approach

We recognise that effective management of risk is essential to the successful delivery of our strategic objectives. As such, risk management is built into our day-to-day activities and forms an integral part of how we operate.

The Group has a well-established process, which delivers visibility and accountability for risk management across our businesses. This process forms part of the Group's overall internal control framework, as described on page 68.

Risk management process

Our approach to risk management combines a granular bottom-up assessment of day-to-day operational risk with a top-down assessment of those risks that are most significant at the Group level.

Each platform/business unit undertakes a detailed assessment of risk across their markets, processes and operations including a consolidation of any emerging risks that should be formally evaluated. A formal risk register is submitted to the Group, with each risk assessed in terms of gross and net impact and likelihood, as well as velocity (velocity represents the length of time such a risk is capable of materialising). Key mitigations, both planned and existing, have formal owners and are subject to regular operational review as well as independent assurance where appropriate.

This approach informs a continuous top-down assessment of risk, undertaken by the Executive Committee and Audit and Risk Committee throughout the year. The aim of this process is to identify those Group Principal Risks that represent a significant severity in terms of the achievement of the Group's performance against its strategic objectives and/or those risks that are more suitably assessed, monitored and mitigated centrally.

An Executive owner is assigned to each Group Principal Risk, which is formally assessed in terms of its gross and net severity, an appetite is defined, and mitigations are identified within the four lines of defence framework. Each risk is subject to a formal assessment by the Executive Committee during the year and the suite of Group Principal Risks is reviewed twice yearly by the Audit and Risk Committee.

2019 update

With the Group's strategic objectives redefined and subsequent to changes in the Executive Committee membership and composition, the Group has been provided with an opportunity to fundamentally reassess its Principal Risks. Therefore, during 2019, the Executive Committee re-evaluated the existing Principal Risks, to consider emerging/alternative risks, and to reassign Executive ownership. This process has resulted in the identification of eight Group Principal Risks, which are detailed on the proceeding pages 44 to 46.

Competitive Activity and New Product Development risks have been removed as Group Principal Risks. Whilst these remain important risks that will continue to be managed at an operational level, the Group and cumulative severity of each of these two risks are considered to be sufficiently mitigated in large part due to the natural hedging effect of our diverse portfolio of customers and products. In addition, several former Principal Risks have been absorbed into one or more of the current eight risks. Currency Imbalance will continue to be monitored and mitigated

through the management of Political and Market/Financial Shock risks; Supply Chain Disruption will continue to be managed as part of Business Disruption risk; and Mergers and Acquisitions is now a key component of Strategic Transformation risk management.

2020 focus

During 2020, we will continue to develop the management framework across these specific risks so that it operates effectively alongside the changing organisational structure. This includes the establishment of platform risk committees and the development of a revised set of key risk indicators, which will help management to continuously monitor changes in the severity of each risk.

The above will inform a dynamic assessment of the Group's Principal Risks throughout 2020, allowing the Board to periodically review existing risks and consider key emerging risks, whether they be operation-specific or broader in scope, such as climate change and environmental matters.

Four lines of defence risk management

The Group has in place a four lines of defence risk management model.

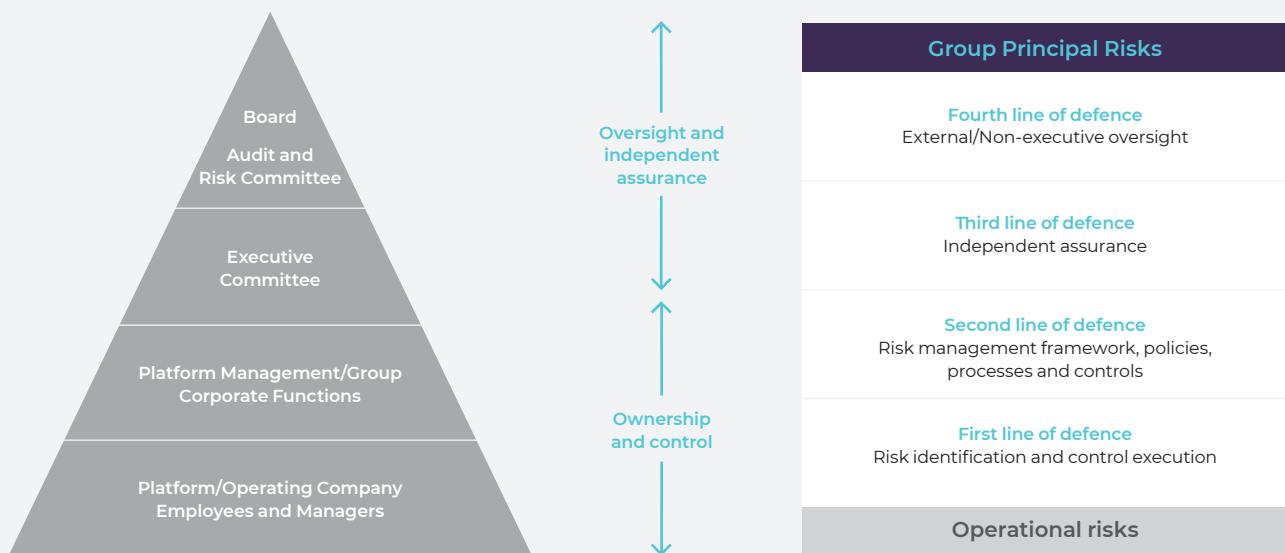
The **first line of defence** is responsible for the identification of all risks in the 'risk universe' of each business unit. This risk awareness informs the control environment (the first line is primarily responsible for the execution of key controls), specific mitigations and is a key consideration driving any business decision.

The **second line of defence** is responsible for the risk management framework that the first line operates within. This includes the development of a standardised approach to identifying and reporting risk, an

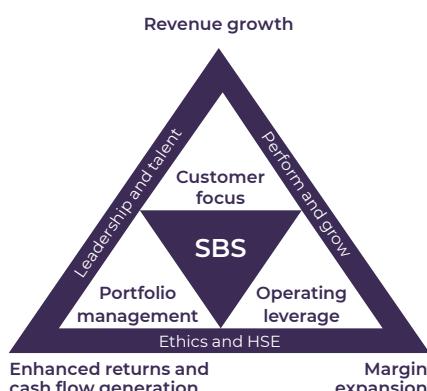
internal control framework aligned to those risks, and a suite of policies to ensure the consistent application of business processes and controls. The second line is also responsible for monitoring the performance of first line activities and for taking a holistic view of risk, to determine which risks are of principal importance to the Group.

The **third line of defence** is responsible for providing assurance over the effectiveness of the Group's risk management and internal control framework. This is most commonly undertaken by Internal Audit on behalf of the Audit and Risk Committee and Board of Directors.

The **fourth line of defence** is the Audit and Risk Committee, Board of Directors and External Audit, providing independent, external, and/or non-executive oversight across the entire risk management framework, holding accountable those responsible for all activities within the three lines of defence.



Managing our principal risks



Risk assessment scale*

Very low
Low
Moderate
High
Very high

* The combined impact and likelihood of a risk occurring, net of mitigation activities

Change in rating

Increase	↑
No change	→
Decrease	↓
New risk	✳

Risk appetite

Highly cautious
Cautious
Balanced
Opportunistic
Highly opportunistic

Strategic transformation

Definition

Failure to successfully deliver the Group strategy, including business transformation and key mergers and acquisitions activity.

Link to strategy

- Customer focus
- Operating leverage
- Portfolio management
- Spectris Business System ('SBS')
- Perform and grow

Risk assessment

High

Change in rating



Risk appetite

Balanced

Impact

Our day-to-day activities are inherently aligned to the successful achievement of the Group's strategic objectives. Nevertheless, we recognise the importance of managing some of the more transformative elements of strategic activation as a Principal Risk. These elements include mergers, divestments and acquisitions, incorporating effective cost management tools into the SBS, capital investment and the ongoing digitisation of our offerings and infrastructure.

Mitigation

- Embedding profit improvement into business as usual supported by the SBS
- Enhanced acquisition/merger integration processes and capability
- Regular reviews to track activation
- A framework of physical and logical control measures

Cyber threat

Definition

Failure to appropriately protect critical information/physical assets from cyber threats, including external hacking, cyber fraud, and inadvertent/intentional electronic leakage of critical data.

Link to strategy

- Customer focus
- Operating leverage
- Ethics and HSE

Risk assessment

High

Change in rating



Risk appetite

Cautious

Our businesses face both internal and external information security risks, the nature and complexity of which are constantly changing, becoming more sophisticated and unpredictable. With the introduction of data privacy regulatory requirements, and a continuing trend of high-profile information security breaches occurring across a wide range of businesses, the Group takes a necessarily proactive and cautious approach to safeguarding its information assets.

- Information security and data privacy policies and minimum expected controls
- Cyber risk assurance undertaken by Internal Audit
- Online and face-to-face awareness training
- Regular Board and Audit and Risk Committee sessions on cyber threat
- Continued strengthening of IT systems

Compliance	Political	Market/financial shock
<p>Definition Failure to comply with laws and regulations, leading to reputational damage, substantial fines and potential market exclusion.</p> <p>Link to strategy</p> <ul style="list-style-type: none"> • Ethics and HSE • Customer focus <p>Risk assessment High</p> <p>Change in rating →</p> <p>Risk appetite Highly cautious</p>	<p>Definition Material adverse changes in the geopolitical environment putting at risk our ability to execute our strategy. Includes trade protectionism, punitive tax/regulatory regimes, and general heightened tension between trading parties or blocs.</p> <p>Link to strategy</p> <ul style="list-style-type: none"> • Customer focus • Operating leverage • Perform and grow <p>Risk assessment Moderate</p> <p>Change in rating ↑</p> <p>Risk appetite Balanced</p>	<p>Definition Material adverse changes in market conditions, such as economic recession, sudden negative investor sentiment and currency fluctuation.</p> <p>Link to strategy</p> <ul style="list-style-type: none"> • Customer focus • Operating leverage <p>Risk assessment Moderate</p> <p>Change in rating →</p> <p>Risk appetite Balanced</p>
<p>Impact</p> <p>We operate in many jurisdictions and, consequently, are subject to wide-ranging laws and regulations including export controls, data privacy, fair competition and anti-bribery and corruption. Any compliance failure by the Group or its representatives could result in civil or criminal liabilities, leading to significant fines and penalties or the disqualification of the Group from participation in government-related contracts or entire markets.</p>	<p>We operate in a range of end markets around the world and may be affected by political or regulatory developments in any of these countries. Material adverse changes in the political environment in the countries in which we operate have the potential to put at risk our ability to execute our strategy. We continually monitor the geopolitical landscape and develop response plans accordingly.</p>	<p>We are a public company, and one that conducts business in a large number of markets, we recognise the global or local impact that a recession or period of instability could have on the Group. As with political risk, we are limited in our ability to reduce the likelihood of such events, but with careful monitoring and response planning we can ensure that the potential impact is restricted.</p>
<p>Mitigation</p> <ul style="list-style-type: none"> • Strong cultural alignment to the Spectris value of 'Absolute Integrity' • Investment in experienced compliance professionals • Formal compliance programme including policies, procedures and training • Contract review and approval processes 	<ul style="list-style-type: none"> • Event monitoring and horizon scanning • Working groups to limit the impact of materialising risks • Maintain a strong balance sheet • Operate in a broad spread of geographical markets and end users • Response planning 	<ul style="list-style-type: none"> • Market monitoring and horizon scanning • Maintain a strong balance sheet • Operate in a broad spread of geographical markets and end users • Response planning

Talent and capabilities	Intellectual property	Business disruption
<p>Definition Failure to attract, retain, and deploy the necessary talent to deliver Group strategy.</p> <p>Link to strategy</p> <ul style="list-style-type: none"> Leadership and talent SBS <p>Risk assessment Moderate</p> <p>Change in rating →</p> <p>Risk appetite Balanced</p>	<p>Definition Infringement of third-party rights, and failure to appropriately protect our intellectual property and infringement of the Group's intellectual property rights by a third-party.</p> <p>Link to strategy</p> <ul style="list-style-type: none"> Customer focus Portfolio management <p>Risk assessment Low</p> <p>Change in rating ↑</p> <p>Risk appetite Highly cautious</p>	<p>Definition Failure to appropriately prepare for and respond to a crisis or major disruption to key operations either across the Group, in a key region/location, or via a critical supplier.</p> <p>Link to strategy</p> <ul style="list-style-type: none"> Customer focus Operating leverage Perform and grow <p>Risk assessment Low</p> <p>Change in rating *</p> <p>Risk appetite Cautious</p>
<h2>Impact</h2> <p>The Group needs to attract, develop, motivate and retain the right people to achieve our operational and strategic targets. Effective talent management is essential to successfully delivering our current business requirements and strategic goals, and to realising the full potential of our businesses. Therefore, failure to leverage talent and capabilities could significantly impact the successful execution of our strategy.</p>	<p>It is important that we have measures in place to reduce the likelihood that we may inadvertently infringe third-party rights. Our information assets, know-how and products provide the Group with a wealth of intellectual property, and we have a proactive approach towards protection and management of that property. The Group owns and registers patents and trademarks, maintains trade secrets, confidential information and copyright, and exploits intellectual property through licensing.</p>	<p>The nature of our geographically diverse and segmented businesses provides a degree of natural hedging from Group-wide disruption arising from a major event, be it a physical disaster at a major site, or an in-region external event, such as the recent coronavirus outbreak in China. However, we acknowledge the importance of proactively ensuring a consistent and effective business continuity management process across the Group.</p>
<h2>Mitigation</h2> <ul style="list-style-type: none"> Structured recruitment and succession processes for senior Group talent Global HR information systems implementation underway Annual organisation capability review process 	<ul style="list-style-type: none"> Monitoring third-party applications and competitor activity Protection, including patent registration Freedom-to-operate technical reviews in advance of new product development, acquisitions and licensing Policies, procedures and training 	<ul style="list-style-type: none"> Business continuity plans IT disaster recovery plans Testing plans Risk identification and monitoring Crisis management

Viability statement

Longer-term viability of the Group

In accordance with section 4, provision 31 of the 2018 UK Corporate Governance Code, the Directors have assessed the viability of the Company over a three-year period, taking into account the Group's current position and the assessment of the Principal Risks and Uncertainties as set out on pages 44 to 46.

In determining the appropriate period over which to assess viability, the Board has considered budgeting, forecasting and strategic planning cycles, the timeframe within which we assess our risks, the maturation of the Group's credit facilities and the approach taken by our peers. Subsequently, the Board is of the view that a three-year period allows the Group to perform a reliable assessment; the value of extending that assessment beyond three years would be outweighed by a decline in the reliability of data as well as the predictability of each event.

Assessment of viability

The Directors carried out a robust assessment of the Principal Risks facing the Group, including those that could threaten its business model, future performance, solvency or liquidity. In assessing the viability of the Group the Board has set out the future prospects of the business as outlined by the Group's strategy and considered the financial/liquidity impact that a number of scenarios might have on those prospects.

In assessing the viability of the Group, the Directors have modelled over a three-year period the impact that these scenarios would have on the financial performance of the Group. As part of this assessment, the Directors have considered the natural hedging that occurs across the broad spread of markets, products and customers maintained by the Group. Assumptions have also been made in terms of the Group's ongoing ability to raise finance, deploy capital, and

Scenario modelled	Link to Principal Risks
Scenario 1: Reduction in sales The Board considered a number of events that could notably impact planned sales performance, either in a specific Operating Company, country, or across the entire Group.	<ul style="list-style-type: none"> • Strategic transformation • Political • Market/financial shock • Compliance • Cyber threat • Business disruption
Scenario 2: Significant operational expenses Large, one-time or recurring fines and other notable expenses arising from a variety of risk events were considered.	<ul style="list-style-type: none"> • Compliance • Political • Market/financial shock • Cyber threat • Business disruption
Scenario 3: Trading disruption/exclusion from market The Board considered certain instances in which the Group or its Operating Companies might be debarred from or otherwise excluded from a particular market as well as a major disruption in a critical operation.	<ul style="list-style-type: none"> • Compliance • Cyber threat • Political • Business disruption

refinance debt in order to maintain sufficient headroom. In certain instances, the Directors have included necessary mitigation actions as part of the assessment, including cost reduction, reduced capital expenditure, and tactical recovery processes following from a major disruption.

Viability Statement

Based on the outcomes of the viability assessment, the Board has a reasonable expectation that the Group would be able to withstand the impact of each of these scenarios, in isolation and in a number of plausible combinations, should they occur in the course of the three-year assessment period. In each event the Group would continue to operate and meet its obligations and liabilities as they fall due over the period to 31 December 2022.

Global sustainable growth

Recognising our role in the world

Consistent and meaningful engagement with stakeholders is integral to the Group's ongoing success and is regularly considered by the Board. As a global business, we have a diverse range of stakeholders and having a clear understanding of the impact of our decisions on each of these stakeholder groups is pivotal to the Board's decision-making process.

In support of the requirements of section 172 of the Companies Act 2006, page 58 sets out more detail on how the Board has considered the material issues of the Group's stakeholders and how these considerations have impacted the activities and decision-making of the Board.

Our stakeholders

-  Shareholders
-  People
-  Community
-  Customers
-  Suppliers and partners

Our stakeholders	Material issues	How we have engaged
 Shareholders All Board decisions are made to promote the long-term success of the Group for the benefit of our shareholders.	<ul style="list-style-type: none"> • Financial performance • Capital distributions • Our strategy • Long-term viability • How the Group meets its environmental, social and governance objectives 	<ul style="list-style-type: none"> • Annual General Meeting • Annual Report and Accounts • Capital Markets Day • Results statements, trading updates and press releases • Remuneration Policy consultation with shareholders holding over 45% of the Group's issued share capital ahead of the approval of the new Policy (further details of which are available on pages 70 to 72) • Standing Board updates on investor relations
 People Our people are a highly-skilled and technical workforce. They are an essential component of the Group's ability to stay ahead in a fast-moving world.	<ul style="list-style-type: none"> • Culture • Values • Operating in an ethical environment • Progression and personal development opportunities • Remuneration • Diversity and inclusion • Workforce engagement 	<ul style="list-style-type: none"> • Appointment of a Workforce Engagement Director who held informal meetings with employees from a cross-section of roles and perspectives • First Group-wide senior leadership engagement survey carried out in 2019, with a follow-up survey in Q1 2020 • Board consideration of the senior leadership survey results and supporting action plan • Operating company engagement surveys
 Community As a Group, we have a wide-reaching indirect impact on the communities and environments we interact with and we are committed to making sure that this impact is as positive as possible.	<ul style="list-style-type: none"> • Economic and operational impact of Group businesses on local communities • Environmental impact of operations, both directly and indirectly • Being able to demonstrate clear Environment, Social and Governance policies and how these are measured 	<ul style="list-style-type: none"> • Developing high-quality products and services for, and in conjunction with, customers, to equip them to maximise productivity and operational efficiency to utilise less energy and raw materials • To develop new products to make the world cleaner, healthier and more productive • Maintaining energy efficiency as a key performance indicator ('KPI')



Our stakeholders	Material issues	How we have engaged
 Customers Understanding our customers is critical for the continued success of our businesses. By developing long-term relationships with them we are well placed to support their evolving business requirements.	<ul style="list-style-type: none"> Operational strength of the Group and the ability to meet customer requirements Ensuring we remain competitive with a strong differentiated value proposition Ability to provide high-quality instruments and technical expertise and advice Ensuring service levels match customer expectations 	<ul style="list-style-type: none"> Maintaining effective customer relationship management tools to support the identification of customer needs Additional focus on digital to enable closer links with customers and their end markets Voice of the customer feedback integral to the Group's Strategic Review process and product development Customer satisfaction as a core value driver
 Suppliers and partners Our relationships with our suppliers and partners are integral to the delivery of quality products to our customers and the operational success of our business. Our corporate development team continues to build relationships with strategic business partners and assess possibilities for future acquisitions. Our growing business also supports the development of businesses in our supply chain.	<ul style="list-style-type: none"> Ensuring an ethical supply chain Potential disruption of supply chain Competitiveness Financial performance Research and development investment 	<ul style="list-style-type: none"> Effective and regular communication with suppliers with standardised procedures and a dedicated Group Vice President of Supply Chain Ensuring high standards throughout our supply chain by using the SA 8000 Social Accountability Standard to audit our key suppliers against specific criteria, including anti-slavery and conflict minerals in high-risk jurisdictions Clear payment practice processes across the Group to ensure fair and prompt treatment of creditors Continually monitoring the quality of our suppliers to optimise operational efficiency Ongoing dialogue with strategic business partners Ensuring that Spectris values are shared with our partners and suppliers
<p>A non-financial information statement summarising the nature and location of non-financial disclosures within the Strategic Report is provided on page 93, in compliance with sections 414C and 414B of the Companies Act 2006.</p>		<p>More information about how the Directors have discharged their duty under section 172 of the Companies Act can be found in Strategic Report (pages 50 to 53).</p>

People

The long-term success of the Group relies on the skills and technical expertise of our people. The people who work within the Group are key stakeholders. Throughout 2019, we continued to consider ways in which to create the best possible working environment and culture for our employees to thrive in.

Diversity, equality and inclusion

We believe that people should be recruited, developed and promoted based on their talent, commitment and experience. We endeavour to ensure that everyone is treated equally and fairly, irrespective of race, colour, religion, national origin, gender, sexual orientation, age, background or disability. There is a zero tolerance policy in place for any form of discrimination or harassment. Wherever possible, we offer flexible working options both through part-time roles and job-share opportunities to support inclusion. If an employee became disabled, we would make every effort to retain them, offering retraining or adjustments to working environment where necessary. Our full employment policy is set out at www.spectris.com

The Board's diversity policy, set out on page 62, commits to further promoting all types of diversity and inclusiveness throughout the Group and this will remain a key focus during 2020. Our Workforce Engagement Director will provide regular feedback to the Board on the Group's employee proposition.

Talent management

During 2019, a considered focus has been placed on the refreshment of the Group's talent pipeline which has included succession planning for the most senior roles across the Group. Consequently, we are better able to identify talent within the organisation and use this to prepare and promote high-potential individuals to senior roles.

Employee health and wellbeing

Employee health and wellbeing remains a keen priority for the Group. In line with the Group's decentralised structure, operational responsibility for employee health and wellbeing is managed directly by each operating company. In line with this approach, the businesses within the Group have prioritised different initiatives that best reflect their workforce, such as volunteering and employee

Gender pay gap reporting

Three of our operating companies have more than 250 employees within the UK: Malvern Panalytical¹, Millbrook and Servomex. These companies are therefore required by UK legislation to publish their gender pay gap figures on their websites. Spectris plc employs less than 250 people in the UK and is therefore exempt from the statutory reporting requirements on gender pay. However, in recognition of the importance of addressing the gender pay gap, the Group voluntarily includes the pay gap figures for Spectris plc as part of the Group's overall gender pay gap reporting in the table below.

The combined results for Spectris plc and its UK companies which are set out below are based on 2,078 UK employees (of whom less than 30% were female). The results for the Spectris Group (excluding CLS which was not included in the 2018 reporting as it was not a member of the Group at the reporting date) are also set out below to provide a direct comparison to the 2018 figures and were based on 1,398 employees (of whom less than 25% were female). At Spectris, we are confident that across the Group, men and women

are paid equally for doing equivalent jobs. Whilst the comparative data for 2019 shows a slight increase in the median hourly gender pay gap of 1.16%, we are pleased to see that there has been a significant improvement to the gender bonus gap, with the median bonus paid to female Spectris employees being higher than the median bonus paid to male Spectris employees. The data for 2019 shows that our pay gap remains lower than the national average. Although the figures are in line with the sector in which we operate, we are committed to continuing to improve our gender pay gap.

Actions implemented in 2019

- Widened the remit of the Remuneration Committee to review remuneration practices and the Board undertook a wider review of diversity policies and practices in respect of the wider workforce.

2020 actions

- Implementation of an online HR management tool to assist with recruitment, pay reviews and career development.
- Review of Group's approach to maternity and paternity pay, parental leave and flexible working.

	2018		2019			
	Median ²	Mean ²	UK (including CLS)		UK (excluding CLS)	
Hourly gender pay gap	9.49%	13.52%	23.33%	21.13%	10.65%	12.29%
Gender bonus gap	15.41%	30.39%	(10.38)% ³	20.40%	(23.62)%	12.76%
	Male	Female	Male	Female	Male	Female
Bonus proportions	48.02%	60.25%	62.88%	50.80%	72.95%	72.91%

1 Both Malvern Panalytical and its subsidiary Concept Life Sciences (CLS) are required to report under the Equality Act 2010 (Gender Pay Gap Information) Regulations 2017

2 The terms median pay gap, mean pay gap, median bonus gap, mean bonus gap and bonus proportions as used within this summary table have the meaning attributed to them as set out in The Equality Act 2010 (Gender Pay Gap Information) Regulations 2017.

3 A negative percentage indicates that the median bonus paid to female Spectris employees was higher than the median bonus paid to male Spectris employees.

Employees by gender and role as at 31 December 2019

	Male	Female	Total
Directors	7	3	10
Senior management	94	24	118
Other employees	5,947	2,584	8,531
Total	6,048	2,611	8,659
% of total	69.8	30.2	100



Diversity and community at Omega

Throughout 2019, the leadership team at Omega has devoted time and focus to how diversity and community can be appropriately recognised as a key part of the evolving and expanding employee value proposition. The leadership team has introduced a Diversity and Inclusion programme to promote a variety of beliefs and cultures, while supporting various cultural, ethnic and social causes. The intention is to develop and foster a culture and environment where employees have a strong sense of purpose and feel encouraged and comfortable to bring their real selves to work.

Key initiatives during 2019 have included the raising of awareness and support for International Women's Day, Gay Pride, Hispanic Heritage Month and Native American Heritage Month. Omega branded pins were designed for Gay Pride and Hispanic Heritage Month for employees to wear on their lanyards. The feedback from employees has been very positive.

In addition to the diversity initiatives, Omega has also introduced a volunteer time-off day, which allows an employee to take one paid day a year to volunteer within their local community. Matching charitable donations up to a certain limit from Omega has also been introduced. In early December, all the Omega offices participated in a day of giving, which aligned with the National Day of Giving that typically takes place in the US.

wellbeing policies, regular wellbeing weeks, step challenges, qualified mental health first-aiders and other activities to encourage and promote a healthier workforce.

During 2019, we established a Group-wide Health and Safety Committee. The Committee has worked with the operating companies on a number of employee health and wellbeing initiatives to promote thought leadership throughout the Group. Work included: the roll-out of a Group-wide defibrillator policy; the initiation of mental health first-aid training in the UK and the agreement of a suitable mental health provision for each country within which the Group operates.

Employee turnover

Employee turnover is an important measure of our employees' view of the organisation and for the Board and management to consider how talent is retained within the organisation. Since 2018, Spectris has been through a period of significant strategic and organisational change which continued throughout 2019 with the implementation of the profit improvement programme and completion of the strategic review. The table below shows the percentage of employees leaving the Group voluntarily:

2019	2018	2017	2016	2015
11.4%	14.2%	7.6%	7.2%	7.1%

We are focused on retaining talent within the Group and committed to supporting our people through these periods of organisational change.

Human rights

Spectris considers human rights to be of the utmost importance. Our human rights policy is consistent with the Core Conventions of the International Labour Organization and the policy requires that we comply with internationally recognised human rights standards at all our sites. Our policy sets out our position on non-discrimination, harassment and forced labour. Online training on modern slavery and human trafficking is available to all employees. Human rights considerations are also a key element of the due diligence for any potential acquisitions.

Health and safety

As a responsible employer, we take the health and safety of our employees seriously and we are proud to have an excellent track record of safety in our workplaces. There were no work-related fatalities in 2019 and details of recorded injuries during the year and the prior four years are set out below.

Accident incidence rate reports received in 2019

Number of reportable accidents per 1,000 employees

2019	2.4
2018	2.9
2017	5.3
2016	4.5
2015	4.5

The Spectris Health and Safety Committee provides a Group-wide community for the consideration of ongoing safety best practice. The Committee has representatives from Spectris and each operating company. It meets monthly to discuss key themes, policies and challenges that have arisen and considers whether these are best managed at a Group or local level. Key workstreams for 2019 have included:

- the establishment of a standard observation card to support the creation of a Group minimum requirement standard for the reporting of safety observations and supplementary training material that can be customised to the local site and operating company;
- the instigation of a distracted driving initiative to set a minimum Group standard for the elimination of distractions while driving. This work is being led by PMS with global support and the output will be finalised and rolled out Group-wide during 2020; and
- the implementation of a consistent set of safety metrics, including safety observations, to reduce risk.

Environment

We consider that the impact that we, and our supply chain, have on the environment is an integral part of who we are as a business and in turn, supports our customers' environmental impact. Key sources of energy (electricity, gas, oil and steam) are monitored throughout the Group to allow us to be continually mindful of our energy consumption and ways that this consumption can be reduced. Energy efficiency (energy use per £m revenue) remains one of our KPIs and is key to our operational excellence as set out on page 19. In 2019, energy use per £m revenue increased by 9% compared to 2018. This is due to an increase in total energy consumption, partly as a result of the inclusion of Concept Life Sciences ('CLS') for the first time.

The tables below set out our performance in 2019. The online reporting tool introduced in 2018 has been fundamental to further enhance our understanding of the environmental impact of our business. We will use this improvement in the quality of our data to create targets and action plans for the improvement in our emissions during 2020 and beyond.

Overall, our carbon footprint decreased by 0.4%. The inclusion of CLS data accounts for 3.6% of the total footprint, and on a like-for-like basis, emissions have reduced by 4% during the year.

Scope 1 emissions increased by 17% partly due to an increase in vehicle travel emissions and also as a result of the inclusion of CLS. This increase is partly due to improved reporting of vehicle travel in 2019. Scope 2 emissions decreased by 2% despite an increase in electricity consumption in 2019.

Reducing our electricity consumption will be a further area of focus as this will have both environmental and financial benefits.

As a starting point, we intend to implement the recommendations made during the recent 'Energy Saving Opportunities Scheme' audits that have been carried out across the Group. Scope 3 emissions decreased by 6%, predominantly as a result of reduced staff travel. This aligns both with our financial and environmental objectives on employee travel.

Greenhouse gas ('GHG') emissions for the Group as a whole remained broadly in line with 2018, with a 0.4% reduction overall. Emissions per £m of revenue reduced by 2%. In 2018, the revenue for CLS was included but no data for carbon emissions.

In addition to the data we collect for reporting purposes, we also continue to assimilate waste data relating to our sites including landfill, incineration and recycling and we will continue to focus on refining and improving reporting of waste data during 2020.

Ricardo Energy & Environment ('Ricardo') has independently verified the data associated with energy consumption, GHG emissions, company vehicles and air travel. We are confident in the systems we have in place to measure, monitor and report our energy use. The carbon footprint data collection and calculation methodology covers the period from 1 January to 31 December 2019 and was conducted in accordance with the GHG Protocol Corporate Accounting and Reporting Standard (revised edition), and the UK Government Conversion Factors for Company Reporting 2019.

Spectris continued to participate in the Carbon Disclosure Project ('CDP') in 2019. Our participation is important to both us and our shareholders and we recognise the need to remain accountable and transparent in respect of our environmental reporting. During 2019, the Group received a rating of 'C' (compared to a 'C-' rating in 2018).

We will continue to work to improve the quality of our environmental data and use this to set future targets and suitable environmental KPIs.

In December 2019, the Board considered the Group's climate change and environmental risk profile. In addition, in light of the emerging focus on the Task Force on Climate Related Financial Disclosure ('TCFD'), several actions have been agreed to the additional disclosures by 2022 and support the TCFD requirements. These steps include:

- using the improved data that has been collected since 2018 to consider the expansion of emissions reporting and the possibility of setting suitable environmental KPIs;
- setting targets in collaboration with the Platforms to ensure the focus is beneficial to all parties;
- peer benchmarking exercise of KPIs and consideration of the benefits of a publicly disclosed strategy on climate change; and
- workshops with our businesses, facilitated by Ricardo, to establish how the Group can best assess the short-, medium- and long-term financial impacts of climate change.

Performance summary

Indicator	2019	2018	Change
Energy consumption (absolute) (MWh)	117,984	106,659	11%
Energy efficiency (MWh per £m revenue)	72	66.5	9%
Greenhouse gas emissions (tonnes CO ₂ e)	82,537	82,861	0%
Total carbon emissions (tonnes CO ₂ e per £m revenue)	51	52	-2%

Energy consumption

Unit of measurement – MWh	2019	2018	Change
Electricity	89,931	76,823	17%
Gas	9,134	10,312	-11%
Oil	2,687	2,714	-1%
Steam	16,171	16,613	-3%
Other fuels	61	197	-69%

Greenhouse gas emissions (tonnes CO₂e)

Unit of measurement – tonnes CO ₂ equivalent	2019	2018
Scope 1	16,071	13,738
Scope 2	36,669	37,425
Scope 3	29,797	31,699
Total gross emissions	82,537	82,861
Total carbon emissions per £m revenue	51	52

Ethics Culture

Ethical behaviour is integral to the culture of Spectris. We recognise that the way we conduct our business and how we treat our employees and customers has a direct impact on the culture and performance of the organisation. We therefore demand the highest standards from our employees, partners and suppliers at all times. We ensure that our internal control framework and ethics and compliance programme operate effectively in promoting a strong culture.

When considering acquisitions and disposals, a key focus for the Board is selecting opportunities that align with the Spectris approach to ethics and compliance and the Group's Values.

Ethical leadership

The Board and Executive team set the tone for the Group's approach to ethics and compliance and both bodies regularly review this approach. The Group's Legal, Ethics and Compliance team meet regularly to share learning experiences and best practice. During 2019, the Group has strengthened its Legal, Ethics and Compliance teams, both at Head Office and across the Group to assist with the implementation of the Group's Ethics and Compliance Enhancement Programme, including the revision of the Code of Business Ethics and its supporting behavioural-based training.

Ethics and compliance in 2019

During 2019, a significant project was undertaken to refresh, condense and digitalise our Code of Business Ethics. The output of this project was approved by the Board in December 2019, ahead of a planned roll-out in early 2020. A key part of the refreshment process has been the consideration of how to embed knowledge of the new Code throughout the Group in the most impactful way. The new Code will be available in 12 languages and communicated through a number of digital and traditional communication programmes throughout 2020. Also, an extensive training and communication programme will further embed the approach.

In 2019, the Group commenced a programme to review all of its third-party distributors and sales representatives with the aim of monitoring the ongoing compliance of such third parties and to regularly enhance our compliance policies and processes. This review is progressing well and together with the introduction of compliance enhancements, will continue during 2020.

Throughout 2019, the Executive Committee continued its practice of commencing every meeting with a discussion on ethics and safety matters and this practice is encouraged across the Group.

Employee experience

Employees are encouraged to raise any issues that arise in the course of their work and discuss these issues with their managers. We recognise the importance of making sure our employees feel supported and comfortable to report wrongdoing in good faith with the knowledge that their managers and ethics officers are trained and confident in discussing such concerns with employees.

Spectris also has a confidential, independent helpline that employees and stakeholders can use to raise concerns anonymously if they wish. Our helpline reporting processes are regularly reviewed to make sure these continue to be effective. Reports received from all sources are investigated fully and there is a commitment to address all concerns made in good faith. The Audit and Risk Committee receives regular updates, at least twice a year, with the Board undertaking an annual review. Following the conclusion of any investigation process, additional guidance, training or disciplinary action may be taken as appropriate, and the impact of any actions is closely monitored by senior management. Root causes are identified and addressed.

Reporting

During 2019, the total number of reports received by the Spectris Helpline was 54 (2018: 25). The Board and Executive Committee are committed to encouraging an open "speak up" culture. The Ethics & Compliance team ensure that all of our people are aware of and are confident to use the channels available to them to report any concerns. During 2020, and following the launch of the new Code of Business Ethics, the Ethics & Compliance team will spend time ensuring that the Spectris Helpline continues to be effective and improving knowledge across all areas of the Group.

Number of helpline reports received in 2019

2019	54
2018	25
2017	24
2016	19
2015	18

Continuous training and education

Spectris maintains a comprehensive training programme across the Group with all employees required to complete mandatory training on the Code of Business Ethics and its requirements. Training modules covering Anti-Bribery and Corruption, Export Controls, Fair Competition, Data Privacy and the prevention of tax evasion are deployed on a risk-based basis. Training is completed at the point that employees join Spectris and at regular intervals thereafter.

Training is currently comprised of online learning modules as well as group workshops. As a key part of the refreshment of the Code, a new suite of training materials will be launched in early 2020 including an enhanced digital offering.

The Strategic Report was approved by the Board on 19 February 2020.

By order of the Board

Mark Serföző
Company Secretary
19 February 2020

Board of Directors



N
Mark Williamson (62)
Chairman

Appointed: May 2017
Nationality: British

Skills and expertise

Mark Williamson is a qualified accountant with a strong financial background combined with considerable managerial experience. He was chief financial officer of International Power plc until 2012 and is experienced in managing relationships with the investor and financial communities. He is a former senior independent non-executive director and chairman of the audit committee of Alient plc. Mark was chairman of Imperial Brands plc until 1 January 2020.

External appointments

He is currently senior independent non-executive director and chairman of the audit committee of National Grid plc.



E D
Andrew Heath (56)
Chief Executive

Appointed: September 2018
Nationality: British

Skills and expertise

Andrew brings a wide range of executive and leadership expertise to Spectris, with proven experience in technology-enabled businesses and a track record of delivering shareholder value. He previously served as CEO of Imagination Technologies Group plc from 2016 to 2018 and before that was CEO of Alient plc.

Prior to this, Andrew had a 30-year career with Rolls-Royce where he held a number of international and senior management roles, latterly serving as the president of energy from 2010 to 2015.

Andrew has a BSc in engineering from Imperial College London and an MBA from Loughborough University.

External appointments

None.



E D
Derek Harding (46)
Chief Financial Officer

Appointed: March 2019
Nationality: British

Skills and expertise

Derek brings a wide range of financial leadership and industrial expertise to Spectris. In addition to his responsibility for Group finance operations worldwide, he also leads the operational management of Spectris Asia; Group Risk Management; Investor Relations; Group IT; Supply Chain and the Group's Capital Allocation process.

He most recently served as group finance director at Shop Direct. Derek was CFO at Senior plc from 2013 to 2017 and before that, he was at Wolseley plc for 11 years in a number of financial leadership roles, most recently as finance director of Wolseley UK. He previously held a number of group roles including group financial controller, director of group strategy and investor relations, and head of mergers and acquisitions. Derek qualified as a chartered accountant with PwC.

External appointments

None.

Committee membership key¹

Audit and Risk	A
Nomination	N
Remuneration	R
Disclosure	D
Executive	E
Chairman of a committee	●

¹ As at 1 January 2020



R N
Russell King (62)
**Non-executive Director,
Senior Independent Director,
Remuneration Committee Chairman
and Workforce Engagement Director**

Appointed: October 2010
Nationality: British

Skills and expertise

Russell King has considerable international experience acquired across a number of sectors, including mining and chemicals, together with strong experience in strategy and human resources.

Among other roles, he was previously chief strategy officer of Anglo American PLC and a non-executive director of Anglo Platinum Ltd. Prior to that, he spent more than 20 years in senior roles at ICI. Russell will retire from Spectris plc in May 2020.

External appointments

Russell is chairman of Hummingbird Resources plc, non-executive director of Ricardo plc and an independent non-executive at BDO LLP.



A N
Bill Seeger (68)
Non-executive Director and Audit and Risk Committee Chairman

Appointed: January 2015
Nationality: American

Skills and expertise

Bill Seeger has significant corporate finance and accounting experience. Bill was group finance director of GKN plc and, prior to that, president and CEO of the propulsion systems and special products division and CFO in the aerospace division of GKN. He spent most of his career at TRW, latterly in senior finance roles, including as vice-president, financial planning and analysis, and vice-president, finance, of TRW Automotive.

External appointments

Bill is senior independent non-executive director and chair of the remuneration committee of Smiths Group plc and lecturer at UCLA Anderson School of Management.



R N

Karim Bitar (55)
Non-executive Director

Appointed: July 2017
Nationality: American

Skills and expertise

Karim Bitar has extensive experience of leading international, technology-focused organisations. He was appointed as chief executive officer of ConvaTec Group PLC, a leading global medical technology company, in September 2019. Prior to this, he was the chief executive of Genus plc, an agricultural biotechnology company. Before joining Genus, Karim worked for more than 15 years for Eli Lilly and Company, where he was president of Lilly Europe, Canada and Australia.

An ex-McKinsey and Company consultant, he also held management roles at Johnson and Johnson and the Dow Chemical Company.

External appointments

Karim is chief executive of ConvaTec Group PLC and a member of the University of Michigan Ross School of Business Advisory Board.



R N

Cathy Turner (56)
Non-executive Director

Appointed: September 2019
Nationality: British

Skills and expertise

Cathy Turner is an experienced non-executive director with significant industry knowledge of HR and remuneration matters, having served as group HR director at Barclays plc where she was also a member of the group executive committee. At various times, her responsibilities also included group strategy and investor relations. Her most recent executive role was as chief administration officer at Lloyds Banking Group plc where she was responsible for a number of corporate functions. Cathy previously served as a non-executive director and chair of the remuneration committee at Countrywide for six years.

External appointments

Cathy is a non-executive director and chair of the remuneration committee at Aldermore Bank and a non-executive director and chair of the remuneration committee at Quilter plc. She is also a partner at the senior advisory organisation, Manchester Square Partners.



A R N

Kjersti Wiklund (57)
Non-executive Director

Appointed: January 2017
Nationality: Norwegian

Skills and expertise

Kjersti Wiklund brings significant knowledge of the international telecommunications sector. Kjersti has held a series of senior global roles, including: director, group technology operations at Vodafone; chief operating officer of VimpelCom Russia; deputy chief executive officer and chief technology officer of Kyivstar in Ukraine; executive vice-president and chief technology officer of Digi Telecommunications in Malaysia; and executive vice-president and chief information officer at Telenor in Norway. Kjersti was previously a non-executive director of Laird plc in the UK, Cxense ASA and Fast Search & Transfer ASA in Norway and Telescience Inc in the USA.

External appointments

Kjersti is a non-executive director of Babcock International Group PLC and Trainline plc.



A R N

Ulf Quellmann (54)
Non-executive Director

Appointed: January 2015
Nationality: German

Skills and expertise

Ulf Quellmann has broad general management experience and considerable knowledge of the metals, minerals and mining industry, having worked in the sector for more than 16 years. He was vice president, strategic projects of the copper and diamonds product group at Rio Tinto plc and, before that, chief financial officer of the copper and diamonds product group.

He was also group treasurer from 2008 to 2016. He has held senior positions at Alcan Inc. including vice president, investor relations and media relations, and chief pension investment officer and assistant treasurer, and senior management positions at General Motors, in both the USA and the UK.

External appointments

Ulf is currently chief executive officer of Turquoise Hill Resources Limited, (a company listed on the Toronto and New York Stock Exchanges).



A N

Martha Wyrsh (62)
Non-executive Director

Appointed: June 2012
Nationality: American

Skills and expertise

Martha Wyrsh has held a number of senior executive positions in the energy industry and has significant experience in North American markets. Until March 2019, Martha was executive vice-president and general counsel of Sempra Energy, a company quoted on the New York Stock Exchange. Previously, she was president of Vestas Americas, a subsidiary of Vestas Wind Systems A/S, and prior to that she was president and CEO of Spectra Energy Transmission. She was previously a non-executive director of SPX Corporation.

External appointments

Martha is a director of the Cristo Rey Network (a US non-profit educational foundation), a non-executive director of Quanta Services, Inc., a non-executive director of First American Financial Corporation and a non-executive director of Noble Energy, Inc..



E D

Mark Serföző
General Counsel and
Company Secretary

Appointed: October 2017

Mark joined Spectris from Rolls-Royce where he served as director of risk for four years and before that he spent 18 years at BAE Systems plc where he held a number of senior legal positions including, latterly, the role of group chief counsel compliance and regulation.

Mark qualified as a solicitor in 1990 and is a member of the University College London Centre for Ethics and Law Advisory Board.

Chairman's introduction

"We have worked closely with Executive Management to redefine the Group's mission, vision and values which will underpin the Group's evolving culture under the new leadership team."

Mark Williamson
Chairman

During 2019, the Board has continued to focus on the creation of long-term sustainable value for shareholders and other stakeholders through the approval and enactment of the Group's strategy for profitable growth. The Board worked closely with management during the lead up to the Capital Markets Day in June to develop and articulate the Group's strategy. We have focused closely on feedback received from stakeholders, including investors and employees, following the announcement of the strategy and the first steps taken to enact it, including the divestment of BTG.

During the second half of 2019, the Board worked with the newly appointed management team to redefine the Group's mission, vision and values that will underpin the strategy and support the formation of the Group's evolving culture. The Board has been cognisant of the amount of change taking place in the business through both management transition and the enactment of the new strategy. The Board has also maintained a keen focus during the year on the impact of this change on employees. This has included a review of the outcome and action plan surrounding the Group's first global leadership employee pulse survey. In our visits to HBK and Omega this year, the Board also spent time with both the leadership teams and wider groups of employees to better understand the risks and opportunities presented by the strategy.

In December 2019, the Board was pleased to note the progress made in the development of the Group's Ethics and Compliance Enhancement Programme and approved the refreshed Code of Business Ethics which will sit alongside the new Group values. The process undertaken to establish the new values and the refreshed Code is explained in more detail on page 59.

This is the first year that the Company has been required to comply with the 2018 UK Corporate Governance Code (the 'Code') and a guide to how the

Board has led the Company's compliance with the Code is set out on the right of this page.

Board composition and succession planning

Following Russell King's decision to retire from the Board ahead of the 2020 Annual General Meeting ('AGM'), a detailed review of the Board's succession plans was undertaken. Following this review, it was agreed that Kjersti Wiklund would succeed Russell King as Workforce Engagement Director in January 2020; and Bill Seeger would succeed Russell as Senior Independent Director ('SID') in March 2020. An external search process was also undertaken which led to the appointment of Cathy Turner to the Board in September. Cathy will assume the role of Chairman of the Remuneration Committee in March 2020. More information on this process is set out in the Nomination Committee report on page 63.

I would like to take this opportunity to recognise Russell's pivotal contribution to the Board over the past nine years. As Chairman of the Remuneration Committee, he steered the Board through a significantly changing remuneration landscape and as SID, he provided vital leadership during the previous Chairman's period of illness and in his oversight of the process which led to my appointment. He will be greatly missed by the Board from both a personal and professional perspective.

Director re-election

With the exception of Russell King, all Directors will be standing for election or re-election at the 2020 AGM and we look forward to your continued support.

The Board and I appreciate our interactions with shareholders and welcome your comments on this Corporate Governance Report and on the 2019 Annual Report and Accounts.

Mark Williamson
Chairman
19 February 2020

Reporting in accordance with the 2018 UK Corporate Governance Code

The 2018 UK Corporate Governance Code (the 'Code') sets out a new approach to governance. This table shows where shareholders can evaluate how the Company has applied the principles of the Code and where key content can be found in this report.

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Corporate Governance Code Statement of Compliance

As a UK premium listed company, Spectris plc is expected to comply or explain any non-compliance with the 2018 UK Corporate Governance Code, published by the FRC and available on its website, www.frc.org.uk. The Board considers that the Company complied fully with the Code throughout the year ended 31 December 2019.

Board and Executive Committee structure

The governance of the Group is structured through the Board and a series of committees that approve, review, challenge and monitor the strategies and policies under which the Group operates. The structure and responsibilities of these Board and management committees, and a summary of their responsibilities, are illustrated in the diagram below:



Board and Committee attendance

	Board	Audit and Risk Committee	Remuneration Committee	Nomination Committee	AGM	GM
Mark Williamson	9/9	n/a	n/a	4/4	Y	Y
Andrew Heath	9/9	n/a	n/a	n/a	Y	Y
Derek Harding ¹	7/7	n/a	n/a	n/a	Y	Y
Russell King	9/9	n/a	5/5	4/4	Y	Y
Karim Bitar ²	9/9	3/3	5/5	4/4	N ⁴	N ⁴
Ulf Quellmann	9/9	4/4	5/5	4/4	Y	Y
Bill Seeger	9/9	4/4	n/a	4/4	Y	Y
Cathy Turner ³	3/3	n/a	1/1	1/1	n/a	Y
Clive Watson ¹	2/2	n/a	n/a	n/a	n/a	n/a
Kjersti Wiklund ²	9/9	2/2	5/5	4/4	Y	Y
Martha Wyrtsch	9/9	4/4	n/a	4/4	Y	Y

¹ Derek Harding was appointed on 1 March 2019. Clive Watson retired on 25 March 2019.

² Karim Bitar stepped down from the Audit and Risk Committee following the meeting on 25 July 2019 and Kjersti Wiklund joined the Committee on the same date.

³ Cathy Turner was appointed as a Director and member of the Remuneration and Nomination Committees on 1 September 2019.

⁴ Karim Bitar was unable to attend the AGM in May due to personal commitments and the General Meeting in December due to his commitments as chief executive of ConvaTec PLC.

Board activity

The Board is collectively responsible for the long-term success of the Company. This is achieved through the appropriate consideration of strategic, operational, financial and risk matters, setting the Group's strategy, overseeing its delivery and establishing the purpose, values and culture of the Group. This page details the focus of the Board during 2019 in support of these responsibilities.

Our stakeholders



- Shareholders
- People
- Community
- Customers
- Suppliers and partners

The icons indicate which stakeholders the Board has considered when making decisions. Further detail of the Group's stakeholder profile is set out on pages 48 to 49.

Strategic focus during 2019

Approved the Group's new Strategy for Profitable Growth and oversaw the early enactment of that strategy, including the divestment of BTG	Approved the Group's new purpose and values and ensured that these were aligned with the Group's new strategy and emerging culture	Reviewed the suitability of the Group's operating model and Principal Risks in light of the new strategy	Conducted a detailed review of the Group's digital strategy
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Other key areas of focus

Operations and risk



- Undertook deep-dive reviews of each platform and the IS division
- Held site visits at HBK (Naerum) and Omega (Connecticut) and met with the platform leadership teams and wider employee groups
- Received presentations from members of the leadership team and subject-matter experts, including presentations on research and development, IT and cyber security
- Undertook a considered review of each principal risk and approved changes to the Group's principal risks to reflect the new strategy and then reviewed the systems currently in place for the identification, management and mitigation of those risks
- Considered sustainable, long-term value for shareholders, customers and stakeholders in the oversight of the Group's strategy, including close monitoring of investor and employee feedback

Leadership and people



- Appointment and induction of new Chief Financial Officer
- Discussed the composition of the Board and its Committees, including succession planning
- Reviewed and agreed a suitable succession plan ahead of Russell King's planned retirement from the Board
- Appointment and induction of a new Non-executive Director
- Reviewed and considered the Group's response to the 2019 Hampton-Alexander Review
- Undertook a deep-dive review of the Group's 'talent and capabilities' principal risk
- Reviewed the results of the first global leadership pulse survey and proposed action plan to address issues raised
- Agreed and received shareholder approval for the 2020 Remuneration Policy

Finance



- Monitored progress against the 2019 financial plan and considered and approved the 2020 financial plan
- Approved the Annual Report, interim results and full/half-year

results presentations to analysts

- Considered and approved the Group's going concern and viability statements
- Reviewed the dividend policy and recommended the final and interim dividends
- Reviewed and approved management's proposed future capital allocation strategy
- Reviewed material capital expenditure requests

Governance and ethics



- Reviewed results of the 2018 internal Board evaluation and agreed a suitable action plan
- Planned for the 2019 external Board evaluation with Lisa Thomas of Independent Board Evaluation
- Undertook a detailed review of the establishment of the Group's new Ethics and Compliance Programme
- Reviewed and approved the terms of reference for the Board Committees
- Reviewed the Group's approach to compliance with the 2018 UK Corporate Governance Code
- Reviewed ongoing litigation matters
- Received updates on corporate governance and key legal and regulatory matters from the General Counsel and Company Secretary

Oversight and development of the Group's culture

As part of the Board's responsibility for setting the Group's strategy, purpose and values, the Board is also responsible for ensuring that these are aligned with the Group's culture.

During 2019, the Board considered in detail the alignment of the Group's culture and its strategic direction under the new Strategy for Profitable Growth.

Following the development of the new strategy, the Board and Executive Committee considered it to be necessary to redefine and communicate the type of company that we wanted to be. In support of this consideration, a detailed and externally facilitated process was undertaken by the Executive Committee to articulate the purpose and values that would be core to the success of the Group. This process included several internal global workshops with feedback received from over 150 employees in more than 20 countries representing all platforms and the majority of operating companies in the Industrial Solutions division.

Our purpose

As part of the process outlined above, the Board endorsed management's recommendation that the Group's mission statement be defined as 'Delivering value beyond measure'. The Board was satisfied that this statement spoke effectively to the core aims of the Group, those being:

- **Delivery** – delivering on our commitments every day;
- **Value** – for our customers, shareholders, employees and the environment; and
- **Beyond measure** – which we define as "delivering more than expected". Going beyond just the measurement; highlighting the importance of growing our synergistic software, analytics and services offerings.

Our values

The Board worked closely with the management team to refine and finalise the Group's proposed values. Our new values articulate our aim of being a world-class, sustainable business that is focused on serving our customers and other stakeholders.

The Group has a proud history of acting with absolute integrity and the Board and management team were keen to preserve and further this legacy in the setting of the Group's values. When revising and updating the Group's Code of Business Ethics, the Board and Executive Committee ensured that the behaviours required of all employees were aligned with the Group's values. The new Group values will be communicated to employees in the first quarter of 2020.

How does the Board track the cultural health of the business?

An open and ethical culture is fundamental to the way in which we operate. It is shared across all our businesses and operations and as a Board. We regularly review and monitor the health of our culture using the following tools:

- employee engagement surveys throughout the Group;
- reviewing cases from the Group's independent Ethics helpline and understanding how root causes are being addressed;
- informal lunches with employees during site visits;
- reviewing employee turnover rates; and
- considering the net promoter scores of each platform as part of the deep dive business reviews to assess customer feedback.

Workforce Engagement Director

In 2019, Russell King was appointed as the Board's first dedicated Workforce Engagement Director ('WED') in response to the requirements of the new Code. The Board has agreed that a key element of the role of the WED will be the informal monitoring of the Group's developing culture, beyond the tools being reviewed by the Board as a whole. Spectris defines its workforce in line with the FRC Guidance on Board Effectiveness, and includes individuals engaged under contracts of service, agency workers, and remote workers, regardless of their geographical location.

A selection of the key activities conducted by the WED during 2019 is set out below:

- informal meetings with employees from a cross section of roles and perspectives;
- meeting with the HR Director at HBK to better understand the progress of the merger, the impact on employees and how this was being managed by the leadership team; and
- review of the planned approach to the Group's first global leadership pulse survey with the Group HR Director prior to launch.

The Board received updates on the progress of these engagement activities during 2019. Ahead of Russell's retirement from the Board, Kjersti Wiklund has been appointed as the Board's WED. Throughout 2020, Kjersti will work with the Executive team to further define and build the profile of the role within the organisation. This will include:

- visiting the Group's facilities in Asia on behalf of the Board and meeting with employee groups;
- understanding from an employee perspective the key challenges facing the Group around diversity;
- spending time with the Group's ethics team to better understand the trends and themes arising from cases raised to the Group's Ethics helpline;
- reviewing the results of the pulse surveys and ensuring the appropriate action is being taken; and
- discussing the whistleblowing process with employees across the Group and ensure it is readily accessible and effective.

Stakeholder engagement

A key element of the Group's culture is the effective collaboration and engagement with the Group's stakeholders. Consistent and meaningful stakeholder engagement continues to be recognised by the Directors as integral to the Company's ongoing success and serves to meet our obligations under section 172 of the Companies Act 2006 as well as the Code. Further details on the Group's stakeholder engagement and the Board's section 172 statement are set out on pages 5, 48 and 49.

Board effectiveness



Informed decision-making

The Chairman is supported by the General Counsel and Company Secretary in ensuring the dissemination of accurate, timely and clear information to the Board, allowing it to function effectively and efficiently. The General Counsel and Company Secretary is responsible for ensuring compliance with appropriate laws and regulations and is available to support all of the Directors. Directors may solicit independent, professional advice at the Company's expense where specific expertise may be required to effectively discharge their duties.

Access to the business

The Board undertakes a deep-dive review with the leadership of each platform and the Industrial Solutions division at least annually. Additionally, each year the Board meets on-site at one or more of the businesses. Board visits include a tour of the relevant facility, overviews of key products with their developers, a deep-dive review of

the business with the wider leadership team and the opportunity to meet informally with employees. During 2019, the Board visited Omega in Connecticut, USA and HBK in Nærum, Denmark. Further details are set out on page 61.

Training and development

New Directors receive a formal, tailored and comprehensive induction programme on joining the Board and further training and development needs are reviewed by the Chairman and agreed at least annually. The Board receives detailed technical updates in relation to corporate governance and other legal and regulatory topics from internal and external specialists. An external speaker programme brings thought leadership to Board discussions on a variety of emerging themes and topics. In 2019, these topics included a discussion on the future of work led by Google and a review of the macroeconomic environment relevant to the Group's key markets, led by ITR Economics.

The effectiveness of the Board is monitored through annual Board evaluation

Board evaluation

As required by the Code, the Board undertakes an annual evaluation of its effectiveness.

2018 evaluation process and outcomes

In 2018, the Board evaluation was led by the Chairman and included a review of the effectiveness of the Board Committees and individual Directors.

The Board reviewed the findings of the 2018 evaluation at key junctures during the year and built actions arising from the evaluation process into the annual Board planner to ensure that progress was made. Key activities undertaken in response to the outcomes of the Board evaluation process included:

- undertaking milestone reviews of the enactment of the new strategy and monitoring ongoing stakeholder engagement;
- clarification of the Group's operating model as part of the Group's strategic review;
- introduction of a robust capital allocation framework, a summary of which was included in the Capital Markets Day presentation;

- further development of ongoing interaction between the Board, operating company management and the wider senior leadership population to further the Board's understanding of the skills and capabilities within the Group;

- succession planning for Non-executive Directors and the role of Remuneration Committee Chairman, including notable focus on the Board's existing skills and diversity;
- consideration of the agendas for Board and Committee meetings to allow for more focused meetings and more open debate;
- definition and refinement of the Group's risk appetite and each of the Principal Risks to ensure these aligned with the revised strategic direction;
- ongoing Board exposure to the Group's approach to health and safety matters; and
- development of a programme of external speakers on a variety of topics in the interest of continued Board development.

2019 Board evaluation process

The 2019 Board evaluation was externally facilitated by Lisa Thomas from Independent Board Evaluation and the process took place between November 2019 and February 2020. Neither Lisa Thomas nor Independent Board Evaluation have any other connection with the Company or individual Directors.

The 2019 evaluation built on the outcomes of the 2018 evaluation and considered the Board's composition, diversity and effectiveness. Each Board Committee was also reviewed as part of the external evaluation process. Initial feedback and recommendations from the external evaluation were presented to the Board for discussion in February 2020, and it was agreed that key actions would be defined based on that discussion and that those actions would form part of the Board's agenda for 2020.

The Chairman and the SID reviewed the performance of each member of the Board and provided feedback and the SID led the Non-executive Directors in a review of the performance of the Chairman. It was agreed that each Director continued to contribute effectively.



Board engagement with the business

HBK visit

The Board visited HBK in April in Nærum, Denmark. The visit comprised a tour of the site and a review of the key products that HBK sells to its customers. The Board also met with the teams responsible for developing these products and had the opportunity to engage with additional employees over lunch.

A presentation on HBK's strategy was given to the Board in addition to an update on the merger activities being carried out to combine the previously named Brüel & Kjær and HBM.

Omega visit

The Board visited Omega, in Greenwich, Connecticut, USA and received a presentation on Omega's digital strategy from the newly appointed president, Greg Wright and his leadership team. This presentation included a strategic update and a detailed view of the digitisation of Omega's operations. In addition, the Board met with a number of employees below senior management level to better understand the progress of the transition into a digital platform.

During the visit to Omega, the Board also received presentations from several of Omega's strategic partners, the first from Google on the future of work; the second from ITR on the macroeconomic environment, and finally, from Qualtrics on digital strategy.



Board composition

As at 31 December 2019, the Board comprised seven Non-executive Directors in addition to the Chairman and two Executive Directors. A diagram showing the tenure of each of the Directors is set out below.

Board changes

Russell King completed his nine-year tenure on the Board in October 2019 and he will retire from the Board at the 2020 AGM. The Nomination Committee report opposite details the succession planning process that led to the appointment of Kjersti Wiklund as Workforce Engagement Director from 1 January 2020 and Bill Seeger as Senior Independent Director ('SID') from 1 March 2020.

Cathy Turner was appointed to the Board as a Non-executive Director on 1 September 2019 and joined the Remuneration and Nomination Committees on the same date. In accordance with the Board's agreed succession plan, Cathy will be appointed as Remuneration Committee Chairman on 1 March 2020.

Director re-election

In considering the recommendation of the election and re-election of Directors, the Committee considered the results of the individual evaluation process and noted that all Directors continued to be effective in contributing to the Group's long-term sustainable success. The Board accordingly recommends to shareholders the appointment of Cathy Turner and the re-appointment of all Directors, with the exception of Russell King as outlined above, at the 2020 AGM. In making this recommendation, the Board, with the support of the Nomination Committee, has reviewed any circumstances which are likely to impair, or could appear to impair, a Non-executive Director's independence and has concluded that all Non-executive Directors being recommended for election and re-election are considered to be independent.

External appointments and time commitments

External directorships and conflicts of interest are declared by Directors on appointment and are reviewed at least annually by the Nomination Committee. A conflicts of interest register is maintained, evidencing any situational or transactional conflicts, as well as each Director's shareholding in the Company. This helps to ensure that the judgement of the Board remains uncompromised and independent.

Any external appointments are considered and approved by the Board following careful consideration of the impact on the individual Director's ability to meet the necessary time commitments. A diagram detailing the current commitments of the Board set against the overboarding criteria included in the ISS United Kingdom and Ireland Proxy Voting Guidelines is set out opposite. The Board considers all Directors have sufficient time to meet their Board responsibilities.

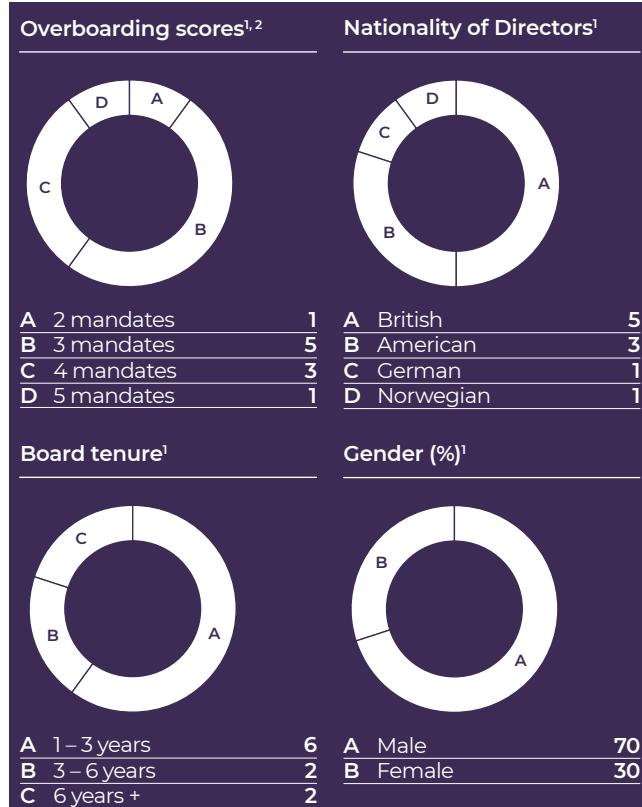
Details of the Directors external appointments are included in their biographies on pages 54 to 55. The Board appreciates the diverse skills and experience that can be gained from holding additional directorships and considers that the obligations of the Board are properly fulfilled.

Diversity

In December 2019, the Board reviewed its policy on diversity and inclusion and agreed to adopt the following policy:

"The Board is committed to further promoting diversity and inclusiveness of all kinds throughout the Group, regardless of geography or position. The Board agrees that diversity, which should be construed in its broadest sense and includes gender and ethnic diversity, is an important factor in Board effectiveness. The Group is a supportive participant of the Hampton-Alexander Review which sets a target for the percentage of women on FTSE boards and leadership teams to reach one third by 2020. The Board is scheduled to reach this target during 2020 and intends to maintain at least one third female membership on the Board."

During 2019, the Board considered its approach to the promotion of diversity both at Board level and within the Group. Following Russell King's retirement from the Board in May 2020, the Board will meet the target set out in the Hampton-Alexander Review of reaching 33% female directors on the Board by 2020. It is recognised that diversity at senior management levels remains an area for significant improvement and the Board has spent time during the year working with management to better understand and develop the action plan to create a more diverse workforce. Further detail on the initiatives undertaken by management during the year to promote diversity within the workforce are set out on pages 50 to 51. Diversity within the Group will continue to be a priority area for improvement and progress will continue to be closely monitored by the Board during 2020.



¹ As at 1 January 2020.

² Based on the 2018 ISS Guidance which classifies any person with more than five mandates at a listed company as being overboarded. A non-executive directorship counts as one mandate, a non-executive chairmanship counts as two mandates and a position as executive director (or comparable role) counts as three mandates.

Nomination Committee Report

During 2019, the Committee has continued to take a keen interest in succession planning below Board level. We have worked with management to ensure that appropriate opportunities are in place to develop high-performing individuals and to build diversity in senior roles across the Group. From our discussions during the year, the Committee has obtained greater clarity and a common understanding with management on senior key talent within the Group and how this talent should be developed and we are confident that this common understanding will strengthen the Group's overall capabilities in the near term. The development of talent will continue to be the subject of ongoing dialogue during 2020.

The Committee also spent considerable time during 2019 considering and actioning the succession plan for Russell King, who will step down from the Board in May 2020. Details of the process undertaken, which led to the appointment of Cathy Turner to the Board as Remuneration Committee Chairman elect and the selection of Bill Seeger as the new Senior Independent Director, is set out in this report.

Mark Williamson
Chairman of the Nomination Committee
19 February 2020

Role of the Committee

The Committee leads the process for Board appointments and makes recommendations to the Board in this regard. In fulfilling this role, the Committee evaluates the balance of skills, experience, independence and knowledge on the Board. The Board values diversity and considers the importance of diversity, in all its forms, when recruiting new Board members.

The key responsibilities of the Committee are:

- reviewing the size, structure and composition of the Board;
- recommending membership of Board Committees;
- undertaking succession planning for the Chairman, Executive Directors and senior management;
- searching for candidates for the Board, and recommending Directors for appointment;
- determining the independence of Directors;
- assessing whether Directors are able to commit enough time to discharge their responsibilities; and
- reviewing the induction and training needs of Directors.

Full terms of reference for the Committee can be found at www.spectris.com. The Committee's performance was assessed as part of the Board's annual effectiveness review, which was conducted by Lisa Thomas of Independent Board Evaluation. Further details on the evaluation process are set out on page 60.

Membership and attendees

Throughout 2019, all Non-executive Directors were members of the Committee. Meetings are normally attended by the Chief Executive and Group HR Director (except during any discussion of their own role).

Activities of the Committee during 2019

During the year, the Committee's key activities included:

- agreeing the succession plan for Russell King's role and responsibilities ahead of his planned retirement from the Board in May 2020;
- the search and selection process for a new Non-executive Director with suitable experience to be appointed as Remuneration Committee Chairman, which culminated in the recommendation of Cathy Turner's appointment to the Board;
- providing continued oversight of a Group-wide organisational capability review and as part of that oversight process, reviewing and challenging the Group's talent management and succession planning at a Group Executive and senior management level;
- considering the independence of each Non-executive Director and their time commitments; and
- undertaking a detailed review of diverse candidates within the Group's talent pipeline, in support of the Board diversity policy.

Selection and recommendation of the appointment of Cathy Turner

Following Russell King's confirmation of his decision to retire from the Board before the 2020 AGM, the Committee considered the appropriate succession plan for his roles and responsibilities, in particular his roles as SID, Remuneration Committee Chairman and Workforce Engagement Director.

The Committee firstly considered the skills, experience and time commitments of the existing Non-executive Directors. Based on this review, it was agreed that Bill Seeger be recommended to the Board to succeed Russell King as SID and that Kjersti Wiklund be recommended to the Board as Workforce Engagement Director. It was further agreed that a new Non-executive Director be recruited to complement the skills, diversity, experience and knowledge of the Board and that this additional director would, after a suitable handover period, be appointed as Chairman of the Remuneration Committee.

The Nomination Committee commenced a process to identify and appoint a new Non-executive Director and engaged the expertise of the Lygon Group, an external search consultancy, to establish a diverse list of candidates, who were then considered against the specification for the role. Neither the Company nor any of the Directors have any links with the Lygon Group who are a signatory to the Voluntary Code of Conduct for Executive Search Firms on gender diversity and best practice.

Members of the Nomination Committee and the Chief Executive met with a shortlist of candidates in individual and Group interviews and following a detailed referencing process chose to recommend the appointment of Cathy Turner to the Board. Cathy Turner was appointed in September and has spent several months working with Russell King on the finalisation of the 2020 Remuneration Policy and will become Chairman of the Remuneration Committee on 1 March 2020.

2020 Committee focus

During 2020, the Committee will continue to focus on succession planning and supporting the diverse composition of the Board, Executive and senior management population with a particular focus on leadership development within the platform businesses.

Audit and Risk Committee Report

The Committee provides assurance to the Board on the integrity of financial reporting and oversees the effectiveness of the internal and external audit functions and risk management processes.

I am pleased to present the Audit and Risk Committee report to shareholders which sets out the activities of the Committee throughout 2019. These activities have included:

- assessing the integrity of the Group's financial reporting processes;
- the quality and effectiveness of internal audit and the Group's systems of risk management and internal control; and
- the quality and effectiveness of the external audit.

The Committee has held four meetings during the year, which aligned with the Group's financial reporting timetable. This schedule allowed sufficient time for full discussion of key topics and enabled early identification and resolution of risks and issues. As mentioned in last year's report, the Committee will meet for three longer meetings in 2020.

The Committee maintains an annual calendar of activities to ensure that all significant areas of risk management are addressed as well as allowing time for the review of regulatory developments and emerging best practice.

As Chairman of the Committee, I meet regularly with management, internal audit and the external auditor between Committee meetings. In October, the Board had the opportunity to visit the Omega site, as well as a visit to HBK earlier on in 2019. During these visits, the Board met with employees from within the businesses, including members of the finance and risk teams. Along with the other activities the Committee undertakes, these visits are fundamental for the Committee to develop a sound understanding of the businesses within the Group and the different risks they may face.

We welcomed Andrew Bond as our new audit partner in March 2019. Details of the Committee's assessment of the performance, independence and effectiveness of Deloitte can be found on page 68. Following this review, the Committee was satisfied that Deloitte remains effective in its role.

As a Committee, a particular focus in 2020 will continue to be on risk management and, in particular, the Group's ongoing enhancements to systems of governance and internal control.

I hope that this review, and the report that follows, is useful to support the understanding of the work of the Committee during the year. We encourage shareholder feedback and I look forward to meeting with shareholders at our Annual General Meeting ('AGM') in May.

Bill Seeger
Chairman of the Audit and Risk Committee
19 February 2020

Key areas of focus

The UK Corporate Governance Code requires, on a comply or explain basis, the Committee to report on the significant matters considered during the year. In 2019, I consider that the most important matters were:

A detailed review of the effectiveness of the Company's internal controls and risk management systems.

Impairment discussions and conclusion in relation to the Concept Life Sciences business, Millbrook and EMS joint venture.

A review of the progress of the Ethics and Compliance Enhancement Programme.

Membership and attendance

In line with the requirements of the Code, the Committee is comprised solely of independent Non-executive Directors. Bill Seeger, Martha Wyrtsch and Ulf Quellmann were all members of the Committee throughout 2019. Karim Bitar was a member of the Committee until 25 July 2019. Kjersti Wiklund joined the Committee on 25 July 2019. Kjersti has a strong background in IT controls which will provide invaluable support and challenge to the Committee's ongoing review of cyber and IT risks within the business. Bill Seeger is determined by the Committee to have "recent and relevant financial experience" as required by the Code. All members of the Committee are considered to have competencies that the Board deems relevant to the sectors in which the Company operates.

Attendees at meetings normally include:

- the Chairman
- the Chief Executive
- the Chief Financial Officer
- the Head of Internal Audit
- the General Counsel and Company Secretary; and
- representatives of the external auditor.

The Committee retains time around each meeting to meet separately without management present and invites the Head of Internal Audit and the external auditor to attend for part of this session.

Role of the Committee

The Committee supports the Board in fulfilling its responsibilities in respect of:

- overseeing the Company's financial and narrative reporting processes, including advising the Board where required on the fair, balanced and understandable assessment of the information provided;
- reviewing, challenging and approving significant accounting judgements proposed by management;
- reviewing and monitoring the way in which management ensures and oversees the adequacy of financial, risk management and compliance controls;
- the appointment, remuneration, independence and performance of the Group's external auditor; and
- the independence and performance of internal audit.

Details of the work carried out by the Committee in accordance with its terms of reference and in addressing significant issues are reported to the Board as a matter of course by the Chairman of the Committee and are described in this report. Details of the Committee meeting attendance in 2019 can be found on page 57 of the Annual Report.

The Committee reviews the annual forward agenda and its terms of reference annually to ensure they remain accurate and effective.

The terms of reference for the Committee can be found at www.spectris.com.

Key areas of focus in relation to the Financial Statements

The Committee has reviewed the key judgements applied to the following significant issues in the preparation of the Financial Statements. The table below sets out the issue, its significance, how the Committee considered this and any comments and conclusions reached.

Change in Group segments

Issues and significance

In June 2019, at the Capital Markets Day, the Group announced its new Strategy for Profitable Growth. This included a change to the segmental structure of the Group from 1 July 2019, with three platforms identified: Malvern Panalytical, HBK and Omega and the remaining operating companies forming a new division, Industrial Solutions. At the same time, Concept Life Sciences ('CLS') and VI-grade were combined with Malvern Panalytical and HBK respectively. In October 2019, restated segmental financial information under IFRS 8 for the periods to 31 December 2018, 30 June 2018 and 30 June 2019 was made available on the Company's website.

The role of the Committee

The Committee considered the presentation of the restated segmental information and the new segmental reporting structure together with a report from management outlining the changes to the proposed segmental information.

Comments and conclusions

The Committee concluded these appropriately reflected the management and decision-making structure for the Group from 1 July 2019.

Alternative performance measures

Issues and significance

In November 2018, the Group launched the Profit Improvement Programme. Costs incurred under the programme in 2019 have been classified as adjusting items to operating profit within restructuring. There is a risk that items included could relate to underlying trading items, rather than be linked to one-off restructuring activities.

Comments and conclusions

The Committee concluded that the treatment of the restructuring costs and other one-off items as adjusting items was appropriate in providing a fair and balanced explanation of the underlying performance of the Group.

It was also agreed that the profit on disposal of a property at Omega during 2019 should be treated as an adjusting item due to its size.

The role of the Committee

The Committee considered the nature and quantum of the items included within restructuring and the controls in place around the inclusion of such items. The Committee received reports from management outlining the details of the nature and amount of items included within restructuring.

Audit and Risk Committee Report continued

Key areas of focus in relation to the Financial Statements continued

Review of non-current assets for impairment

Issues and significance

Management assessed the carrying value of its cash-generating units, including detailed value-in-use calculations, to ensure that the carrying values recognised were supported by future forecast discounted cash flows. CLS's performance was below expectations during 2019 which required an impairment to both goodwill and intangible assets in the first half of 2019. The headroom between the recoverable amount and the carrying value of Millbrook CGU is modest and whilst this did not give rise to any impairment, reasonably possible changes in key assumptions could cause an impairment. Management expects the headroom to increase in future periods as the recent capital investments depreciate and the expected returns on these assets are realised.

In addition, management assessed the recoverability of its receivable from the Brüel & Kjaer EMS joint venture and has concluded that it be impaired. Other impairments have also been recorded arising from the restructuring activities. For all other

cash-generating units, management did not consider there to be any reasonably possible scenarios that could arise in the next 12 months that would result in an impairment charge being recognised. Further detailed disclosures are set out in Notes 11 and 13 to the Financial Statements.

The role of the Committee

The Committee reviewed and challenged assumptions made by management in their assessment of the valuation of goodwill and intangible assets. They also considered the external auditor's opinion on the assumptions underpinning management's estimates and conclusions.

Comments and conclusions

As part of the Group's half year results, the Group recognised CLS as an impaired asset and the Committee discussed and agreed with management the necessary level of disclosure to support the impairment assessment.

Estimation, uncertainty and judgement

Issues and significance

During the year, the Committee received reports and recommendations from management to consider the significant accounting issues, estimates and judgements applicable to the Group's Financial Statements and disclosures.

The key risks of estimation disclosed in the Group's 2019 Financial Statements are: the assumptions applied in the calculation of retirement benefit plan liabilities; provisions for uncertain exposures and tax positions; and estimates used in the annual impairment review. The critical accounting judgement discussed in the Group's 2019 Financial Statements is classification and presentation of items as restructuring costs.

Further details are set out in Notes 8, 11, 19 and 20 to the Financial Statements.

The role of the Committee

Management confirmed to the Committee that they were not aware of any material or immaterial misstatements made intentionally to achieve a particular presentation.

The Committee reviewed presentations by management and questioned Deloitte to understand whether the external auditor had, to the Committee's satisfaction, fulfilled its responsibilities with diligence and professional scepticism and in a sufficiently robust manner.

Comments and conclusions

After reviewing and challenging the presentations and reports from management and consulting, where necessary, with the external auditor, the Committee is satisfied that the Financial Statements appropriately address critical judgements and key estimates (both in respect of the amounts reported and the disclosures).

The Committee was satisfied that the significant assumptions used for determining the value of assets and liabilities have been appropriately scrutinised and challenged and are sufficiently robust.

Principal Risks and Uncertainties

Issues and significance

During 2019, management undertook a holistic review of the appropriateness of the Group's existing Principal Risks and suggested changes to reflect the Group's approved strategy for profitable growth.

The role of the Committee

The Committee reviewed and challenged the process followed and the assessments made by management in respect of the agreement of the Group's Principal Risks and Uncertainties

at its meeting in December. At the same meeting, it also considered the proposed disclosure of these Principal Risks and Uncertainties in the Annual Report.

Comments and conclusions

The Committee endorsed the suggested approach from management that the Group's Principal Risks and Uncertainties should reflect the Group's approved Strategy for Profitable Growth.

A number of other judgements made by management were also reviewed with the independent auditor, including the accounting as a result of the sale of EMS Brüel & Kjaer on 17 January 2020 and the sensitivity in respect of the value-in-use headroom calculated in the Millbrook cash-generating units ('CGU') impairment review. It was concluded that the accounting treatment for EMS Brüel & Kjaer should be "held for sale" as at 31 December 2019; and that a disclosure note would be included in respect of the Millbrook CGU.

Activities of the Committee during 2019

The Committee has an annual forward agenda developed from its terms of reference. Standing items are considered at each meeting, in addition to any specific matters arising, and topical business or financial items on which the Committee has chosen to focus. The work of the Committee in 2019 principally fell into three main areas:

1. Accounting, tax and financial reporting

- reviewing the integrity of the half-year and annual Financial Statements and the associated significant financial reporting judgements, estimates and disclosures;
- considering the liquidity risk and the basis for preparing the half year and annual Financial Statements on a going concern basis, and reviewing the related disclosures in the Annual Report and Accounts;
- considering the provisions of the Code regarding going concern and viability statements and reviewing best practice and investor comment as well as the Group's Viability Statement;
- reviewing updates on pensions liabilities including the accounting standard on employee benefits (IAS 19);
- the application of the new accounting standard on accounting for leases (IFRS 16);
- reviewing the processes to assure the integrity of the Annual Report and Accounts;

- reviewing the management representation letter to the external auditor and the findings and opinions of the external auditor;
- considering the process designed to ensure the external auditor is aware of all "relevant audit information", as required by Sections 418 and 419 of the Companies Act 2006;
- assessing the disclosures in relation to internal controls and the work of the Committee;
- recommending to the Board that the information presented in the Annual Report and Accounts, when taken as a whole, is fair, balanced and understandable and contains all relevant information necessary for shareholders to assess the Company's position, performance, business model and strategy and the processes undertaken to support the disclosure of that information; and
- the effectiveness of the disclosure controls and procedures designed to ensure that the Annual Report and Accounts complies with all relevant legal and regulatory requirements.

2. Risk management and internal controls

- assessing the effectiveness of the Group's risk management and internal control environment and making recommendations to the Board;
- reviewing risk management updates from the various operating companies;
- considering reports from internal audit;
- considering the level of alignment between the Company's principal risks and internal audit programme;
- reviewing the adequacy of resources of the internal audit function and considering and approving the scope of the internal audit programme;
- considering the effectiveness of internal audit;

- reviewing the Group's ongoing litigation matters and associated provisions;
- reviewing the control procedures in place to comply with the Group's policies on business ethics, anti-bribery, compliance and fraud, including the steps being taken to enhance the Group's ethics and compliance programme;
- reviewing matters reported to the external whistleblowing hotline and the status of associated investigations; and
- considering reports from the external auditor on its assessment of the control environment.

Further details of the Group's whistleblowing policy and approach to the management of ethical conduct are set out in the Sustainability Report on page 53.

3. External auditor

- considering the re-appointment of the external auditor;
- considering and approving the audit approach, the scope of the audit undertaken by Deloitte as external auditor and the fees for the same;
- agreeing reporting materiality thresholds;
- reviewing reports on audit findings;
- considering and approving letters of representation issued to Deloitte; and

- considering the independence of Deloitte and its effectiveness, taking into account:
 - the Deloitte Audit Quality Inspection Report;
 - non-audit work undertaken by the external auditor;
 - feedback from a survey targeted at various stakeholders; and
 - the Committee's own assessment.

Audit and Risk Committee Report continued

Internal control and risk management systems

To assist the Board with its responsibilities to effectively determine the nature and extent of the Group's significant risks, the Committee carries out a robust annual assessment of the principal risks and uncertainties facing the Group. The Board remains ultimately responsible for determining the nature and extent of the effectiveness of the risk management and internal controls system which mitigate potential impacts on shareholder investments and the Company's assets.

Before reporting its findings and recommendations to the Board, the Committee:

- evaluates and challenges the results and recommendations of audits undertaken by the internal audit team and the external auditor;
- reviews reports received on significant control issues to the Group and considers and challenges as necessary the adequacy of management's response to any matters raised;
- appraises the Group's response to information security and data protection risks;
- considers the Group's ethics programme and the anti-bribery and corruption audit programme;
- considers common control themes identified throughout the business, and where themes are identified, ensures that subsequent action has been taken to minimise the risk;
- assesses the Group's responsibilities relating to regulated exposures of the Group;
- reviews the annual Audit and Risk Committee agenda; and
- has oversight of the governance and risk management framework, including a definition of risk appetite by risk category and principal risk, put in place throughout the Group.

The effectiveness of risk management and mitigation is reviewed regularly by the Executive Committee and twice yearly by the Audit and Risk Committee. The Board notes that, as with all such systems, the Group's risk management and internal control framework is designed to manage, rather than eliminate the risk of failure to achieve business objectives, and can provide only reasonable and not absolute assurance against material misstatement or loss.

Viability Statement

Our approach to the 2019 Viability Statement built on the work carried out last year. The Committee reviewed the 2019 Viability Statement in light of factors affecting the duration over which the Viability Statement is made, including:

- budgeting, forecasting and strategic planning cycles;
- the time frame within which our risks are assessed; and
- the maturation of the Group's credit facilities and the approach taken by our peers.

The Committee remains of the view that the statement made regarding the Company's viability period continues to be an accurate assessment of the Company's viability as at the date of the report. The Viability Statement can be found in full on page 47.

Independent assurance

Internal audit

The Committee has oversight responsibilities for the internal audit function, which is led by the Head of Internal Audit. It is also responsible for monitoring the effectiveness of the internal audit function.

The purpose of the internal audit function is to provide independent, objective assurance to add value and improve the Group's operations. Its responsibilities include assessing the key risks of the organisation and examining, evaluating and reporting on the adequacy and effectiveness of the systems of internal control and risk management in place, and the governance processes in operation throughout the Group.

During the year, the Committee considered the internal audit programme for the forthcoming year and reviewed the proposed audit approach, coverage and allocation of resources.

The Committee also reviewed the progress updates against the 2019 activity of internal audit, received reports on issues of significance to the Group and reported to the Board on its evaluation of these findings. During the year, the Committee agreed to undertake an external assessment of the effectiveness of the internal audit function. This assessment will take place during the first half of 2020 and will incorporate feedback from the operating company leadership teams and Group functions. The Committee will discuss the findings of the evaluation with the Head of Internal Audit at their scheduled meeting in July 2020. In the meantime, the Committee observed the activities of Internal Audit during 2019 and agreed that the Group's internal audit processes remained effective.

External auditor

The Committee is responsible for managing the relationship with the Group's external auditor on behalf of the Board.

Deloitte LLP, appointed as the Company's auditor in 2016 following a competitive tender process, has now completed its third year as auditor. Andrew Bond has held the role of lead audit partner since March 2019.

During the year, the Committee carried out the annual effectiveness review of the external auditor which focused primarily on the 2018 audit. The findings of this review were reported in detail to the Board. There were no significant findings following the review and it was concluded that the audit process continued to be effective. The engagement letter for the audit of the 2019 Financial Statements was reviewed by the Committee, and, in accordance with the authority given to the Committee at the 2019 AGM, the Committee reviewed the proposed remuneration of Deloitte. The Committee considered the proposed auditor's remuneration to be appropriate.

It is proposed that Deloitte be re-appointed as auditor of the Company at the next AGM in May 2020 and, if so re-appointed, that it will hold office until the conclusion of the next general meeting of the Company at which accounts are laid. Further details are set out in the Notice of Meeting, which is available at www.spectris.com.

The Group will continue the practice of the rotation of the audit engagement partner at least every five years, with all other partners and senior management required to rotate at least every seven years. The independent external auditor's report to shareholders is set out on pages 97 to 104.

As detailed above, the Company complied with the Statutory Audit Services Order 2014 throughout 2019.

Non-audit fees

The Committee believes that non-audit work may only be undertaken by the external auditor in limited circumstances. A cumulative annual cap is imposed for non-audit services provided by our external auditor (save for acquisition due diligence), above which all engagements are subject to the Committee's prior approval.

The Committee's non-audit services policy is available at www.spectris.com. Non-audit fees for services provided by Deloitte for the year amounted to £0.2million (9% of the audit fee), which predominantly relate to the half-year review. Further details are included in Note 5 to the Financial Statements.

Performance review

The Committee's performance was assessed during the year as part of the wider Board evaluation process. The review was conducted externally and led by Lisa Thomas of Independent Board Evaluation. As part of the evaluation process Ms. Thomas attended a meeting of the Committee and met individually with each Committee member and key contributors to the Committee, including the Head of Internal Audit and the External Audit partner. The Committee was considered to have operated effectively during the year.

Directors' Remuneration Report

Remuneration Committee Chairman's statement

This will be the final time I write to you as Chairman of the Remuneration Committee.

I have been a member of the Board and Chairman of the Remuneration Committee since 2010. With that longevity in mind, I will retire from the Board at the 2020 Annual General Meeting ('AGM'). During 2019, I worked closely with the Chairman and members of the Nomination Committee to identify a suitable successor as Chairman of the Remuneration Committee.

I am pleased to introduce Cathy Turner to you as Chairman-elect of the Remuneration Committee. Cathy has significant experience of HR and remuneration matters in an executive capacity and importantly has been and is an effective member and chairman of the remuneration committee in other non-executive roles. I have greatly appreciated Cathy's support and counsel since she joined the Committee in September 2019, and her experience in a wide variety of different sectors will add significant value to the expanded role of the Remuneration Committee under current corporate governance requirements.

New Remuneration Policy

At the General Meeting of the Company held on 4 December 2019, a new Remuneration Policy was approved by shareholders to take effect from 1 January 2020. At the end of a successful consultation process, for which I would like to thank the Company's shareholders and the main shareholder representative bodies, the Policy and its component parts received strong shareholder support. The Policy received over 94% of votes in favour of its approval.

Background to the new Policy

The existing Remuneration Policy was approved by shareholders in May 2017. Since that time, the Group has appointed a new leadership team and set out its strategy for profitable growth that was presented to the market at a Capital Markets Day in June 2019. Following the agreement of the new strategy, the Committee consulted with management and our external remuneration advisers, PricewaterhouseCoopers LLP ('PwC') to consider the most appropriate way to reflect this strategy in the Group's future remuneration structure. The new Policy was designed by the Committee to align the interests of the Executive Directors, and the senior management team, with the core aims of the new strategy, as well as to align management with the interests of shareholders in the reward for significant outperformance against the market. We brought the Policy to shareholders for approval slightly ahead of the three-year renewal requirement to ensure that executive pay would be aligned with strategy and performance for the 2020 reward cycle. A diagram depicting the new Policy

structure is set out on the opposite page and a full summary of the new Policy and the key changes in comparison to the 2017 Policy is set out on page 72. Full details can be found in the 2020 Policy document attached to the Notice of the 2019 General Meeting, a copy of which is available on our website www.spectris.com.

Shareholder engagement

The Committee consulted extensively with shareholders and the main shareholder representative bodies on the amendments to the Remuneration Policy and new incentive plans and the original proposals were amended as a result of the feedback received to better align the interests of the Executive Directors with shareholders. The Committee and I felt that the shareholder engagement process resulted in an approach that supported the Company's objectives and met the desires of the majority of the Company's shareholders, as demonstrated by the votes received at the December General Meeting.

Application of the new Policy

The first award under the Spectris LTIP will be made in late February 2020 following the announcement of the 2019 full year results. The Bonus Plan will be operated for the first time in respect of the 2020 financial year.

Wider workforce considerations

Spectris is committed to creating an inclusive working environment and to rewarding our employees throughout the organisation in a fair manner. In making decisions on executive pay, the Remuneration Committee considers wider workforce remuneration and conditions. All roles are benchmarked against PwC's benchmarking report of FTSE 100-150 companies.

We believe that employees should be able to share in the success of the Company and in 2018 we introduced a Share Incentive Plan for this purpose. We also believe that employees should have the opportunity to save for their futures and to this end we operate pension saving mechanisms for all employees.

As part of our commitment to fairness, we have introduced a new section to this Report (see page 90) which sets out more information on our wider workforce pay conditions, our CEO to employee pay ratio, our gender pay statistics, and our diversity initiatives. The Committee has reviewed these elements and is satisfied that the executive remuneration structure remains appropriate. Whilst we recognise there is much work still to do in this regard, we believe that transparency is an important first step towards making improvements in relation to these important issues.

Summary of 2019 performance outcomes

Adjusted profit before tax was up 2% with a 2% increase in adjusted earnings per share. The Committee agreed that it was appropriate for performance to be assessed against this adjusted measure having considered the individual adjusting items shown in Note 2 to the Financial Statements. The Committee set stretching targets and against this backdrop the Executive Directors achieved a slightly under-target payout for the financial performance. Andrew Heath, Chief Executive Officer, earned a total annual bonus for 2019 of 67.8% of salary (44.8% related to financial objectives and 23% to personal/strategic objectives) out of a maximum potential opportunity of 150% of salary. Derek Harding, Chief Financial Officer, earned a total annual bonus for 2019 of 67.8% of salary (44.8% related to financial objectives and 23% to personal/strategic objectives) out of a maximum potential opportunity of 125% of salary.

Full details of the performance outcomes for the annual bonus are set out on pages 77 and 78. All incentive outcomes during 2019 reflected the operation of our incentive programme formulas without the exercise of any discretion by the Committee. The Committee is satisfied that the Remuneration Policy has operated as intended during 2019 and incentive outcomes are in line with Company performance.

2020 remuneration outlook

The Executive Directors salaries were reviewed by the Committee in February 2020 with a 3.5% increase agreed with effect from 1 April 2020 in line with the average pay increase across the wider UK-based Spectris employee population. The fee structure for the Chairman and Non-executive Directors was reviewed in December 2019, with fee increases taking effect from 1 January 2020, further details are set out on page 72.

Shareholders

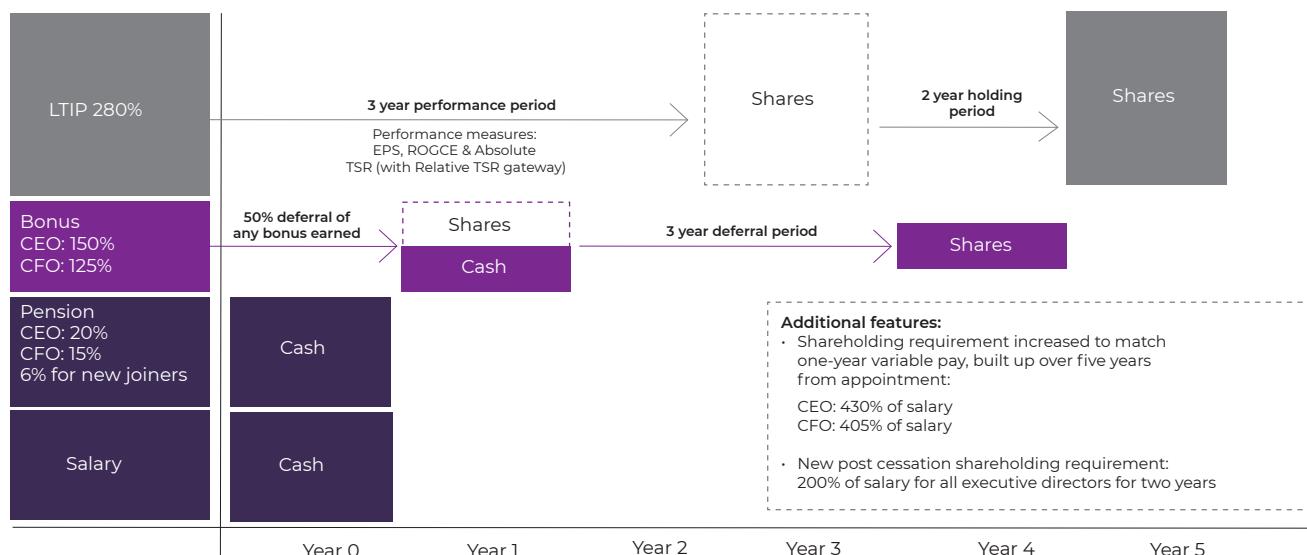
I would like to thank our shareholders for their continued support during the year. Cathy Turner and the members of the Remuneration Committee will be available to meet with shareholders at the 2020 AGM and any questions regarding remuneration can be directed to the Committee via the Spectris website.

Russell King

Chairman of the Remuneration Committee

19 February 2020

Remuneration structure for 2020 effective 1 January 2020



Summary of key changes in the 2020 Remuneration Policy effective 1 January 2020

Current arrangements under 2017 Policy	Key changes to Policy	FY2020 implementation of 2020 Policy								
Executive fixed pay										
Salary										
Fixed remuneration which reflects required skills and expertise to deliver the Group's strategic and performance objectives.	No change to Policy.	CEO: £631,350 CFO: £491,625 Increase for FY2020 of 3.5% in line with average increase for UK employees.								
Pension										
Executive Directors receive an annual cash allowance in lieu of participation in a Spectris pension scheme. Maximum potential payment under Policy of 25% of salary.	Allowance for new joiners aligned to the majority of wider UK workforce. Approach to be developed to align incumbent Directors' pension arrangements with wider workforce by the end of 2022.	CEO: 20% of salary CFO: 15% of salary New joiners: 6% of salary								
Benefits										
Car and fuel allowances, healthcare, life and disability assurance with a maximum total £30,000.	No material changes.	Provided in line with the Remuneration Policy.								
Executive variable pay										
Bonus										
Maximum opportunity based on salary. Paid in cash.	No change in quantum.	CEO: 150% of salary CFO: 125% of salary								
Payments in excess of 60% of salary to be used to acquire Spectris shares until the minimum required shareholding level (300% of salary) is achieved.	50% of any bonus earned deferred for three years.	50% of any bonus earned is to be deferred in shares for three years.								
Measures and weightings: CEO: 125% adjusted PBT, 25% personal objectives CFO: 100% adjusted PBT, 25% personal objectives	Replacement of performance measures with balanced financial and strategic performance measures aligned with business strategy.	Percentage of total opportunity: <table><thead><tr><th>Measure</th><th>weighting</th></tr></thead><tbody><tr><td>Adjusted Operating Profit</td><td>60%</td></tr><tr><td>Adjusted Cash conversion</td><td>20%</td></tr><tr><td>Operational and strategic measures</td><td>20%</td></tr></tbody></table>	Measure	weighting	Adjusted Operating Profit	60%	Adjusted Cash conversion	20%	Operational and strategic measures	20%
Measure	weighting									
Adjusted Operating Profit	60%									
Adjusted Cash conversion	20%									
Operational and strategic measures	20%									
Annual bonus payout curve: Threshold: 1% of maximum opportunity Target: 60% of maximum opportunity Maximum: 100% of maximum opportunity	Standardisation of target payout at 50% of the maximum bonus opportunity.	Threshold: 1% of maximum opportunity Target: 50% of maximum opportunity Maximum: 100% of maximum opportunity								
Performance targets are not disclosed in advance due to their commercial sensitivity. All targets will be disclosed retrospectively following the end of the performance period.										
Long Term Incentive Plan ('LTIP') previously the Performance Share Plan ('PSP')										
Maximum opportunity based on 200% of salary.	Maximum opportunity increased to 280% of salary through multiplier of 1.4x base award with TSR performance conditions.	280% of salary								
Performance measures and weightings: One-third weightings to each of growth in adjusted EPS, TSR and Economic Profit ('EP').	Performance measures aligned with Strategy for Profitable Growth.	100% Adjusted EPS growth: Threshold: 4% p.a. Target: 7% p.a. Maximum: 10% p.a. 100% Return on Gross Capital Employed: Threshold: 2019 ROGCE +1%. Target: +2%. Maximum: +3% 80% Absolute TSR (with relative TSR underpin): Threshold: 8% p.a. Target: 10% p.a. Maximum: 15% p.a. (280% of salary total)								
Other										
Shareholding requirement: 300% of salary within five years of date of appointment.	Increased to match one-year variable pay to be built up within five years of appointment.	CEO: 430% of salary CFO: 405% of salary								
Post-cessation shareholding requirement: None.	Introduction of post-cessation shareholding requirement and time frame.	Any Executive Director who leaves the Company to retain the lower of: • Actual shareholding at the date of departure; or • 200% of final salary. To be retained by a departing Executive Director for two years post-cessation.								
Malus and Clawback Clawback provisions enable variable remuneration to be reclaimed under exceptional circumstances in the event of any miscalculation of entitlement, misstatement of accounts or incidence of fraud. They also enable the Committee to recoup the value of previously vested awards from an individual within three years of the end of the relevant performance period, if appropriate in the event of a material correction of financial results previously used to assess a performance condition or if the performance was otherwise shown to be materially worse than was believed when a performance condition was assessed.	Introduction of malus provisions and enhanced clawback provisions.	Clawback and malus provisions enable variable remuneration to be reclaimed under the following circumstances: material misstatements of results or accounts; gross misconduct or fraud; award calculated in error; material failure of risk management; and a material breach of our Code of Business Ethics. Standard clawback provisions on bonus and LTIPs apply within two years of the end of the relevant performance period.								
NED fees										
Fees reflect responsibilities and time commitments for the role.	The existing fee structure for Non-executive Directors has been in place since 1 January 2017. The fee structure was reviewed in December 2019 against FTSE 250 market practice and changes were approved to take effect from 1 January 2020 to maintain fees at close to median level in the FTSE 250.	Chairman £232,000 NED basic fee £58,000 Senior Independent Director £10,000 Committee Chairman fee £12,000 (Audit and Risk and Remuneration) Workforce Engagement Director £8,000 Travel supplement (overseas NEDs) £15,000								

2019 Remuneration at a glance

Summary details of Executive Directors' remuneration for the financial year ended 31 December 2019 are illustrated below.

Andrew Heath Chief Executive
Derek Harding Chief Financial Officer
Clive Watson Former Group Finance Director

Executive Directors

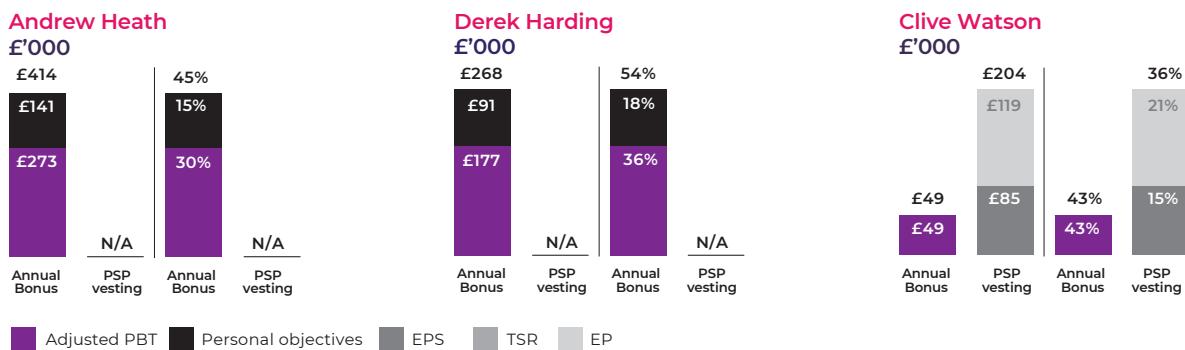
Single total figure of remuneration

	Andrew Heath £'000	Derek Harding £'000	Clive Watson £'000
Salary	610	396	90
Pension and benefits	139	73	27
Annual Bonus	414	268	49
PSP	—	—	204
Single total figure of remuneration	1,163	737	370

■ Fixed Pay ■ Annual Bonus ■ PSP

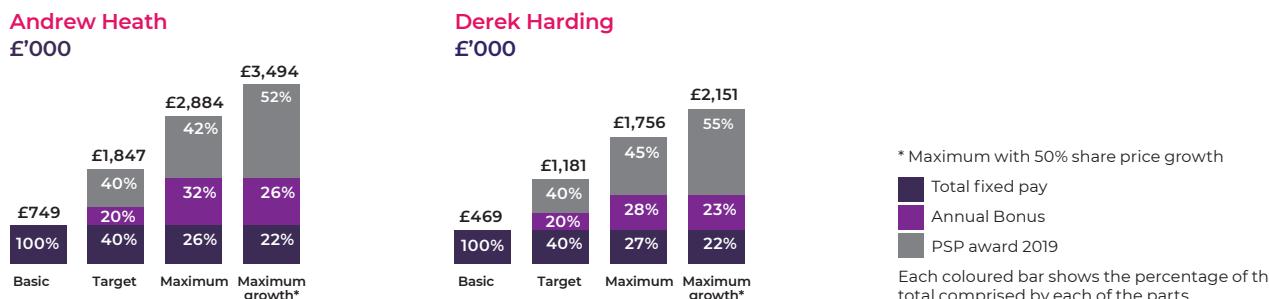
The fixed elements of pay include base salary, pension, benefits in kind and taxable expenses. Derek Harding joined the Board on 1 March 2019 and Clive Watson stepped down from the Board on 25 March 2019. Their respective remuneration figures have been pro-rated to reflect the time served as a Director. The PSP figure relates to the 2017 award which is due to vest on 6 June 2020 and is, in part, based on estimated vesting levels as at 31 December 2019 (see pages 79 and 80 for details).

Performance outcomes – Bonus and PSP vesting



The Annual Bonus percentage is actual bonus earned in respect of the 2019 financial year expressed as a percentage of the maximum bonus opportunity. The PSP percentage is the estimated vesting outcomes of the PSP award granted in 2017 expressed as a percentage of the total award. Andrew Heath and Derek Harding joined the Group after the 2017 PSP awards were granted. Full details are set out on pages 77 to 80.

2019 Remuneration outcomes scenarios



The above bar charts illustrate the remuneration outturns at target and maximum opportunity in respect of the serving Directors at the 2019 year end. The outturns for Derek Harding have been pro-rated on a time-served basis. The PSP element relates to PSP awards granted in 2019. Clive Watson stepped down from the Board on 25 March 2019 and did not participate in the 2019 PSP award.

Summary of 2017 Remuneration Policy

Our 2017 Remuneration Policy (approved by shareholders at the AGM on 26 May 2017) remained in operation for the FY2019 and a summary of its key features are detailed below. This Policy was reviewed during the year and our 2020 Remuneration Policy was approved by shareholders in general meeting on 4 December 2019. The 2020 Policy will apply with effect from 1 January 2020 and may operate for three years before further shareholder approval is sought.

Full details of both the 2017 Remuneration Policy and the 2020 Remuneration Policy are available on the Company's website www.spectris.com or upon request from the Company Secretary at the Company's registered office address.

Element	Base salary/fees	Annual bonus	Performance Share Plan ('PSP')
Purpose and link to strategy	<ul style="list-style-type: none"> Competitive fixed remuneration that enables Spectris to attract and retain key executives. 	<ul style="list-style-type: none"> Drives short-term profit performance. Incentivises Executive Directors to achieve specific pre-determined stretching objectives relating to Spectris and the individual's personal responsibilities. 	<ul style="list-style-type: none"> Drives the delivery of sustained compound annual growth in earnings per share ('EPS'), relative out-performance in total shareholder return ('TSR') and increase in economic profit ('EP').
Operation	<ul style="list-style-type: none"> Normally reviewed annually. Benchmarked triennially against relevant comparators. 	<ul style="list-style-type: none"> Bonus potential set at a market-competitive rate. Payable in cash. Bonus based on annual performance targets. Bonus payments in excess of 60% of salary must be used to acquire shares in Spectris until the minimum required shareholding (300% of base salary) is achieved. No further bonus deferral arrangements are currently in operation. Clawback provisions enable variable remuneration to be reclaimed under exceptional circumstances in the event of any miscalculation of entitlement, misstatement of accounts or incidence of fraud. 	<ul style="list-style-type: none"> Awards made annually with performance conditions based over a three-year period. Two-year holding period for all new awards. Post-tax benefit of any vested PSP awards must be applied to the acquisition of shares until the required level of shareholding is achieved. Clawback provisions enable the Committee to recoup the value of previously vested awards from an individual within three years of the end of the relevant performance period if it considers it appropriate in the event of a material correction of financial results previously used to assess a performance condition or if performance was otherwise shown to be materially worse than was believed when a performance condition was assessed.
Maximum opportunity	<ul style="list-style-type: none"> Increases limited to the average increase for general UK wage inflation. The Committee retains the discretion to award increases/reductions in excess of/below this if, and where, it deems appropriate. 	<ul style="list-style-type: none"> Maximum opportunity is based on base salary: <ul style="list-style-type: none"> – 150% Chief Executive – 125% Group Finance Director/CFO Bonus starts accruing from threshold levels of performance. 	<ul style="list-style-type: none"> 200% of base salary.
Performance metric	<ul style="list-style-type: none"> Reflects the role and the Director's skills, performance and experience, referenced to a level at or moderately below the comparator group's median. 	<ul style="list-style-type: none"> The Committee may determine appropriate performance measures, which are assessed annually. A minimum (threshold) level of performance will result in a bonus of 1% of base salary. At target, the bonus level for each Executive Director is 60% of base salary. 	<ul style="list-style-type: none"> The Committee may determine appropriate performance measures and vesting levels for awards. 20% of award shares vest on achievement of minimum performance and 100% for maximum performance.

Benefits in kind	Pension and other benefits in kind	All-employee share plans	Shareholding ownership guidelines
<ul style="list-style-type: none"> Market-competitive benefits in kind enabling Spectris to attract and retain key executives. 	<ul style="list-style-type: none"> Market-competitive defined contribution pension, enabling Spectris to attract and retain key executives. 	<ul style="list-style-type: none"> The Spectris all-employee share plans are operated to encourage share ownership by employees, allowing them to share in the long-term success of the Group and align their interests with those of shareholders. 	<ul style="list-style-type: none"> To encourage share ownership by the Executive Directors and ensure that their interests are aligned with those of shareholders.
<ul style="list-style-type: none"> Benefits in kind include company cars or allowances, private fuel, medical insurance and life and disability insurance, and are benchmarked periodically. 	<ul style="list-style-type: none"> Pensions are benchmarked periodically. 	<ul style="list-style-type: none"> Executive Directors are able to participate in the Group's all-employee share plans on the same terms as other Group UK employees. Currently, the Group operates an all-employee Share Incentive Plan ('SIP') whereby an employee may purchase Spectris shares at market price, using gross salary up to a maximum of the level allowed by HMRC. For every five shares purchased by an employee under the SIP, the Company will award one free Matching share. Matching shares are subject to forfeiture if the employee leaves the SIP within three years. The SIP replaced the Spectris Savings Related Share Option Scheme ('SAYE Scheme'). 	<ul style="list-style-type: none"> Each Executive Director is required to build a retained shareholding in Spectris of at least three times base salary in value within five years of being appointed to the Board. Post-tax benefit of any vested LTIP awards or any bonus payment exceeding 60% of base salary must be applied to the acquisition of shares until the required level of shareholding is achieved.
<ul style="list-style-type: none"> Total benefits limited to £30,000 p.a. A departing gift may be provided up to a value of £2,500 per Director (applies to both Executive and Non-executive Directors). 	<ul style="list-style-type: none"> Maximum 25% of base salary as taxable cash allowance in lieu of pension contributions: <ul style="list-style-type: none"> 20% Chief Executive 15% Chief Financial Officer (from 1 March 2019) 25% Group Finance Director (until 25 March 2019) 	<ul style="list-style-type: none"> HMRC limit £150 per month and one free Matching share for every five shares purchased. 	<ul style="list-style-type: none"> None applicable.
<ul style="list-style-type: none"> None applicable. 	<ul style="list-style-type: none"> None applicable. 	<ul style="list-style-type: none"> None applicable. 	<ul style="list-style-type: none"> None applicable.

Remuneration for FY2019

This section of the Report sets out the details of the implementation of the 2017 Remuneration Policy during the 2019 financial year. Details of the 2020 Remuneration Policy and how the Remuneration Committee intends to implement that Policy during 2020 are summarised on page 72. This part of the Report together with the Remuneration Committee Chairman's Statement, Summary of applicable 2017 Remuneration Policy, details of the 2020 Remuneration Policy and its implementation, and the information on the Remuneration Committee form the Annual Report on Remuneration which is subject to an advisory shareholder vote at the 2020 Annual General Meeting and contains both unaudited and audited information. The audited sections of this Report are clearly identified.

Executive Directors' remuneration

Single total figure of remuneration (audited)

The single total figure of remuneration of each Executive Director who served during the year is as follows:

£'000		A. Base salary	B. Taxable benefits	C. Bonus	D. PSP ⁴	E. Pension-related benefits	F. All-employee share plans	Total
Andrew Heath ¹	2019	610	17	414	–	122	–	1,163
	2018	203	6	182	–	41	–	432
Derek Harding ²	2019	396	14	268	–	59	–	737
	2018	–	–	–	–	–	–	–
Clive Watson ³	2019	90	4	49	204	23	–	370
	2018	386	17	294	826	97	8	1,628

1 Andrew Heath was appointed to the Board on 3 September 2018. His 2018 remuneration is pro-rated from that date.

2 Derek Harding was appointed to the Board on 1 March 2019. His 2019 remuneration is pro-rated from that date.

3 Clive Watson stepped down from the Board on 25 March 2019. His 2019 remuneration is pro-rated to that date.

4 The PSP includes restated 2018 figures to reflect actual vesting of 2016 awards. The value attributed to share price appreciation in respect of the 2016 award (based on the share price at vesting of 2,627 pence per share) was £287,621, representing 35% of the total award vested. The PSP figure for 2019 relates to the 2017 award which is due to vest on 6 June 2020 and is, in part based on estimated vesting levels as at 31 December 2019. Due to a fall in the share price over the performance period, the estimated share price appreciation, (based on the three month average share price at 31 December 2019) was nil.

Notes to the single total figure of remuneration table

A. Salary (audited)

None of the serving Executive Directors received a salary increase during 2019. Derek Harding was appointed on an annual base salary of £475,000, in line with the current Remuneration Policy. The average salary increase for employees of Spectris plc in 2019 was 3.8%.

B. Taxable benefits

Taxable benefits include company cars, private fuel, allowances paid in lieu of company cars and private fuel, medical expenses insurance (including family cover) and life and disability cover.

Details of the total value for 2019 are set out in the table below:

Executive Director	Car and fuel allowances £	Medical/ healthcare cover £	Total £
Andrew Heath	15,165	2,138	17,303
Derek Harding ¹	12,638	1,806	14,444
Clive Watson ²	3,816	383	4,199

1 Taxable benefits pro-rated from date of appointment on 1 March 2019.

2 Taxable benefits pro-rated to date of leaving the Board on 25 March 2019.

C. 2019 Annual bonus outcome (audited)

The maximum bonus opportunity for Andrew Heath, Chief Executive, remains unchanged at 150% of base salary, of which 125% is based on adjusted profit before tax ('adjusted PBT') and 25% is based on personal objective performance measures. The maximum bonus opportunity for both Derek Harding, Chief Financial Officer, and Clive Watson, the former Group Finance Director, also remains at 125% of base salary, of which 100% is based on adjusted PBT and 25% is based on personal objective performance measures. The on-target bonus for each Executive Director is 60% of base salary, comprising 50% based on adjusted PBT and 10% based on personal objectives. No bonus deferral is currently in operation other than the requirement to effectively defer bonus payments in excess of 60% of base salary into shares to satisfy Directors' shareholding requirements. The table below sets out the annual bonus earned by the Executive Directors in respect of the 2019 financial year including the financial trigger points used in determining the level of bonus payable.

	Bonus opportunity	Elements of bonus opportunity	On-target	Maximum	Actual Group performance/assessment of personal objective performance	Payout £	Percentage of maximum bonus
Andrew Heath	150%	Group adjusted PBT	50%	125%	44.8%	273,280	29.9%
		Personal objectives	10%	25%	23.0%	140,300	15.3%
				Total	67.8%	413,580	45.2%
Derek Harding ¹	125%	Group adjusted PBT	50%	100%	44.8%	177,333	35.8%
		Personal objectives	10%	25%	23.0%	91,042	18.4%
				Total	67.8%	268,375	54.2%
Clive Watson ²	125%	Group adjusted PBT	100%	125%	53.8%	48,593	43.0%
				Total	53.8%	48,593	43.0%

1 Derek Harding's bonus is pro-rated from the date of his appointment on 1 March 2019.

2 Clive Watson's bonus is pro-rated to the date of his leaving the Board on 25 March 2019. He remained a Group employee until he retired on 31 July 2019. His total 2019 bonus (pro-rated to his retirement date) was £121,072.

Bonus performance measures

The adjusted profit before tax bonus range established by the Remuneration Committee for 2019 was as follows:

Bonus level	Threshold	Target	Maximum	Actual
Adjusted profit before tax	£240m	£252.5m	£275m	£251.2m

For bonus purposes, the Committee believes that the Group adjusted profit before tax is a more reflective measure of performance, removing certain items from statutory profit before tax that may give a distorted view of performance. Adjustments to adjusted profit before tax are made to reflect the original target.

The above adjusted profit before tax figure has been determined as follows:

	£m
Adjusted profit before tax	247.4
Adjustments relating to the disposal of BTG*	3.8
Adjusted profit before tax for bonus purposes	251.2

* This item adjusts for the disposal of BTG which was not envisaged in the bonus targets

Remuneration for FY2019 continued

The 2019 personal strategic objectives for the current Executive Directors, which were set at the beginning of the year (or on appointment in the case of Derek Harding) and which account for 25% of salary, cover a range of the Company's targeted strategic priorities. Each priority is assigned an individual weighting and performance against each of the defined targets was assessed by the Remuneration Committee with input from the Chairman. The objectives for both Executive Directors and performance against them are summarised in the table below:

Director	% of salary target	Performance summary	% bonus awarded
Andrew Heath			
Strategic:			
<ul style="list-style-type: none"> Complete strategic review; develop a clear, executable strategy execution plan including detailed solution design, delivery programme, portfolio restructuring and change management plan; and present revised strategy at the Capital Markets Day in June 2019. Establish a revised operating model to reflect the revised strategy and progress the development of a clear approach to strengthening ESG and HS&E. 	9%	<p>Strategic review completed and Strategy for Profitable Growth successfully presented at the June 2019 Capital Markets Day. Strategy activation programme established, portfolio restructured with approved disposal programme.</p> <p>Revised operating model established and financial performance management system strengthened, H&S profile increased with introduction of a new Group H&S Committee. Further work planned to support the Group's environmental proposition in 2020.</p>	9%
Operational:			
<ul style="list-style-type: none"> Execute corporate development plan in line with revised strategy in respect of acquisitions for core businesses and disposal of non-core businesses. Agree overall Lean strategy, philosophy and implementation plan, making Lean part of the Company's business system and philosophy. 	8%	<p>Significant progress made in the agreement and management of the disposal of non-core businesses in line with the agreed strategy, including the BTG divestment.</p> <p>Strong focus placed on growing the Group's acquisition pipeline with further work to be undertaken in 2020.</p> <p>Lean strategy and approach firmly embodied into new operating model.</p>	7%
Interpersonal:			
<ul style="list-style-type: none"> Develop and commence implementation of a high-performance culture, required to support the revised strategy and ensure the delivery of the enhanced Ethics and Compliance Programme. Build and develop new executive leadership team into a high performing unit and develop plan to improve diversity. 	8%	<p>Strong progress made in refreshing purpose, values, leadership behaviours and code of business ethics in line with new strategy and operating model with work to finalise the launch continuing into 2020.</p> <p>Strong new executive team formed, with further development work underway. Successful implementation of a plan to improve diversity at a senior management level but significant work is still required to address diversity across the Group.</p>	7%
Total	25%		23%
Derek Harding			
Strategic:			
<ul style="list-style-type: none"> Support the CEO in completing the strategic review and develop financial model, five-year financial plan and playbook for 2020 and develop capital allocation framework to reflect revised strategy for presentation at the Capital Markets Day. Complete fundamental review of the performance management and management information framework; establish a revised financial performance management framework and operating model consistent with the revised strategy; and develop simplified, collaborative reporting and forecasting. 	9%	<p>Successfully partnered with the CEO to complete the Group strategic review. Developed and received Board approval for the Group's revised financial model. Developed five-year financial plan and capital allocation framework. In conjunction with the CEO and Group HR Director agreed a new operational model for the Group in support of the Strategy for Profitable Growth. Significant progress made on improving the Group's approach to forecasting.</p>	9%
Operational:			
<ul style="list-style-type: none"> Enhance financial controls and risk management to align with best practice and new Group structure. Develop the Profit Improvement Programme including finance model framework for Group operating companies. Develop cost mindset for FY20 budget to deliver targeted operating profit margin. 	8%	<p>Initiated review of Group's four lines of defence model and the establishment of enhanced Platform risk management processes.</p> <p>Drove delivery of the Profit Improvement Programme and oversaw the development of the finance model for the operating companies. Oversaw the overhaul of the Group's budget and forecasting process for 2020.</p>	7%
Interpersonal:			
<ul style="list-style-type: none"> Strengthen the financial team including broadening the team's diversity, bench strength, opportunities for development of key high potential people and building a sense of a Group finance community. In conjunction with the Executive Committee, develop and commence the implementation of a High-Performance culture, required to support the revised strategy. 	8%	<p>Significant progress made in building the finance community during 2019, including key new senior hires. Demonstrable step change in activity to bring together the wider finance community in common shared purpose.</p>	7%
Total	25%		23%

Clive Watson retired from the Board in March 2019. As such, the Committee considered it appropriate that his 2019 bonus payment be assessed against financial targets only and pro-rated on a time-served basis.

D. Performance Share Plan (PSP) (audited)

PSP awards made under the Spectris Performance Share Plan ('PSP') to the Executive Directors are structured so that one-third of the award is subject to an EPS target, one-third is subject to a TSR target and one-third is subject to an Economic Profit (EP) target. Each condition operates over a fixed three-year period (being the three financial years commencing with the financial year in which an award is made in respect of the ESP and EP measures; and three years from the date of grant in respect of the TSR measure) with no opportunity for retesting. The TSR performance condition is measured independently by Aon Hewitt (Aon).

PSP awards vested during 2019 (audited)

PSP awards granted in 2016 which matured in February 2019 vested in respect of all three performance conditions. The EPS and EP threshold targets in respect of the three financial years to 31 December 2018 were exceeded and the TSR median threshold for the three-year performance period ending on 22 February 2019 was also exceeded. The final outcome was 68.4% of the total award vested on 23 February 2019 and the balance of award lapsed in full (see tables below). The single total figure of remuneration of Clive Watson for 2018 has been restated to reflect this final outcome.

Performance condition	Weighting	Threshold	Maximum	Actual	Percentage weighted performance condition vested	Percentage of total award vested
EPS	One-third	CPI + 5% c.p.a.	CPI + 13% c.p.a.	CPI + 8.75% c.p.a.	57.5%	19.1%
TSR	One-third	Median	Upper quintile or above	56% (Median: 14.2%) ¹ Upper quintile: 60.0%	95.9%	32.0%
EP	One-third	£145 million	£275 million or more	£196.8 million	51.9%	17.3%
Total						68.4%

¹ TSR outcome based on the final TSR performance results on 22 February 2019. Details of the comparator group are set out on page 83.

Executive Director	Total number of shares subject to PSP option at date of grant	Face value at date of grant £	Vesting percentage of total award	Vesting number of shares	Reinvested dividend shares	Total vesting number of shares	Share price on 23 Feb 2019	Vesting value £
Clive Watson	42,860	734,449 ¹	68.4%	29,325	2,164	31,489	26.27p	825,750

¹ The face value is based on the average of the closing share price over the five days immediately prior to the date of grant of 1,713.6 pence.

PSP awards vesting in June 2020 (audited)

Andrew and Derek joined the Group after the 2017 PSP awards were granted. Clive Watson received a PSP award granted in 2017, which will mature in June 2020 and which is subject to EPS, TSR and EP performance conditions. Details of the EPS and EP outcomes and estimated TSR performance results based on Aon's interim report as at 31 December 2019 are set out in the table below.

Performance condition	Weighting	Threshold	Maximum	Actual/ estimate	Actual/Estimated percentage weighted performance condition vested	Actual/Estimated percentage of total award vested
EPS	One-third	CPI + 5% c.p.a.	CPI + 11% c.p.a. or above	CPI + 6.89% c.p.a. ¹	45.1%	15.0%
TSR	One-third	Median	Upper quintile or above	8.1% (Median: 11.1%) ² Upper quintile: 47.5%	0%	0%
EP	One-third	£125.1 million	£255.1 million or above	£196.0 million ³	63.7%	21.2%
Estimated Total						36.2%

¹ The EPS outcome figure has been calculated on a consistent basis with the EPS calculation in place on grant. A full reconciliation from this EPS outcome figure to the Adjusted EPS figure (set out in Note 2 to the Financial Statements on page 118) is set out below:

	As at 31 December 2016 pence	As at 31 December 2019 pence
Adjusted EPS (reported)	127.5	168.0
Adjustment for Project Uplift Cost net of tax	2.0	
Adjustments relating to disposal of Microscan and EMS	(1.1)	
Adjustments relating to disposal of BTG		2.8
Adjusted EPS (after disposals and project Uplift Costs)	128.4	170.8
Net impact of Share Buy Back		
Impact of Share Buy Back (finance charges)	0.9	
Impact of Share Buy Back (reduction in shares)	(5.4)	
		(4.5)
Revised EPS (relevant to 2017 award vesting)	128.4p	166.3p

Remuneration for FY2019 continued

PSP awards vesting in June 2020 (audited) continued

2 The TSR figures are estimates based on the interim TSR performance results as at 31 December 2019. Details of the comparator group are set out on page 83.

3 The EP outcome figure has been calculated on a consistent basis with the EP calculation in place on grant. A full reconciliation from this EP outcome figure to the Reported EP outcome set out in the Key Performance Indicators on page 19 is set out below:

	Threshold £m	Maximum £m
EP Target (cumulative 2017-2019)	150.0	280.0
Remove Microscan & EMS from target	(24.9)	(24.9)
Adjusted target	125.1	255.1
Reported 2019 EP performance	196.8	
Remove actual EP of Microscan & EMS to disposal date	(3.5)	
Add in final month for BTG	2.7	
Revised Economic Profit Outcome	196.0	
Revised EP vesting	63.7%	

The vesting estimates as at 31 December 2019 are detailed in the table below:

Executive Director	Total number of shares subject to PSP option at date of grant	Face value at date of grant	Pro-rated number of shares	Estimated percentage of total award	Estimated vesting number of shares	Estimated reinvested dividend shares	Estimated total vesting number of shares	Three-month average share price at year end	Estimated vesting value
Clive Watson	28,770	£756,881 ¹	19,977	36.2%	7,245	547	7,792	2624.31p	£204,124

1 The face value is based on the average closing share price over the five days immediately prior to the date of grant of 2,630.8 pence.

Due to the fall in share price, the estimated share price appreciation based on the three month average share price at 31 December 2019, was nil. As these values are only estimates, no discretion has been exercised by the Committee in respect of the share price appreciation.

Vested awards are satisfied in shares (normally treasury shares) with sufficient shares being sold to meet income tax and national insurance contributions due on exercise, at the Director's discretion, and the net balance of shares transferred to the individual. Awards lapse if they do not vest on the third anniversary of their award.

E. Retirement benefits (audited)

Executive Directors are entitled to a defined contribution pension contribution. Andrew Heath and Derek Harding receive 20% and 15% of base salary respectively and Clive Watson received 25% of base salary. In light of the pension lifetime allowance of £1.055 million and the maximum annual pension contribution allowance of £40,000, the Executive Directors are entitled, at their option, to a taxable salary supplement in lieu of some or all of such pension contributions. All Executive Directors have chosen this option and each receives a cash payment in lieu of participation in a Spectris pension scheme. No Executive Director participated in a defined benefit pension plan during the year, nor currently participates in a defined benefit plan. Under the 2020 Remuneration Policy which came into effect on 1 January 2020, the pension entitlement for new Executive Directors will be aligned to the majority of the wider UK workforce, which is currently 6%. The Committee has agreed that an approach will be developed to bring incumbent Executive Director and senior management pension arrangements in line with the workforce by the end of 2022.

F. All-employee share plans (audited)

None of the Executive Directors exercised options under the Spectris all-employee share plans during the year.

Payments for loss of office or to past Directors

John O'Higgins

As set out in our 2018 Remuneration Report, John O'Higgins stepped down from the Board on 28 September 2018 and left the Company on 23 May 2019. His remuneration terms on leaving were in line with the approved Remuneration Policy and the terms of his service contract. John was entitled to receive salary and benefits including pension contribution by way of phased monthly payments from 24 May 2018 for a maximum of 12 months. He was also entitled to receive his contractual non-cash benefits and eligible for a payment under the 2019 annual bonus plan subject to performance and pro-rated on a time-served basis to 23 May 2019. Accordingly, payments made to John in respect of the period from 1 January to 23 May 2019 amounted to: £242,795 in respect of salary; £60,699 in respect of 25% cash pension contribution; £6,047 in respect of his car allowance; and £142,764 in respect of his 2019 bonus. The Committee determined John to be a good leaver in respect of his 2017 and 2018 PSP awards (in line with the PSP plan rules). The number of shares under each award, which are due to vest in June 2020 and March 2021 respectively, have been reduced on a time pro-rated basis to reflect length of service up to cessation of employment with any dividend accruals calculated on the final vesting amount and paid in shares. All awards are subject to the clawback provisions set out in the relevant rules of the Plan. 68.4% of the 2016 PSP award vested on 23 February 2019 at a value of £1,299,712. At the date of this report 36.2% of the 2017 PSP award is scheduled to vest on 6 June 2020 at an estimated value of £296,258, subject to the finalisation of the TSR performance condition.

Clive Watson, former Group Finance Director

Under the terms of his service contract and in line with the Remuneration Policy, following his retirement from the Board on 25 March 2019, Clive Watson remained an employee of the Group until his retirement on 31 July 2019. During this period (26 March to 31 July 2019), Clive was paid a pro rata amount in respect of salary totalling £134,818; 25% cash pension contributions amounting to £33,705; and car allowance amounting to £5,296. He also received his contractual non-cash benefits and received a pro rata payment under the 2019 annual bonus plan of £72,479 for that period. The Committee determined Clive to be a good leaver in respect of his 2017 and 2018 PSP awards (in line with the PSP plan rules). The number of shares under each award, which are due to vest in June 2020 and March 2021 respectively, have been reduced on a time pro-rated basis to reflect length of service up to cessation of employment with any dividend accruals calculated on the final vesting amount and paid in shares. All awards are subject to the clawback provisions set out in the relevant rules of the Plan. As detailed on page 79, 36.2% of the 2017 PSP award is scheduled to vest on 6 June 2020 at an estimated value of £204,124, subject to the finalisation of the TSR performance condition.

PSP awards granted during 2019 (audited)

The table below details PSP share options granted to Executive Directors, in line with the Remuneration Policy, during 2019. The maximum level of grant remains at 200% of base salary, calculated according to the average of the closing share price over the five days immediately prior to the date of grant. The 2019 PSP awards to Andrew Heath and Derek Harding were granted on 7 March 2019 and are subject to the performance conditions detailed below. No award was made to Clive Watson in 2019. A holding period of two years applies to all awards following vesting.

Director	Exercise price	Basis on which award made	Number of shares under option	Face value of shares at date of grant (£)	Performance condition applied	Amount vesting		
						Threshold performance (% of face value)	Maximum opportunity (% of face value)	Financial/ performance period
Andrew Heath	5p	200% of base salary	45,710	£26.69 ²	Compound growth in EPS	6.66%	33.33%	1 January 2019 to 31 December 2021
					EP	6.66%	33.33%	
					TSR	6.66%	33.33%	7 March 2019 to 6 March 2022
					Total	20%	100%	
Derek Harding	5p	200% of base salary	35,593 ¹	£26.69 ²	Compound growth in EPS	6.66%	33.33%	1 January 2019 to 31 December 2021
					EP	6.66%	33.33%	
					TSR	6.66%	33.33%	7 March 2019 to 6 March 2022
					Total	20%	100%	

¹ These PSP awards are linked to a grant of market value share options known as Linked PSP awards. No additional gross value can be delivered from the exercise of the Linked PSP awards.

² Face value based on the average of the closing share price over five days immediately prior to the date of grant of £26.69 pence.

Remuneration for FY2019 continued

2019 PSP awards performance conditions

The performance conditions attached to the 2019 PSP awards are:

	Earnings Per Share ('EPS')	Total Shareholder Return ('TSR') Relative to the FTSE 250 (excluding investments trusts)	Economic Profit ('EP') Aggregate economic profit over the financial performance period	Percentage of award that vests (expressed as a percentage of one-third of the total number of shares subject to an award)
Weighting	33.33%	33.33%	33.33%	
Performance metric	CPI + 11% p.a. compound (c.p.a.)	Upper quintile or above	£181.8 million or more	100%
	Between CPT +5% and 11% c.p.a.	Between median and upper quintile	Between £112.3 million and £181.8 million	Pro rata on a straight-line basis between 20% and 100%
	CPI +5% c.p.a.	Median	£112.3 million	20%
	Less than CPI +5% c.p.a.	Below median	Less than £112.3 million	0%

Economic profit is defined as adjusted operating profit less average monthly capital employed multiplied by the Company's weighted average cost of capital ('WACC'), which was set at 11% for the awards granted since 2015. The WACC rate applied to subsequent acquisitions increases over the first three years of ownership to 11%. Any impairment of goodwill and amortisation of acquired intangible assets over a performance period will be added back to capital employed. The TSR performance condition is measured independently by Aon. The EPS figure is obtained from the audited Financial Statements and the calculation of achievement against growth condition is presented to and approved by the Committee. The Committee will also monitor outcomes for the EP measure to ensure that they achieve the original objectives and may adjust the vesting accordingly. Any exercise of discretion will be justified in the next Directors' Remuneration Report. Similarly, the Committee must satisfy itself that the Company's relative TSR performance is reflective of its underlying financial performance.

Since the original 2019 PSP targets for Economic Profit were set, the Group disposed of BTG in November 2019 and the Committee agreed that, in line with its agreed policy for any material acquisition or disposal in the first two years of the performance period, the Economic Profit of BTG should be removed from both the targets set and final assessment.

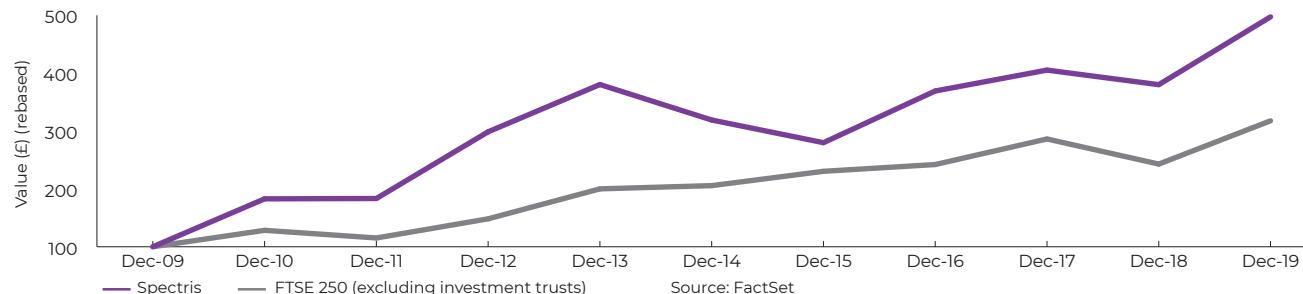
The impact of making this adjustment has a downward impact on the Economic Profit targets as BTG is no longer contributing to the Group. The tables below show the revised targets taking into account the loss in Economic Profit and shows how the adjustment is calculated.

The adjusted targets are as stretching as those originally set.

Summary impact of adjustment to 2019 PSP Economic Profit (EP) targets

	Threshold (£m)	Maximum (£m)
Economic Profit target		
Original target	147.4	238.7
Adjustment for BTG (reduction in EP)	(35.1)	(56.9)
Adjusted Economic Profit targets	112.3	181.8

Total shareholder return performance



This graph shows the value, by 31 December 2019, of £100 invested in Spectris on 31 December 2009, compared with the value of £100 invested in the FTSE 250 (excluding investment trusts) Index on the same date. This index has been chosen because it is a widely-recognised performance benchmark for large UK companies and Spectris is a constituent of the FTSE 250. The other points plotted are the values at intervening financial year ends.

Historical Chief Executive remuneration

The table below shows the total remuneration figure for the Chief Executive for the current year and over the previous nine years. The total remuneration figure includes the annual bonus and LTIP awards that vested based on performance in those years. The annual bonus and LTIP percentages show the pay-out for each year as a percentage of the potential maximum.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018	2019
	John O'Higgins	John O'Higgins	John O'Higgins	John O'Higgins	Andrew Heath	Andrew Heath					
Single total figure of remuneration (£'000)	1,104	1,481	2,995	2,172	1,122	729	1,388	1,611	1,965 ³	324 ³	1,163
Annual bonus (% of maximum)	95%	100%	70%	20%	18%	0% ¹	90%	80%	54%	60%	45%
PSP vesting (% of maximum)	89%	100%	100%	100%	28%	0%	0%	10%	63% ²	N/A	N/A

1 Bonus entitlement waived.

2 Restated figure to reflect actual vesting of 2016 award.

3 Pro-rated figures based on time served as Chief Executive during 2018: nine months to 28 September 2018 for John O'Higgins and three months from 1 October 2018 for Andrew Heath.

Percentage change in remuneration of Chief Executive

The table below shows the percentage change in the salary and benefits of the Chief Executive compared with the change in the Executive team (excluding the Chief Executive) and in the Group's UK-based employees between the year ended 31 December 2018 and 31 December 2019. The Group-wide 2019 annual bonus outcomes and payments will be confirmed in March 2020 and therefore estimated figures for UK-based employees have been used in the comparison. The Committee has selected this comparator group on the basis that the Chief Executive is UK-based and this provides a local market reference and a sufficiently large comparator group based on a similar incentive structure to the Chief Executive, and reduces any distortion arising from currency and cost of living differences in other geographies in which Spectris operates. For comparison purposes, the annualised figures for Andrew Heath have been used.

	% change 2018-2019		
	Base salary	Benefits	Annual bonus
Chief Executive	0% ²	0.7%	(24.3)%
Executive team	0% ²	0.7%	(18.1)%
Spectris UK-based employees	6.7%	16.1% ¹	(5.7)%

1 The increase in benefits is mainly due to a small number of senior employees receiving a car allowance for the first time in 2019.

2 As reported in the 2018 Annual Report and Accounts, the Chief Executive and the Executive Team elected not to be considered for salary increases in 2019 due to the ongoing Profit Improvement Programme.

Remuneration for FY2019 continued

CEO pay ratios

In 2018, new regulation (The Companies (Miscellaneous Reporting) Regulations 2018) was introduced in the UK requiring quoted companies with more than 250 group-wide UK employees to disclose details of the pay ratio of the Chief Executive to UK employees. The table below sets out the 2019 pay ratio of the Chief Executive's total remuneration to the 25th, median (50th), and 75th percentile full-time equivalent (FTE) remuneration of Group UK employees.

Financial year	Method	25th percentile pay ratio (lower quartile)	50th percentile pay ratio (median)	75th percentile pay ratio (upper quartile)
31 December 2019	Option A	40:1	30:1	21:1

The Chief Executive's total remuneration is calculated on the same basis as his single total figure of remuneration ('STFR') reported in the table on page 76. The remuneration of the lower, median and upper quartile employees is calculated on full-time equivalent (FTE) data for the full year, run on 30 November 2019, the annual bonus and LTIP vesting non-salary components of which are estimated figures based on on-target performance. Option A methodology was chosen as it is considered to be the most statistically accurate way to identify the best equivalents of the 25th, median and 75th percentile figures used to calculate the pay ratios each year, and it is aligned with best practice and investor expectations. In reviewing the employee pay data, the Committee is satisfied that the individuals identified within each relevant percentile appropriately reflects the employee pay profiles at those quartiles, and that the overall picture presented by the ratios is consistent with our pay, reward and progression policies for UK employees. All roles are regularly benchmarked against PricewaterhouseCoopers' benchmarking report of FTSE 100-150 companies.

Further details on the total pay figures used for each quartile employee including the base salary component are set out in the table and notes below.

Financial year	No of UK employees	Remuneration	Chief Executive	25th percentile employee (lower quartile)	50th percentile employee (median)	75th percentile employee (upper quartile)
31 December 2019	1,891	Base salary	£610,000	£25,605	£33,804	£47,307
		Total remuneration	£1,162,883 STFR	£28,509 total FTE	£37,789 total FTE	£54,990 total FTE

Notes:

- 1 The Chief Executive did not have any PSP awards capable of vesting in respect of the 2019 financial year therefore the components of his STFR figure comprises only base salary, taxable benefits, pension-related benefits and annual bonus.
- 2 The total remuneration figure for UK employees comprises base salary and non-salary STFR components of taxable benefits, pension-related benefits, annual bonus and PSPs, where applicable.
- 3 The total remuneration for UK employees is calculated on the same basis as the single total figure of remuneration is calculated for Executive Directors. The only exception to this is the personal element of the annual bonus for UK employees which is not known as at the date of report. This has been estimated as the same performance level as the Chief Executive. Given the complexity of the calculations, such estimated values will not be restated next year to reflect the actual outcomes, however they will be for the Chief Executive's STFR calculations.

The Committee notes that, in assessing our CEO pay ratio outcomes against the wider market and our industry peers, these ratios are currently positioned towards the low to middle of the range. The Committee also notes that the ratios may increase in future years as LTIPs awarded to the Chief Executive become capable of vesting.

Relative importance of spend on pay

The table below shows the relative expenditure of the Group on the pay of its employees in comparison to adjusted profit before tax and distributions to shareholders by way of dividend payments and share buyback between the years ended 31 December 2018 and 31 December 2019. Total employee pay is the total pay cost for all Group employees. Adjusted profit before tax has been used as a comparison as this is a key financial metric which the Board considers when assessing the Group's financial performance.

	2019 £m	2018 £m	% change
Total employee pay	659.5	633.7	4%
Dividends paid during the year	72.3	68.2	6%
Share buyback	–	100.5	-%
Adjusted profit before tax ¹	247.4	241.4	2%

¹ Adjusted profit before tax is calculated as being statutory profit before tax as adjusted to exclude certain items defined in Note 2 to the Financial Statements on page 118.

Non-executive Directors' remuneration

Chairman and Non-executive Directors' fees

The fee structure for the Non-executive Directors remained unchanged for 2019 as set out below:

	2019 £m	2018 £m
Chairman (all-inclusive fee)	220	220
Non-executive Director basic fee	55	55
Senior Independent Director ('SID') fee	10	10
Chairman of the Audit and Risk Committee	10	10
Chairman of the Remuneration Committee	10	10
Annual travel supplement to be paid to overseas-based Non-executive Directors	15	15

Single total figure of remuneration (audited)

The single total figure of remuneration for each Non-executive Director who served during the year is as follows:

		Basic fees £'000	Additional fees £'000	Taxable expenses £'000	Total £'000
Mark Williamson ¹	Non-executive Chairman	2019 220	—	—	220
		2018	220	—	220
Russell King	SID and Chairman of the Remuneration Committee	2019 55	20	—	75
		2018	55	20	75
Karim Bitar		2019 55	—	—	55
		2018	55	—	55
Ulf Quellmann		2019 55	15³	—	70
		2018	55	6 ³	61
Bill Seeger	Chairman of the Audit and Risk Committee	2019 55	25³	—	80
		2018	55	25 ³	80
Cathy Turner ²		2019 18	—	—	18
		2018	—	—	—
Kjersti Wiklund		2019 55	—	—	55
		2018	55	—	55
Martha Wyrsch		2019 55	15³	—	70
		2018	55	15 ³	70

1 Mark Williamson's fee is all-inclusive.

2 Cathy Turner joined the Board on 1 September 2019. Her fee is pro-rated from that date.

3 Ulf Quellmann, Bill Seeger and Martha Wyrsch (all based overseas) received an additional annual travel supplement of £15,000 for 2019, included in their respective additional fees figures. Ulf Quellmann became eligible to receive this annual travel supplement with effect from 1 August 2018 and he received a pro-rated travel supplement of £6,250 for the 2018 financial year.

Directors' shareholdings and share interests (audited)

Directors' shareholding requirements

Under the 2017 Remuneration Policy, each Executive Director is, subject to personal circumstances, required to build a retained shareholding in Spectris plc of at least three times base salary in value within five years of appointment and is required to apply the post-tax benefit of any vested PSP awards or any bonus payments exceeding 60% of base salary to the acquisition of shares until this required level of shareholding is achieved. Both Andrew Heath and Derek Harding (having been appointed on 3 September 2018 and 1 March 2019 respectively) are in the process of building their shareholding. At the date of his retirement, Clive Watson had a holding in excess of this requirement. There is no such requirement in respect of the Chairman or Non-executive Directors, who have discretion as to whether to hold the Company's shares or not.

Remuneration for FY2019 continued

Directors' shareholdings and share interests (audited)

The beneficial interest of each Executive Director (including their closely associated persons) in the shares of the Company, as at 31 December 2019, is as follows:

Director	Interest in share plans		Total Interests in shares at 31 December 2019 or date of leaving ¹	Total shares counting towards shareholding requirement ⁴	Shareholding as a % of base salary at 31 December 2019 or date of leaving ⁵	Shareholding requirement met
	Ordinary shares held at 31 December 2019 or date of leaving ¹	PSP ² (share options)				
Andrew Heath	21,500	67,082	109	88,691	21,609	102.9%
Derek Harding	4,000	35,593	62	39,655	4,062	24.9%
Clive Watson	131,979	70,535	60	202,574	139,186	933.7%

1 Clive Watson retired from the Board on 25 March 2019.

2 PSPs are nominal cost share options of 5 pence and are subject to performance conditions. All of the PSPs held by Andrew Heath and Derek Harding are unvested shares. The PSP balance in respect of Clive Watson includes vested but unexercised share options, as at 25 March 2019, over 13,485 shares.

3 Includes shares purchased through, and Matching shares held in, the Company's all-employee Share Incentive Plan ('SIP'). The Matching shares may be subject to forfeiture within three years of the award.

4 Based on unrestricted shares held at 31 December 2019 or 25 March 2019 in respect of Clive Watson. Clive Watson's balance includes 13,485 vested but unexercised share options. Net of UK income tax and NI Contributions this represents 7,147 shares.

5 Based on the closing share price on 31 December 2019 of 2,906 pence per share and on 25 March 2019 of 2,590 pence (being the date Clive Watson left the Board) and on annualised base salaries for comparison purposes.

Between 1 January 2020 and 19 February 2020, Andrew Heath purchased 10 Partnership shares and received 2 free Matching shares and Derek Harding purchased 11 Partnership shares and received 2 free Matching shares through the Company's SIP. There were no other movements in share interests during this period.

Director	Share ^{1,2} plan	Date granted	Performance period end date	Expiry date	Exercise price (pence)	Market value per share at date of award	Face value at date of grant (£)	No. of shares subject to options at 1 January 2019	No. of shares subject to options at 31 December 2019 (or cessation date if earlier)		
									Granted during the year	Exercised during the year	Lapsed during the year
Andrew Heath	PSP ³	Sept 2018	Sept 2021 ⁴	Sept 2028	5	2,378.4	508,312	21,372 ⁶	–	–	–
		Mar 2019	Mar 2022 ⁴	Mar 2029	5	2,669.0	1,220,000	–	45,710	–	–
						Total LTIP	21,372	45,710	–	–	67,082
Derek Harding	PSP ³	Mar 2019	Mar 2022 ⁴	Mar 2029	5	2,669.0	949,977	–	35,593 ⁶	–	–
						Total LTIP	–	35,593	–	–	35,593
Clive Watson	PSP ³	Feb 2016	Feb 2019	Feb 2026	5	1,713.6	734,449	42,860	2,164 ⁵	18,004 ⁷	13,535
		Jun 2017	Jun 2020 ⁴	Jun 2027	5	2,630.8	756,881	28,770	–	–	28,770
		Mar 2018	Mar 2021 ⁴	Mar 2028	5	2,677.2	757,112	28,280 ⁶	–	–	28,280
						Total LTIP	99,910	2,164	18,004	13,535	70,535⁷

1 Shareholders approved the rules of the Spectris Performance Share Plan 2017 at the AGM held on 24 May 2017.

2 The PSP awards are conditional rights to acquire shares and are nominal cost options. The exercise price is the nominal value of a Spectris ordinary share, which is 5 pence.

3 PSP awards to the Executive Directors are currently structured so that one-third of the award is subject to an EPS target, one-third is subject to a TSR target and one-third is subject to an Economic Profit ('EP') target. Each condition operates over a fixed three-year period (being the three financial years commencing with the financial year in which an award is made in respect of the EPS and EP conditions; and three years from the date of grant in respect of the TSR condition) with no opportunity for re-testing.

4 PSP awards granted on and after 2017 are subject to an additional two-year holding period following the initial three-year performance period. These awards will become available to exercise at the end of the holding period (which will be the fifth anniversary of the date of grant).

5 Under the terms of the share plan, additional dividend equivalent shares are awarded on the date the PSP award becomes exercisable thereby increasing the number of award shares granted. The value of these shares is equivalent to the Company's dividends that would have been paid (between the date of grant and the date the PSP award becomes exercisable) on the vested shares under the PSP award. These additional award shares are structured as nil cost options so the exercise price is nil.

6 The PSP awards are linked to a grant of market value share options ('Linked PSP awards'). Such Linked PSP awards are granted up to the HMRC's limit of an aggregate value of £30,000, and have the same performance and vesting conditions as the PSP awards to which they are linked. No additional gross value was/can be delivered from the exercise of the Linked PSP awards. Further details are set out in Note 23 to the Financial Statements.

7 On 19 March 2019 Clive Watson part exercised his 2016 PSP award by exercising options over 18,004 shares comprising 16,851 at an exercise price of 5 pence per share and 1,153 dividend shares at an exercise price of nil pence. The market value on 19 March 2019 was 2,742 pence per share. The number of outstanding shares under option shown in the final column for Clive Watson is as at 25 March 2019, which is the date he ceased to be a Director.

8 None the Directors hold share options under the Spectris Savings related Share Options Scheme ('SAYE Scheme').

Share Incentive Plan ("SIP")

	No. of shares held at 1 January 2019 (or date of appointment)	No. of Partnership shares purchased during the year	No. of Matching shares awarded during the year	Dividend shares	Total No. of shares held within the SIP as at 31 December 2019 (or date of cessation)
Andrew Heath	22	71	15	1	109
Derek Harding	0	52	10	0	62
Clive Watson	38	18	4	0	60

1 Derek Harding was appointed to the Board on 1 March 2019.

2 Clive Watson stepped down from the Board on 25 March 2019.

3 The Spectris Share Incentive Plan ("SIP") was approved by shareholders at the 2018 AGM. This scheme is an HMRC tax-favoured share purchase scheme open to all UK employees. The Executive Directors have the opportunity to participate in the SIP on the same terms as other Group UK employees.

4 Under the SIP, Partnership shares may be purchased each month at market value using gross salary up to a maximum monthly value set by HMRC (currently £150 per month). For every five Partnership shares purchased, the Company will award one free Matching share. All shares are held in trust by the SIP Trustees. The Matching shares are subject to forfeiture within three years of the date of award.

Dilution limits

In line with best practice, the use of new or treasury shares to satisfy the vesting of awards made under the Company's share plans (LTIPs and SAYE combined) is restricted to 10% in any ten-year rolling period. A further restriction applies to the PSP of 5% over the same period of which 2.74% has been utilised.

Chairman and Non-executive Directors' interest in shares

The Chairman and Non-executive Directors are not permitted to participate in any of the Company's incentive schemes nor are they required to build and retain a minimum shareholding in the Company. They have discretion as to whether to hold the Company's shares or not. The table below sets out the beneficial interests in the ordinary shares of the Company of each current Non-executive Director (including their closely associated persons) during the year ended 31 December 2019.

Current Non-executive Director	Shares held at 1 January 2019 (or date of appointment if later)	Shares held at 31 December 2019
Mark Williamson	16,753	16,753
Russell King	3,000	3,000
Karim Bitar	1,330	1,330
Ulf Quellmann	1,994	2,000
Bill Seeger	3,000	3,000
Cathy Turner	–	–
Kjersti Wiklund	–	–
Martha Wyrtsch	3,000	3,000

There has been no change in the interests in shares of the Chairman and Non-executive Directors between 1 January 2020 and 19 February 2020.

Share price

At 31 December 2019, the last trading day of 2019, the mid-market closing share price on the London Stock Exchange of a Spectris ordinary share was 2,906 pence per share. The highest mid-market closing share price in the year was 2,952 pence per share and the lowest was 2,188 pence per share.

Remuneration for FY2019 continued

Directors' service contracts and letters of appointment

The Executive Directors have rolling contracts subject to 12 months' notice of termination by either party, or to summary notice in the event of serious breach of the Director's obligations, dishonesty, serious misconduct or other conduct bringing the Company into disrepute. All letters of appointment in respect of the Non-executive Directors are renewable at each AGM, subject to review prior to proposal for re-election, and provide for a notice period of six months. Ordinarily, appointments do not continue beyond nine years after first election, at which time Non-executive Directors cease to be presumed independent under the UK Corporate Governance Code.

The table below summarises the current Directors' service contracts or terms of appointment.

	Date of contract	Expiry date	Notice period	Length of service at 19 February 2020
Executive Director				
Andrew Heath	3 Sept 2018	Rolling contract with no fixed expiry date	12 months	1 year 5 months
Derek Harding	1 Mar 2019	Rolling contract with no fixed expiry date	12 months	11 months
Non-executive Director				
Mark Williamson	26 May 2017	Renewable at each AGM	6 months	2 years 9 months
Russell King	12 Oct 2010	Renewable at each AGM	6 months	9 years 4 months
Karim Bitar	1 July 2017	Renewable at each AGM	6 months	2 years 7 months
Ulf Quellmann	1 Jan 2015	Renewable at each AGM	6 months	5 years 1 month
Bill Seeger	1 Jan 2015	Renewable at each AGM	6 months	4 years 1 month
Cathy Turner	1 Sep 2019	Renewable at each AGM	6 months	5 months
Kjersti Wiklund	19 Jan 2017	Renewable at each AGM	6 months	3 years 1 month
Martha Wyrsh	1 Jun 2012	Renewable at each AGM	6 months	7 years 8 months

External appointments – Executive Directors

Executive Directors may retain any payments received in respect of external non-executive appointments held. Such appointments are normally limited to one per Director at any time and are subject to the approval of the Board. Andrew Heath and Derek Harding did not hold any external non-executive appointments during 2019. Details of the payments received by Clive Watson (pro-rated to 25 March 2019 being the date he retired from the Board) for external non-executive appointments held during 2019 are set out in the table below:

	Company name	Fee retained
Clive Watson	Spirax-Sarco Engineering plc	£16,783

Summary of shareholder voting on Directors' remuneration

The Remuneration Policy in operation during 2019 was approved by 98.46% of the votes cast at the 2017 AGM held on 25 May 2017 and the 2018 Directors' Remuneration Report was approved by 93.10% of the votes cast at the 2019 AGM held on 24 May 2019. The new Remuneration Policy, which is effective from 1 January 2020, was approved by shareholders at a General Meeting held on 4 December 2019 by 94% of the votes cast, as detailed in the table below:

		Votes for		Votes against		Votes withheld
		Number	%	Number	%	
2017 AGM	Directors' Remuneration Policy	93,190,031	98.46%	1,445,329	1.53%	517,033
2019 AGM	2018 Directors' Remuneration Report	89,404,171	93.10%	6,628,488	6.90%	617,297
2019 General Meeting	2020 Directors' Remuneration Policy	94,256,910	94.09%	5,916,276	5.91%	3,862

Directors' interest in contracts

No Director had, during the year or at the end of the year, any material interest in any contract of significance to the Group's business.

Loans to Directors

During the year, there were no outstanding loans to any Director.

Role of the Remuneration Committee

The Committee is responsible for recommending to the Board the Group's Remuneration Policy, including the remuneration arrangements for the Chairman, the Executive Directors, the Company Secretary and members of the Executive Committee, and for the practical operation of the Policy. It regularly reviews the balance between fixed and variable pay and the performance conditions that attach to both short-term and long-term incentives. Environmental, social and governance factors are considered by the Committee when assessing the personal element of Executive Directors' performance. The Committee monitors the level and structure of remuneration for senior management and takes into account workforce remuneration, related policies and the alignment of incentives and rewards with the Group's culture. The remuneration of Non-executive Directors is a matter reserved for the Board. The full terms of reference for the Remuneration Committee are reviewed annually and are available at www.spectris.com.

Committee members and attendees

All members of the Committee are independent Non-executive Directors. During 2019, the members were: Russell King (Chairman), Karim Bitar, Ulf Quellmann and Kjersti Wiklund. Cathy Turner joined the Committee on her appointment to the Board on 1 September 2019.

Details of each member's attendance are disclosed on page 57. Only members of the Committee have the right to attend meetings but other individuals and external advisers may attend by invitation. The Chairman is invited to attend all meetings of the Committee. During the year, the Committee also invited the Chief Executive and Group Human Resources Director to attend meetings to provide advice to the Committee to allow it to make informed decisions. The Deputy Company Secretary attends all meetings as Secretary to the Committee. No individual was present when their own remuneration was being discussed.

The Committee also meets without management present and received independent remuneration advice during the year from the external advisers appointed to support the Committee.

Committee activities in 2019

The Committee addressed the following key agenda items during its six meetings in 2019:

February 2019

- Review and approval of incentive outcomes for the annual bonus and Performance Share Plan ('PSP') in respect of performance for the year ended 31 December 2018
- Agreement of Executive Directors' 2019 bonus arrangements, target performance measures and personal objectives
- Review and approval of 2019 PSP grant levels and target range for performance measures
- Review of Executive Director and Executive Committee salaries
- Review and approval of the 2018 Directors' Remuneration Report

April 2019

- Consideration of the UK Corporate Governance environment and key external market developments relating to remuneration
- Agreement of initial principles and relevant performance measures to support the creation of a draft Remuneration Policy

May 2019

- Agreement of draft Remuneration Policy structure

July 2019

- Review of draft Remuneration Policy, detailed term sheets for proposed financial measures and malus and clawback provisions
- Review of workforce remuneration arrangements, including pension arrangements
- Review of draft CEO average pay ratio
- Consideration of interim PSP awards for below Board level participants
- Reviewed the Group's gender pay reporting outcomes

October 2019

- Review of proposed alterations to the draft Remuneration Policy following shareholder consultation and agreement of recommendation of that policy to the Board

December 2019

- Agreement of approach for the roll-out and application of the new Remuneration Policy below Board-level
- Consideration and agreement of adjustments to in-flight incentive arrangements following the completion of the divestment of BTG
- Review of the draft 2019 Directors' Remuneration Report

Role of the Remuneration Committee continued

The Committee has taken time during the year to review the remuneration of the wider workforce, related policies and the alignment of incentives and rewards with culture as part of both its implementation of the 2017 Policy and its design of the 2020 Remuneration Policy.

Stakeholder Engagement

Values and culture in remuneration

During 2019, the Board reviewed the Group's values and culture as part of the launch of the Strategy for Profitable Growth. The value framework agreed by the Board in December 2019 will be built into the performance management framework of the Group and the Remuneration Committee has used this framework as a foundation for the operational and strategic targets for the Executive Directors and Executive Committee members for 2020. In setting these targets, the Committee has also considered the outcomes of the first Group-wide senior employee pulse survey.

Employee share ownership

Spectris is a proud advocate of employee share ownership. Due to the Group's decentralised structure, particular importance is placed on aligning management throughout the Group with Spectris. Awards under the Spectris LTIP are granted to each management team within each Platform and in each operating company in the Industrial Solutions division to support the alignment of their interests with shareholders. In the UK, the Group also manages a successful all-employee Share Incentive Plan ('SIP') to allow all UK-based employees to build a shareholding in Spectris. For every five shares purchased by an employee under the SIP, the Company awards one free Matching share.

Investor views

Through the consultation process that supported the approval of the 2020 Remuneration Policy, the Committee reached out to investors holding in excess of 50% of the Group's issued share capital. The Remuneration Committee Chairman also held face-to-face meetings with investors holding over 40% of the Group's issued share capital.

CEO pay ratio

The table below provides a summary disclosure of the ratio of CEO pay for 2019. The full audited disclosure is set out on page 84 of this report. In reviewing the employee pay data, the Committee has satisfied itself that the individuals identified within each relevant percentile

Gender pay gap reporting

Spectris plc employs fewer than 250 people in the UK. However, the Board and Remuneration Committee considered the issue of gender pay to be important and for the second year Spectris has chosen to voluntarily collate the results for the UK-based employees of the Group and disclose the Group's gender pay gap. The detailed disclosure is set out on page 50 of the Sustainability Report. For 2019, this gap is 10.65%. In 2019, the Remuneration Committee reviewed the data that comprised the external disclosure and confirmed its confidence that men and women were being paid equally for doing the same job. It was agreed that the structure of the UK workforce was driving the gap, with an imbalance in the number of male and female employees in similar roles. This imbalance has been a core focus of time and attention by the Board and the Nomination Committee during the year and the Remuneration Committee now reviews the gender pay gap data as part of its annual standing agenda.

33,780 shares

held by employees as part of the Share Incentive Plan as at 31 December 2019

appropriately reflect the employee pay profiles at those quartiles and that the overall picture presented by the ratios is consistent with our pay, reward and progression policies for UK employees.

Financial year	No of UK employees	CEO total remuneration	25th percentile employee (lower quartile)	50th percentile employee (median)	75th percentile employee (upper quartile)
31 December 2019	1,891	£1,162,883	£28,509	£37,789	£54,990

Advisers to the Committee

PricewaterhouseCoopers LLP ('PwC') was first appointed as independent remuneration adviser in January 2018. During 2019, PwC has provided advisory support to the Committee on various aspects of the Directors' remuneration, including:

- advice on remuneration for Executive Directors;
- analysis on all elements of the Remuneration Policy; and
- regular market and best practice updates.

PwC reports directly to the Committee Chairman. During 2019, PwC also provided certain project advisory services to the Company.

Aon separately supports the Company in compiling IFRS 2 'Share-based Payment' reporting on the Company's share plans and TSR performance calculations in relation to the Company's PSP. Aon does not provide any other services to the Company. Total fees paid during the financial year to these advisers were: PwC £144,751 (2018: £53,667) and Aon £28,475 (2018: £12,300). These fees were charged on the basis of each firm's standard terms of business.

Both PwC and Aon are members of the Remuneration Consultants Group and adhere to its Code of Conduct.

The Committee reviewed the objectivity and independence of the advice it receives from its advisers each year and is satisfied that both PwC and Aon provided credible and professional advice during 2019.

Annual performance evaluation

The performance of the Committee was reviewed as part of the external evaluation of the Board. This evaluation process was led by Lisa Thomas from Independent Board Evaluation and further details regarding the process followed are set out on page 60. The Committee was considered to have operated effectively during the year.

2020 Remuneration Committee workplan

The Committee intends to focus on the following key areas during 2020:

- wider workforce remuneration structures and key policies;
- wider UK workforce pension arrangements as part of the stated aim of aligning the UK pension arrangements by 2022;
- CEO average pay compared to UK workforce average pay; and
- monitoring of the Group's existing Remuneration Policy against the Group's strategy, market practice, changes in the external governance environment and investor guidance.

By order of the Board

Russell King
Chairman of the Remuneration Committee
19 February 2020

This Directors' Remuneration Report for the year ended 31 December 2019 complies with the requirements of the Listing Rules of the UK Listing authority, Schedule 8 of the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2013, the Companies (Miscellaneous Reporting) Regulations 2018 and the provisions of the 2018 UK Corporate Governance Code.

Directors' Report

Overview of the information required to be disclosed

This section sets out the information required to be disclosed by the Company and the Group in the Directors' Report in compliance with the Companies Act 2006 (the 'Act'), the Listing Rules of the UK Listing Authority ('Listing Rules') and the Disclosure Guidance and Transparency Rules ('DTR'). Certain matters that would otherwise be disclosed in this Directors' Report have been reported elsewhere in this Annual Report. This report should

therefore be read in conjunction with the Strategic Report on pages 1 to 53 and the Governance section (pages 54 to 91) which are incorporated by reference into this Directors' Report. The Strategic Report and this Directors' Report, together with other sections of this Annual Report and Accounts including the Governance section on pages 54 to 91 incorporated by reference, when taken as a whole, form the Management Report as required under Rule 4.1.5R of the DTR.

Disclosure	Reported in	Page reference
Acquisitions and disposals	Strategic Report	Page 38
Articles of Association	Directors' Report	Page 93
Annual General Meeting	Directors' Report	Page 93
Appointment and removal of Directors	Directors' Report	Page 94
Authority to allot shares	Directors' Report	Page 93
Business model	Strategic Report	Pages 16 and 17
Change of control	Directors' Report	Page 94
Community and charitable giving	Strategic Report	Page 48
Corporate governance	Governance	Pages 54 to 96
Directors' conflicts of interest	Directors' Report	Page 94
Directors' details	Governance	Pages 54 and 55
Directors' indemnity	Directors' Report	Page 94
Directors' responsibility statement	Directors' Report	Page 96
Disclosure of information to auditor	Directors' Report	Page 95
Diversity, equality and inclusion	Strategic Report	Page 50
Employee engagement	Governance	Page 59
Employee equal opportunities	Strategic Report	Page 50
Employee share plans	Directors' Report	Page 94
Employees with disabilities	Strategic Report	Page 50
Financial instruments	Directors' Report	Page 94
Future developments and strategic priorities	Strategic Report	Pages 14 and 15
Going concern	Directors' Report	Page 94
Greenhouse gas emissions	Strategic Report	Page 52
Non-financial information statement and index	Directors' Report	Page 93
Ongoing director training and development	Governance	Page 60
Political donations	Directors' Report	Page 94
Powers of Directors	Directors' Report	Page 94
Principal risks and risk management	Strategic Report	Pages 42 to 46
Purchase of own shares	Directors' Report	Page 94
Research and development activities	Strategic Report	Pages 17 and 37
Restrictions on transfer of shares	Directors' Report	Page 95
Restrictions on voting rights	Directors' Report	Page 95
Results and dividends	Strategic Report	Pages 4 and 5
Rights and obligations attaching to shares	Directors' Report	Page 95
Section 172 statement	Strategic Report	Pages 5, 48 and 58
Share capital	Directors' Report	Page 95
Stakeholder engagement	Strategic Report	Pages 48 and 49
Substantial share interests	Directors' Report	Page 95
Treasury shares	Directors' Report	Page 95
Viability Statement	Strategic Report	Page 47

Non-financial information statement and index

This statement is made in compliance with the Companies Act 2006 and is intended to provide an understanding of our development, performance and position on key non-financial matters. The table below sets out where information relating to non-financial matters can be located.

Non-financial information index

Reporting requirement	Some of our relevant policies and standards	Where to find out more information	Page reference
Anti-bribery and corruption	Code of Business Ethics	Ethics and values standards Culture, integrity and commitment to our values Ethics helpline Ethical leadership Principal risk – 'Compliance'	53 and 59 53 and 59 53 53 45
Business model		Our business model	16 and 17
Environmental matters	Environmental policy ISO 14001	Environmental management Energy performance Greenhouse gas emissions (GHG) KPI – Energy efficiency	52 52 52 19
Employees	Code of Business Ethics Health and Safety policy OHSAS 18001 SA 8000 Social Accountability	Fair employment and diversity Board diversity Employee engagement and Workforce Engagement Director Gender pay Health, safety and wellbeing at work KPI Accident incidence rate Principal risks: – 'Compliance' – 'Talent and capabilities'	50 62 48, 50 and 59 59 50 50 and 51 19 45 46
Human rights	Human Rights policy Code of Business Ethics	Legal and regulatory compliance Principal risk – 'Compliance'	51 45
Non-financial KPIs		Energy efficiency Accident incidence rate	19 19
Social matters		Community involvement	48

Results and dividends

The financial results for the financial year ended 31 December 2019 are set out on pages 105 to 171. Adjusted operating profit for the year amounts to £258.1 million (2018: £248.3 million).

An interim dividend of 21.90 pence per share was paid on 8 November 2019 in respect of the half year ended 30 June 2019. The Board is recommending a final dividend of 43.2 pence per share for the year ended 31 December 2019, which, together with the interim dividend of 21.90 pence per share paid on 8 November 2019, gives a total dividend for the year of 65.1 pence per share (2018: 61.0 pence per share). Dividend details are given in Note 9 to the Financial Statements on page 130. The Board is further recommending a special dividend of 150 pence per share together with a share consolidation which will also require shareholder approval at the 2020 AGM. Full details are set out in the Notice of AGM which accompanies this Annual Report. Subject to approval of shareholders at the 2020 AGM, the final and special dividends will be paid on 22 June 2020 to those shareholders on the register at 22 May 2020.

Articles of Association (Articles)

The Company's Articles contain specific provisions and restrictions regarding the Company's powers to borrow money. Powers relating to pre-emptive rights, allotment of shares, purchase of the Company's own shares are also included in the Articles and such authorities are renewed by shareholders each year at the Annual General Meeting. The Articles also give power to the Board to appoint and remove Directors and require Directors to submit themselves for election at the first AGM following their appointment and for annual re-election at subsequent AGMs. The Articles may be amended by special resolution of the shareholders. The Company's Articles are available on the Company's website: www.spectris.com.

Annual General Meeting (AGM)

The 2020 AGM will be held at 12.00pm on Friday 22 May 2020 at Great Fosters, Stroud Road, Egham, Surrey TW20 9UR. The Notice of the AGM accompanies this Annual Report and is available at www.spectris.com.

Auditor's re-appointment and remuneration

Resolutions for the re-appointment of Deloitte LLP as the Company's auditor and to authorise the Directors, acting through the Audit & Risk Committee, to agree the remuneration of the auditor are to be proposed at the 2020 AGM.

Directors' Report continued

Branches	The Spectris Group, through various subsidiaries, has established branches in a number of different countries in which the business operates.
Change in control	There are a number of agreements that take effect, alter or terminate upon a change of control of the Group following a takeover, such as bank loan agreements and Company share plans. None of these are deemed to be significant in terms of their potential impact on the business of the Group as a whole. It is also possible that funding arrangements for the Group's defined benefit pension arrangements would need to be enhanced following a change in control if that resulted in a weakening of the employer covenant. The Company does not have any agreements with any Director that would provide for enhanced compensation for loss of office or employment following a takeover bid.
Directors	Details of the Directors who served during the year are set out on pages 54 and 55, other than Clive Watson who retired from the Board on 25 March 2019. Directors are appointed and replaced in accordance with the Articles, the Act and the UK Corporate Governance Code 2018.
Directors' conflicts of interest	The Board has an established process to review at least annually, and, if appropriate, authorise conflict of interests. Any transactional conflicts are reviewed as they arise. Directors are asked to review and confirm reported conflicts of interest as part of the year-end process.
Directors' remuneration and interest	Details of Directors' remuneration and their interest in the Company's shares are set out in the Directors' Remuneration Report on pages 70 and 91.
Directors' and officers' indemnities and insurance	The Spectris Group maintains liability insurance for its Directors and officers. The Directors and Company Secretary have also been granted a third-party indemnity, under the Act, which remains in force. Neither the Company's indemnity nor insurance provides cover in the event that an indemnified individual is proven to have acted fraudulently or dishonestly.
Directors' powers	The business of the Company is managed by the Board, which may exercise all the powers of the Company subject to the Articles and the Act.
Employee share plans	Details of employee share plans are set out in the Remuneration Policy summary table on page 75 and in Note 23 to the Financial Statements on page 145.
Financial instruments	Details of the Group's financial risk management in relation to its financial instruments are given in Note 28 to the Financial Statements on pages 153 to 155.
Going concern and Viability Statement	Having reviewed the Group's plans and available financial facilities, the Board has a reasonable expectation that the Group has adequate resources to continue in operational existence for at least 12 months following the signing of the accounts. For this reason, it continues to adopt the going concern basis in preparing the Group's accounts. The Company's Viability Statement can be found on page 47.
Political donations	The Group's policy is not to make any political donations and none were made during the financial year ended 31 December 2019 (2018: nil).
Post balance sheet events	On 17 January 2020, an announcement was made that agreement had been reached for the sale of our interest in the EMS Brüel & Kjaer joint venture for consideration of £17.9m in cash and approximately £1.2m in shares in Envirosuite Limited ('Envirosuite'). The closing of the deal is subject to approval by Envirosuite's shareholders at a meeting to be held on 24 February 2020 and the conditional placement of shares by Envirosuite required to fund the consideration for the transaction, with completion expected to take place shortly thereafter. As a result, the receivable from the joint venture has been impaired by £21.3m to the expected recoverable amount and the remaining balance of £18.9m has been included within assets held for sale at 31 December 2019. On 31 January 2020, the Group sold its interest in the Rheology range of products to Netzscht Group for consideration of £8.8m in cash. This product range, part of the Malvern Panalytical segment, generated approximately £12m of revenue and £1m of operating profit in 2019.
Purchase of own shares	The Company was authorised by shareholders at the 2019 AGM to purchase in the market up to 10% of the Company's issued share capital, as permitted under the Company's Articles. No shares were purchased under this authority during the year. This standard authority is renewable annually and the Directors will seek to renew this authority at the 2020 AGM.
Related party transactions	Details of related party transactions are set out in Note 32 to the Financial Statements on page 156.

Share capital	The share capital of the Company comprises ordinary shares of 5 pence each: each share (with the exception of those held by the Company in Treasury) carries the right to one vote at general meetings of the Company. The Company may reduce or vary the rights attaching to its share capital by special resolution subject to the Articles and applicable laws and regulations. The issued share capital of the Company together with movements in the Company's issued share capital during the year are shown in Note 22 to the Financial Statements on page 144.																
Shareholders' rights and obligations attaching to shares	<p>The Articles (available on the Company's website www.spectris.com) contain provisions governing the ownership and transfer of shares. All shareholders have equal voting rights with one vote per share and there are no special control rights attaching. There are no restrictions on the transfer of shares beyond those required by applicable law under the Articles or under any applicable share dealing policy.</p> <p>Subject to any special rights or restrictions, every shareholder on the Register not less than 48 working hours before the time fixed for a general meeting, will have one vote for every fully-paid share that they hold. Shareholders may cast votes either personally or by proxy, and a proxy need not be a shareholder. Details relating to the appointment of proxies and registration of voting instructions for the 2020 AGM are set out in the Notice of AGM accompanying this Annual Report.</p>																
Substantial shareholders	As at 31 December 2019, the Company had received formal notifications of the following holdings in its ordinary shares in accordance with DTR 5:																
	<table border="1"> <thead> <tr> <th></th> <th>Shareholding in Spectris shares</th> <th>Date of notification</th> <th>Percentage of issued share capital at date of notification</th> </tr> </thead> <tbody> <tr> <td>Massachusetts Financial Services Company</td> <td>12,797,886</td> <td>22 Oct 2019</td> <td>11.03%</td> </tr> <tr> <td>FMR LLC</td> <td>6,205,369</td> <td>23 Nov 2016</td> <td>5.37%</td> </tr> <tr> <td>Oppenheimer Funds, Inc</td> <td>5,720,217</td> <td>15 Jun 2018</td> <td>4.83%</td> </tr> </tbody> </table>		Shareholding in Spectris shares	Date of notification	Percentage of issued share capital at date of notification	Massachusetts Financial Services Company	12,797,886	22 Oct 2019	11.03%	FMR LLC	6,205,369	23 Nov 2016	5.37%	Oppenheimer Funds, Inc	5,720,217	15 Jun 2018	4.83%
	Shareholding in Spectris shares	Date of notification	Percentage of issued share capital at date of notification														
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FMR LLC	6,205,369	23 Nov 2016	5.37%														
Oppenheimer Funds, Inc	5,720,217	15 Jun 2018	4.83%														
	Between 31 December 2019 and the date of this report, the Company received notification from FMR LLC, on 3 January 2020 of an increase in their holding to 7.48% (8,682,229 Spectris shares). A list of the Company's major shareholders is set out on page 172.																
Treasury shares	Shares held by the Company in treasury do not have voting rights and are not eligible to receive dividends.																
Disclosures required under UK Listing Rule 9.8.4	There are no disclosures required to be made under UK Listing Rule 9.8.4 other than in respect of long-term incentive schemes, details of which are set out in the Directors' Remuneration Report on pages 70 to 91.																
Disclosure of information to auditor	<p>The Directors who held office at the date of approval of the Directors' Report confirm that:</p> <ul style="list-style-type: none"> so far as they are each aware, there is no relevant audit information, which would be needed by the Company's auditor in connection with preparing its audit report, of which the Company's auditor is unaware; and each Director has taken all steps that they ought to have taken as a Director in order to make themselves aware of any relevant audit information and to establish that the Company's auditor is aware of that information. 																

On behalf of the Board

Mark Serföző
General Counsel and Company Secretary
19 February 2020

Statement of Directors' responsibilities in respect of the Annual Report and the Financial Statements

The Directors are responsible for preparing the Annual Report, Directors' Remuneration Report and the Group and Company Financial Statements in accordance with applicable law and regulations.

Under the Companies Act, the Directors are required to prepare the Group and Company Financial Statements in accordance with International Financial Reporting Standards ('IFRS') as adopted by the European Union ('EU') and Article 4 of the IAS regulation and have also elected to prepare the Company Financial Statements in accordance with UK Accounting Standards, including FRS 101 'Reduced Disclosure Framework'.

Under company law, the Directors are required to prepare such Financial Statements for each financial year and must not approve the Financial Statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of their profit or loss for that period.

In preparing each of the Group and Company Financial Statements, the Directors are required to:

- select accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent;
- for the Group Financial Statements, state whether they have been prepared in accordance with IFRS as adopted by the EU;
- for the Company Financial Statements, state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the Company Financial Statements; and
- prepare the Financial Statements on the going concern basis unless it is inappropriate to presume that the Group and Company will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that its Financial Statements comply with the Companies Act 2006. They have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Group and to prevent and detect fraud and other irregularities.

Under applicable law and regulations, the Directors are also responsible for preparing a Strategic Report, Directors' Report, Directors' Remuneration Report and Corporate Governance Statement that comply with that law and those regulations.

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the Company's website. Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Directors' responsibility statement

We confirm that to the best of our knowledge:

- the Financial Statements, prepared in accordance with the applicable set of accounting standards, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Company and the undertakings included in the consolidation taken as a whole;
- the Strategic Report on pages 1 to 53 and the Directors' Report on pages 54 to 95 include a fair review of the development and performance of the business and the position of the Group and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that they face; and
- the Annual Report and Accounts taken as a whole, is fair, balanced and understandable, and provides the information necessary for shareholders to assess the Group's performance, business model and strategy.

The Strategic Report and the Directors' Report were approved by the Board on 19 February 2020.

By order of the Board

Andrew Heath
Chief Executive

Derek Harding
Chief Financial Officer
19 February 2020

Independent Auditor's Report to the Members of Spectris plc

Report on the audit of the Financial Statements

1. Opinion

In our opinion:

- the Financial Statements of Spectris plc (the 'Parent Company') and its subsidiaries (the 'Group') give a true and fair view of the state of the Group's and of the Parent Company's affairs as at 31 December 2019 and of the Group's profit for the year then ended;
- the Group Financial Statements have been properly prepared in accordance with International Financial Reporting Standards ('IFRSs') as adopted by the European Union and IFRSs as issued by the International Accounting Standards Board ('IASB');
- the Parent Company Financial Statements have been properly prepared in accordance with IFRSs as adopted by the European Union and as applied in accordance with the provisions of the Companies Act 2006; and
- the Financial Statements have been prepared in accordance with the requirements of the Companies Act 2006 and, as regards the Group Financial Statements, Article 4 of the IAS Regulation.

We have audited the Financial Statements which comprise:

- the Consolidated Income Statement;
- the Consolidated Statement of Comprehensive Income;
- the Consolidated and Company Statements of Changes in Equity;
- the Consolidated and Company Statement of Financial Position;
- the Consolidated Statement of Cash Flows; and
- the Consolidated Notes 1 to 34 and Company Notes 1 to 15.

The financial reporting framework that has been applied in their preparation is applicable law and IFRSs as adopted by the European Union and, as regards the Parent Company Financial Statements, as applied in accordance with the provisions of the Companies Act 2006.

2. Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ('ISAs (UK)') and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report.

We are independent of the Group and the Parent Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the Financial Reporting Council's (the 'FRC's') Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We confirm that the non-audit services prohibited by the FRC's Ethical Standard were not provided to the Group or the Parent Company. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

3. Summary of our audit approach

Key audit matters	The key audit matters that we identified in the current year were:
	<ul style="list-style-type: none"> • impairment of the carrying value of goodwill, other intangible and tangible assets; • revenue recognition; and • classification and disclosure of restructuring costs from significant programmes.
Within this report, key audit matters are identified as follows:	
*	Newly identified
↑	Increased level of risk
→	Similar level of risk
↓	Decreased level of risk
Materiality	The materiality that we used in the Consolidated Financial Statements was £12.3m (2018: £12.0m) which was determined on the basis of 5% of adjusted profit before tax.
Scoping	Full scope audit work was completed on 54 components and specified audit procedures were undertaken on a further one component. Our full scope and specified audit procedures covered 71% (2018: 70%) of total Group revenue and 78% (2018: 93%) of Group statutory profit before tax.
Significant changes in our approach	A significant proportion of the Group's material components are classified as full audit scope components consistent with the previous year. BTG was audited to 2 December 2019, when it was divested from the Group.
	Two additional key audit matters are disclosed in our opinion in the year ended 31 December 2019. These are:
	<ul style="list-style-type: none"> • revenue recognition; and • classification and disclosure of restructuring costs from significant programmes.
	These items have been included as key audit matters as there continues to be a weighting towards the second half of the year in respect of revenue recognised, and in the case of restructuring costs, these relate to the Profit Improvement Programme ('PIP') which is a material restructuring programme in the year.

Independent Auditor's Report to the Members of Spectris plc continued

4. Conclusions relating to going concern, principal risks and viability statement

4.1. Going concern

We have reviewed the Directors' statement on page 94 to the Financial Statements about whether they considered it appropriate to adopt the going concern basis of accounting in preparing them and their identification of any material uncertainties to the Group's and Company's ability to continue to do so over a period of at least 12 months from the date of approval of the Financial Statements.

We considered as part of our risk assessment the nature of the Group, its business model and related risks including where relevant the impact of Brexit, the requirements of the applicable financial reporting framework and the system of internal control. We evaluated the Directors' assessment of the Group's ability to continue as a going concern, including challenging the underlying data and key assumptions used to make the assessment, and evaluated the Directors' plans for future actions in relation to their going concern assessment.

We are required to state whether we have anything material to add or draw attention to in relation to that statement required by Listing Rule 9.8.6R(3) and report if the statement is materially inconsistent with our knowledge obtained in the audit.

Going concern is the basis of preparation of the Financial Statements that assumes an entity will remain in operation for a period of at least 12 months from the date of approval of the Financial Statements.

We confirm that we have nothing material to report, add or draw attention to in respect of these matters.

4.2. Principal risks and viability statement

Based solely on reading the Directors' statements and considering whether they were consistent with the knowledge we obtained in the course of the audit, including the knowledge obtained in the evaluation of the Directors' assessment of the Group's and the Company's ability to continue as a going concern, we are required to state whether we have anything material to add or draw attention to in relation to:

- the disclosures on pages 44–46 that describe the principal risks, procedures to identify emerging risks, and an explanation of how these are being managed or mitigated;
- the Directors' confirmation on page 47 that they have carried out a robust assessment of the principal and emerging risks facing the Group, including those that would threaten its business model, future performance, solvency or liquidity; or
- the Directors' explanation on page 47 as to how they have assessed the prospects of the Group, over what period they have done so and why they consider that period to be appropriate, and their statement as to whether they have a reasonable expectation that the Group will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

We are also required to report whether the Directors' statement relating to the prospects of the Group required by Listing Rule 9.8.6R(3) is materially inconsistent with our knowledge obtained in the audit.

Viability means the ability of the Group to continue over the time horizon considered appropriate by the Directors.

We confirm that we have nothing material to report, add or draw attention to in respect of these matters.

5. Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the Financial Statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those which had the greatest effect on:

the overall audit strategy, the allocation of resources in the audit; and directing the efforts of the engagement team.

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.

5.1. Impairment of the carrying value of goodwill, other intangible and tangible assets ↑

Key audit matter description Total goodwill and intangible assets at 31 December 2019 were £646.8m (2018: £766.3m) and £178.5m (2018: £263.3m), respectively.

We focused our impairment of goodwill, other intangible and tangible assets testing at Concept Life Sciences ('CLS') and Millbrook, given the increased risk of impairment triggered by trading performance and/or limited headroom of recoverable amount over the carrying amount.

- **CLS** – During 2019, CLS trading performance was below expectations leading to a strategic review of the business. Consequently impairment triggers were identified leading to management performing an impairment assessment at 30 June 2019. Management assessed the recoverability of goodwill and other intangible asset balances and identified impairments of £32.4m relating to customer and technology intangible assets and £35.1m relating to goodwill.
- **Millbrook** – Since its acquisition in 2016, there has been significant capital investment in Millbrook alongside two bolt-on acquisitions. Given the early programme life cycle stage, the headroom between the recoverable amount and the carrying amount of the Millbrook cash-generating unit ('CGU') is £17.0m. There is consequently a risk surrounding the recoverability of goodwill, intangible and tangible assets, as assessed annually by management.

Management have determined the recoverable amount based on a value-in-use model calculated from cash flow projections based on management's assumptions and estimates of future trading performance.

Estimating a value-in-use is inherently judgemental, and a range of assumptions can reasonably be applied in determining the estimates applied therein. The key judgements in assessing goodwill, intangible and tangible assets for impairment are the discount rate, long-term growth rate, and the short-term projected cash flows. The value-in-use model is sensitive to changes in these estimates, all of which must reflect a long-term view of underlying growth in the respective economies within which these businesses operate and the reasonableness of projected cash flows. Specifically, we have pinpointed this key audit matter to the discount rate and short-term future cash flows in the two CGUs referred to above and material judgements contained therein. This is where the highest degree of sensitivity exists in determining the value-in-use. Therefore management have provided sensitivity disclosures of the reasonable possible changes that could result in an impairment.

The Audit Committee Report on page 66 refers to impairment of goodwill and other intangibles as an area considered by the Audit Committee.

Note 1 to the Consolidated Financial Statements sets out the Group's accounting policy for testing of goodwill and intangibles for impairment. The basis for the impairment reviews is outlined in Note 11 to the Consolidated Financial Statements, including details of the discount rates and long-term growth rates used. Note 11 to the Consolidated Financial Statements also includes details of the extent to which the CGUs to which the goodwill and other intangibles assets are allocated are sensitive to changes in the key inputs.

How the scope of our audit responded to the key audit matter

Our procedures for challenging management's methodology and assumptions focused on both CGUs discussed above and included the following:

- Obtaining and understanding of controls relevant to the impairment assessment, including management's review of projected cash flows prepared at the operating company level.
- Validating the integrity of management's impairment model through testing of the mechanical accuracy and verifying the application of the input assumptions.
- Understanding the underlying process used to determine the risk adjusted cash flow projections.
- Evaluating the process management undertook to prepare the cash flow forecasts in their impairment model including agreement with the latest Board-approved plans and management-approved forecasts.
- Challenging the cash flow projections through assessing the accuracy of historical budgeting by comparing them with actual performance and independent evidence to support any significant expected future changes to the business.
- Considering a range of available market data and performing a peer benchmarking exercise to assess and challenge the growth rates forecasted by management in revenue and margins.
- Considering the potential impact of Brexit on the cash flow projections. Considering reasonable possible changes in assumptions to challenge the appropriateness of management's assessment of reasonable possible change scenarios.
- Reviewing the adequacy of the Group's disclosures on impairment in Note 11 of the Financial Statements.

Our challenge was informed by input from certain of our internal valuations specialists, utilising their knowledge and expertise in relation to the discount rate and the market in which CLS and Millbrook operate.

Independent Auditor's Report to the Members of Spectris plc continued

Key observations	<p>Based on the work performed as outlined above, we consider the key assumptions taken by management to be within an acceptable range and are reasonable and supportable when taken in aggregate.</p> <p>At CLS we are satisfied with the impairment charged to the consolidated income statement during 2019, and the disclosure provided within Note 11 of the Financial Statements.</p> <p>Whilst not impaired, given the limited headroom in Millbrook, a change in the key assumptions in isolation would cause an impairment loss to be recognised. We consider management's disclosure of the reasonably possible scenarios to be appropriate as it identifies the value of the applicable key assumption and the value by which the key assumption must change to reduce headroom to nil. Refer to Note 11 of the Financial Statements where the sensitivity disclosure is provided.</p>
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5.2. Revenue recognition *

Key audit matter description	<p>The Group recognised revenue of £1,632.0m (2018: £1,604.2m), predominantly through the provision of goods and services accounted for under IFRS 15. Given the number of operating companies in the Group, the variety of revenue streams and the bespoke nature of businesses, spanning across numerous countries and industries, understanding the revenue cycles in each business and their respective control environments underpins our risk assessment and the basis for our planned audit procedures.</p> <p>Consequently, we consider that revenue recognition represents a key audit matter due to the effort and resources allocated during the audit. Additionally, more revenue is generated in December across all operating companies than any other individual month in the financial year. We therefore identified a risk of material misstatement, whether due to error or fraud, relating to the cut-off of revenue recognition.</p> <p><i>Refer to Note 1 for the accounting policies on revenue recognition, and Note 4 for the Group's segmental analysis.</i></p>
How the scope of our audit responded to the key audit matter	<p>We designed our audit procedures to be specific to each operating company, considering the nature of each business and the associated revenue streams. Consequently, we performed a combination of the following audit procedures as appropriate:</p> <ul style="list-style-type: none"> Obtained an understanding of controls relevant to revenue and in some components we tested these controls. Traced a sample of revenue recognised over a period in December 2019 to third-party supporting evidence to assess whether appropriate cut-off was applied and that performance obligations had been satisfied. Considered material contracts with multiple performance obligations and assessed the identification of separate performance obligations, the timing of revenue recognition and the evidence of the performance obligations being satisfied. Challenged the appropriateness of accrued income recognised by obtaining adequate and sufficient supporting documentation of contract assets. Obtained a schedule of adjusting and manual journals posted in December 2019 with a credit impact on revenue and traced a sample to appropriate evidence in support of the adjustment.
Key observations	<p>We consider the revenue recognised across the Group to be appropriate and year-end cut-off is materially accurate. We concur with management's accounting policies and their application across the Group.</p>

5.3. Classification and disclosure of restructuring costs from significant programmes *

Key audit matter description	<p>Spectris discloses a number of alternative performance measures ('APMs') as part of its presentation and assessment of Group financial results. The Group's results include £52.2m (2018: £15.6m) of restructuring costs from significant programmes which, together with other exceptional items, are not considered to be reflective of underlying performance.</p> <p>In November 2018, the Group launched the PIP, focusing on cost savings, improving the sales mix, product profitability, restructuring, site rationalisation and reducing the size of the head office.</p> <p>Given the size and broad nature of these costs, the appropriateness of the classification of restructuring excluded from underlying trading performance is a key area of audit focus, particularly the presentation in the primary statements as well as the prominence of this item in the operating and financial reviews. Therefore we have identified a risk in the classification of costs included within 'restructuring', as inappropriate presentation may distort the reported results. Also, the clarity and detail of disclosures in respect of these items may be insufficient, precluding investors from obtaining a clear understanding of the Group's results and performance.</p> <p><i>The Audit Committee Report on page 65 refers to APMs as an area considered by the Audit Committee.</i></p> <p><i>Refer to Note 1 Critical accounting judgements and note 2 Alternative performance measures for the Group's policy on the classification and disclosure of restructuring and other exceptional items.</i></p>
How the scope of our audit responded to the key audit matter	<p>We obtained an understanding of controls that the Group has established regarding the classification and disclosure of restructuring cost items.</p> <p>We have challenged the appropriateness of the PIP cost items classified as 'restructuring costs' disclosed by management in Note 2 of the Financial Statements and the reasonableness of their exclusion from underlying operating profit by reference to their nature and quantum.</p> <p>We selected a sample of restructuring costs, traced these to supporting documentation and evaluated the appropriateness of their classification. We also reviewed disclosures in the financial statements and considered the prominence of these alternative performance measures, relative to statutory performance measures.</p> <p>We performed our audit work in this area to a lower materiality of £4.0m.</p>
Key observations	We consider the classification and disclosure of the PIP costs to be appropriate as part of restructuring costs within the APMs disclosed in Note 2 of the Financial Statements.

6. Our application of materiality

6.1. Materiality

We define materiality as the magnitude of misstatement in the Financial Statements that makes it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced. We use materiality both

in planning the scope of our audit work and in evaluating the results of our work.

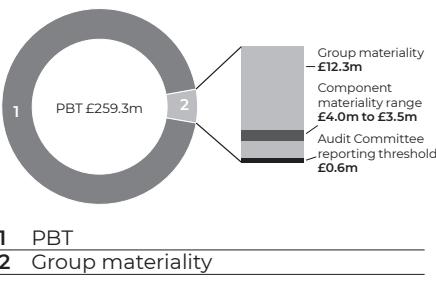
Based on our professional judgement, we determined materiality for the Financial Statements as a whole as follows:

	Group Financial Statements	Parent Company Financial Statements
Materiality	£12.3m (2018: £12.0m)	£4.0m (2018: £4.0m)
Basis for determining materiality	We have used 5% (2018: 5%) of adjusted profit before tax as the benchmark for determining materiality.	We have used 5% (2018: 5%) of adjusted profit before tax as the benchmark for determining materiality.
Rationale for the benchmark applied	Adjusted profit before tax is a key performance measure for management, investors and the analyst community. This metric is important to the users of the financial statements (investors and analysts being the key users for a listed entity) because it portrays the performance of the business and hence its ability to pay a return on investment to the investors. Likewise, this metric takes into account the acquisitive nature of the Group which results in adjusting items needing to be considered when determining the performance of the business. Refer to Note 2 of the Financial Statements for the Group's definition of APMs.	Adjusted profit before tax is considered an appropriate benchmark for the Company given that it is mainly a holding company.

Independent Auditor's Report to the Members of Spectris plc continued

6.2. Performance materiality

We set performance materiality at a level lower than materiality to reduce the probability that, in aggregate, uncorrected and undetected misstatements exceed the materiality for the financial statements as a whole. Group performance materiality was set at 70% of Group materiality for the 2019 audit (2018: 70%). In determining performance materiality, we considered the quality of the control environment and the history of uncorrected misstatements in previous years.



6.3. Error reporting threshold

We agreed with the Audit Committee that we would report to the Committee all audit differences in excess of £0.6m (2018: £0.5m), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. We also report to the Audit Committee on disclosure matters that we identified when assessing the overall presentation of the financial statements.

7. An overview of the scope of our audit

7.1. Identification and scoping of components

The Group operates in more than 30 countries spread across five continents with the largest footprint being in North America, Asia and Europe. Our Group audit was scoped by obtaining an understanding of the Group and its environment, including Group-wide controls, and assessing the risks of material misstatement at the Group and component level. Based on that assessment, we focused our Group audit scope primarily on the audit work at the four segments, consisting of three platforms: Omega, HBK and Malvern Panalytical; as well as another seven operating companies reported as part of the Industrial Solutions segment. These three platforms and seven other operating companies are composed of many individual components, which are the lowest level at which management prepare financial information that is included in the Consolidated Financial Statements. The Company is located in the UK and is audited directly by the Group audit team.

We have considered components on the basis of their contribution to Group revenue, and profit, as well as those that require local statutory audits in their jurisdiction. Full scope audit work was completed on 54 components and specified audit procedures were undertaken on a further one component. Our full scope and specified audit procedures covered 71% (2018: 70%) of total Group revenue and 78% (2018: 93%) of Group statutory profit before tax.

7.2. Our consideration of the control environment

Given the disaggregated nature of the Group, we largely adopt a substantive audit approach. Where control improvements are identified these are reported to management and the Audit Committee as appropriate. Management determine their response to these observations and continue to monitor their resolution

with reporting to and oversight from the Audit Committee.

In the current year we have highlighted the potential to enhance the formality of the control and process documentation including evidencing their operation. We do not consider the control improvements identified in the year to be significant in nature.

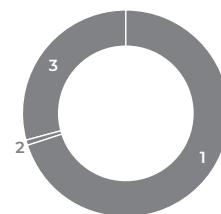
7.3. Working with other auditors

Each component in scope was subject to an audit materiality level between £3.5m and £4.0m. This audit work on all components was performed by Deloitte Touche Tohmatsu Limited member firms under the direction and supervision of the Group audit team. Further work was performed at a Group level over the consolidation and components not in scope.

We communicated the results of our risk assessment exercise to the component auditors and instructed them on the areas of significant risk, the procedures to be performed and the form and timing of their reporting to us. We also provided direction on enquiries made by the component auditors through online and telephone conversations. All the findings noted were discussed with the component auditor in detail and further procedures to be performed were issued where relevant.

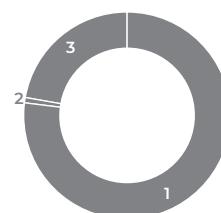
The Group audit team followed a programme of planned visits that has been designed so that on a rotational basis the Senior Statutory Auditor, or a senior member of the Group audit team visits each of the primary operating companies where the Group audit scope was focused in addition to the work performed at the Group head office. In relation to the current year audit the Senior Statutory Auditor, or a senior member of the audit team visited South Korea, China, Denmark, Germany, Netherlands, USA and various locations in the UK.

Revenue (%)



1 Full scope audit	70%
2 Specified audit procedures	1%
3 Review at Group level	29%

Profit before tax (%)



1 Full scope audit	77%
2 Specified audit procedures	1%
3 Review at Group level	22%

8. Other information

The Directors are responsible for the other information. The other information comprises the information included in the Annual Report, other than the Financial Statements and our Auditor's Report thereon.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the Financial Statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Financial Statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the Financial Statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

In this context, matters that we are specifically required to report to you as uncorrected material misstatements of the other information include where we conclude that:

- Fair, balanced and understandable – The statement given by the Directors that they consider the Annual Report and Financial Statements taken as a whole is fair, balanced and understandable and provides the information necessary for shareholders to assess the Group's position and performance, business model and strategy, is materially inconsistent with our knowledge obtained in the audit; or
- Audit Committee reporting – The section describing the work of the Audit Committee does not appropriately address matters communicated by us to the Audit Committee; or
- Directors' statement of compliance with the UK Corporate Governance Code – The parts of the Directors' statement required under the Listing Rules relating to the Company's compliance with the UK Corporate Governance Code containing provisions specified for review by the auditor in accordance with Listing Rule 9.8.10R(2) do not properly disclose a departure from a relevant provision of the UK Corporate Governance Code.

We have nothing to report in respect of these matters.

9. Responsibilities of Directors

As explained more fully in the Directors' responsibilities statement, the Directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the Financial Statements, the Directors are responsible for assessing the Group's and the Parent Company's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Group or the Parent Company or to cease operations, or have no realistic alternative but to do so.

10. Auditor's responsibilities for the audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. 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.

Details of the extent to which the audit was considered capable of detecting irregularities, including fraud and non-compliance with laws and regulations are set out below.

A further description of our responsibilities for the audit of the Financial Statements is located on the FRC's website at www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

11. Extent to which the audit was considered capable of detecting irregularities, including fraud

We identify and assess the risks of material misstatement of the Financial Statements, whether due to fraud or error, and then design and perform audit procedures responsive to those risks, including obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion.

11.1. Identifying and assessing potential risks related to irregularities

In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, we considered the following:

- the nature of the industry and sector, control environment and business performance including the design of the Group's remuneration policies, key drivers for Directors' remuneration, bonus levels and performance targets;
- results of our enquiries of management, internal audit, and the Audit Committee about their own identification and assessment of the risks of irregularities;
- any matters we identified having obtained and reviewed the Group's documentation of their policies and procedures relating to:
 - identifying, evaluating and complying with laws and regulations and whether they were aware of any instances of non-compliance;
 - detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected or alleged fraud;
 - the internal controls established to mitigate risks of fraud or non-compliance with laws and regulations; and
- the matters discussed among the audit engagement team, including significant component teams, and involving relevant internal specialists, including tax, valuations, pensions, IT, and industry specialists regarding how and where fraud might occur in the Financial Statements and any potential indicators of fraud.

As a result of these procedures, we considered the opportunities and incentives that may exist within the organisation for fraud and identified the greatest potential for fraud in the following areas: revenue recognition and the classification of restructuring costs arising from significant

Independent Auditor's Report to the Members of Spectris plc continued

programmes. In common with all audits under ISAs (UK), we are also required to perform specific procedures to respond to the risk of management override.

We also obtained an understanding of the legal and regulatory frameworks that the Group operates in, focusing on provisions of those laws and regulations that had a direct effect on the determination of material amounts and disclosures in the Financial Statements. The key laws and regulations we considered in this context included the UK Companies Act, Listing Rules, pensions legislation and tax legislation in all relevant jurisdictions where the Group operates.

In addition, we considered provisions of other laws and regulations that do not have a direct effect on the Financial Statements but compliance with which may be fundamental to the Group's ability to operate or to avoid a material penalty.

11.2. Audit response to risks identified

As a result of performing the above, we identified revenue recognition and the classification of restructuring costs arising from significant programmes. The key audit matters section of our report explains the matters in more detail and also describes the specific procedures we performed in response to those key audit matters.

In addition to the above, our procedures to respond to risks identified included the following:

- reviewing the financial statement disclosures and testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described as having a direct effect on the Financial Statements;
- enquiring of management, the Audit Committee and in-house legal counsel concerning actual and potential litigation and claims;
- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;
- reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with HMRC; and
- in addressing the risk of fraud through management override of controls, testing the appropriateness of journal entries and other adjustments; assessing whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluating the business rationale of any significant transactions that are unusual or outside the normal course of business.

We also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members including internal specialists and significant component audit teams, and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

Report on other legal and regulatory requirements

12. Opinions on other matters prescribed by the Companies Act 2006

In our opinion the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Strategic Report and the Directors' Report for the financial year for which the Financial Statements are prepared is consistent with the Financial Statements; and
- the Strategic Report and the Directors' Report have been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the Group and the Parent Company and their environment obtained in the course of the audit, we have not identified any material misstatements in the Strategic Report or the Directors' Report.

13. Matters on which we are required to report by exception

13.1. Adequacy of explanations received and accounting records

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not received all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the Parent Company, or returns adequate for our audit have not been received from branches not visited by us; or
- the Parent Company Financial Statements are not in agreement with the accounting records and returns.

We have nothing to report in respect of these matters.

13.2. Directors' remuneration

Under the Companies Act 2006 we are also required to report if in our opinion certain disclosures of Directors' remuneration have not been made or the part of the Directors' Remuneration Report to be audited is not in agreement with the accounting records and returns.

We have nothing to report in respect of this matter.

14. Other matters

14.1. Auditor tenure

Following the recommendation of the Audit Committee, we were appointed by the Board on 28 July 2016 to audit the Financial Statements for the year ending 31 December 2017 and subsequent financial periods. The period of total uninterrupted engagement including previous renewals and re-appointments of the firm is three years, covering the years ending 31 December 2017 to 31 December 2019.

14.2. Consistency of the audit report with the additional report to the Audit Committee

Our audit opinion is consistent with the additional report to the Audit Committee we are required to provide in accordance with ISAs (UK).

15. Use of our report

This report is made solely to the Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Andrew Bond, FCA (Senior statutory auditor)

For and on behalf of Deloitte LLP
Statutory Auditor
Reading, UK
19 February 2020

Consolidated Income Statement

For the year ended 31 December 2019

	Note	2019 £m	2018 £m
Continuing operations			
Revenue	2,3,4	1,632.0	1,604.2
Cost of sales		(717.8)	(696.8)
Gross profit		914.2	907.4
Indirect production and engineering expenses		(108.2)	(106.8)
Sales and marketing expenses		(345.7)	(352.1)
Administrative expenses		(376.0)	(272.1)
Adjusted operating profit	2	258.1	248.3
Restructuring costs	2	(52.2)	(15.6)
Net transaction-related costs and fair value adjustments	2	(6.1)	(12.2)
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	2	(1.0)	(0.8)
Profit on disposal of property	2	5.2	–
Impairment of goodwill	2	(35.1)	–
Amortisation and impairment of acquisition-related intangible assets	2	(84.6)	(43.3)
Operating profit	2,3,5	84.3	176.4
Share of post-tax results of joint venture	2,13	(4.9)	(1.2)
Impairment of non-current receivable from joint venture	2,13	(21.3)	–
Profit on disposal of businesses	25	204.7	56.3
Financial income	7	7.9	2.5
Finance costs	7	(11.4)	(16.0)
Profit before tax		259.3	218.0
Taxation charge	8	(25.2)	(32.8)
Profit for the year from continuing operations attributable to owners of the Company		234.1	185.2
Basic earnings per share	10	202.2p	157.6p
Diluted earnings per share	10	201.6p	156.9p
Interim dividend paid and final dividend proposed for the year (per share)	9	65.1p	61.0p
Special dividend proposed (per share)	9	150.0p	–
Dividends paid during the year (per share)	9	62.4p	58.0p

Consolidated Statement of Comprehensive Income

For the year ended 31 December 2019

	Note	2019 £m	2018 £m
Profit for the year attributable to owners of the Company		234.1	185.2
Other comprehensive income:			
Items that will not be reclassified to the Consolidated Income Statement:			
Re-measurement of net defined benefit obligation, net of foreign exchange	20	(10.6)	5.4
Tax credit/(charge) on items above	8	1.7	(1.4)
		(8.9)	4.0
Items that are or may be reclassified subsequently to the Consolidated Income Statement:			
Net gain/(loss) on effective portion of changes in fair value of forward exchange contracts on cash flow hedges		3.1	(2.4)
Foreign exchange movements on translation of overseas operations		(32.7)	27.9
Currency translation differences transferred to profit on disposal of business	25	(35.8)	(5.1)
Tax (charge)/credit on items above	8	(0.6)	0.5
		(66.0)	20.9
Total other comprehensive income		(74.9)	24.9
Total comprehensive income for the year attributable to owners of the Company		159.2	210.1

Consolidated Statement of Changes in Equity

For the year ended 31 December 2019

	Share capital £m	Share premium £m	Retained earnings £m	Translation reserve £m	Hedging reserve £m	Merger reserve £m	Capital redemption reserve £m	Total equity £m
At 1 January 2019	6.0	231.4	828.7	167.1	(3.9)	3.1	0.5	1,232.9
Adoption of IFRS 16 and IFRIC 23	–	–	(2.9)	–	–	–	–	(2.9)
At 1 January 2019 (restated)	6.0	231.4	825.8	167.1	(3.9)	3.1	0.5	1,230.0
Profit for the year	–	–	234.1	–	–	–	–	234.1
Other comprehensive income	–	–	(8.9)	(68.5)	2.5	–	–	(74.9)
Total comprehensive income for the year	–	–	225.2	(68.5)	2.5	–	–	159.2
Transactions with owners recorded directly in equity:								
Equity dividends paid by the Company	–	–	(72.3)	–	–	–	–	(72.3)
Share-based payments, net of tax	–	–	3.6	–	–	–	–	3.6
Proceeds from exercise of equity-settled options	–	–	1.0	–	–	–	–	1.0
At 31 December 2019	6.0	231.4	983.3	98.6	(1.4)	3.1	0.5	1,321.5
	Share capital £m	Share premium £m	Retained earnings £m	Translation reserve £m	Hedging reserve £m	Merger reserve £m	Capital redemption reserve £m	Total equity £m
At 1 January 2018	6.2	231.4	820.8	144.3	(2.0)	3.1	0.3	1,204.1
Adoption of IFRS 9 and IFRS 15	–	–	(18.6)	–	–	–	–	(18.6)
At 1 January 2018 (restated)	6.2	231.4	802.2	144.3	(2.0)	3.1	0.3	1,185.5
Profit for the year	–	–	185.2	–	–	–	–	185.2
Other comprehensive income	–	–	4.0	22.8	(1.9)	–	–	24.9
Total comprehensive income for the year	–	–	189.2	22.8	(1.9)	–	–	210.1
Transactions with owners recorded directly in equity:								
Equity dividends paid by the Company	–	–	(68.2)	–	–	–	–	(68.2)
Own shares acquired for share buyback programme	(0.2)	–	(100.5)	–	–	–	0.2	(100.5)
Share-based payments, net of tax	–	–	5.1	–	–	–	–	5.1
Proceeds from exercise of equity-settled options	–	–	0.9	–	–	–	–	0.9
At 31 December 2018	6.0	231.4	828.7	167.1	(3.9)	3.1	0.5	1,232.9

Consolidated Statement of Financial Position

As at 31 December 2019

	Note	2019 £m	2018 £m
ASSETS			
Non-current assets			
Intangible assets:			
Goodwill	11	646.8	766.3
Other intangible assets	11	178.5	263.3
		825.3	1,029.6
Property, plant and equipment	12	369.0	331.5
Investment in joint venture	13	–	5.0
Other receivable – joint venture	13	–	38.9
Deferred tax assets	21	9.0	11.3
		1,203.3	1,416.3
Current assets			
Inventories	14	197.2	216.4
Current tax assets		4.1	1.6
Trade and other receivables	15	335.7	381.5
Derivative financial instruments		1.5	0.4
Cash and cash equivalents	16	213.1	73.1
Assets held for sale	13	18.9	3.9
		770.5	676.9
Total assets		1,973.8	2,093.2
LIABILITIES			
Current liabilities			
Borrowings	17	(80.7)	(23.7)
Derivative financial instruments	28	(0.1)	(2.2)
Trade and other payables	18	(296.8)	(344.1)
Lease liabilities		(15.1)	–
Current tax liabilities		(20.8)	(22.5)
Provisions	19	(27.3)	(31.6)
		(440.8)	(424.1)
Net current assets		329.7	252.8
Non-current liabilities			
Borrowings	17	(98.9)	(346.5)
Other payables	18	(21.3)	(27.4)
Lease liabilities		(45.4)	–
Provisions	19	(5.6)	–
Retirement benefit obligations	20	(27.5)	(32.1)
Deferred tax liabilities	21	(12.8)	(30.2)
		(211.5)	(436.2)
Total liabilities		(652.3)	(860.3)
Net assets		1,321.5	1,232.9
EQUITY			
Share capital	22	6.0	6.0
Share premium		231.4	231.4
Retained earnings		983.3	828.7
Translation reserve	22	98.6	167.1
Hedging reserve	22	(1.4)	(3.9)
Merger reserve	22	3.1	3.1
Capital redemption reserve	22	0.5	0.5
Total equity attributable to owners of the Company		1,321.5	1,232.9

The Financial Statements on pages 105 to 157 were approved by the Board of Directors on 19 February 2020 and were signed on its behalf by:

Derek Harding
Chief Financial Officer

Consolidated Statement of Cash Flows

For the year ended 31 December 2019

	Note	2019 £m	2018 £m
Cash generated from operations	26	277.8	215.8
Net income taxes paid		(37.0)	(37.7)
Net cash inflow from operating activities		240.8	178.1
 Cash flows from/(used in) investing activities			
Purchase of property, plant and equipment and intangible assets		(86.6)	(97.0)
Proceeds from disposal of property, plant and equipment and software		11.2	5.6
Acquisition of businesses, net of cash acquired	24	(9.7)	(196.4)
Proceeds from disposal of businesses, net of tax paid of £1.2m (2018: £0.6m)	25	260.1	43.8
Proceeds from government grants		5.0	2.9
Interest received		0.7	0.6
Net cash flows from/(used in) investing activities		180.7	(240.5)
 Cash flows used in financing activities			
Interest paid on borrowings		(7.0)	(9.4)
Interest paid on lease liabilities		(2.9)	–
Dividends paid	9	(72.3)	(68.2)
Share buyback purchase of shares		–	(100.5)
Net proceeds from exercise of share options		1.0	0.7
Payments on principal portion of lease liabilities		(17.6)	–
Loans to joint venture		(2.2)	(0.9)
Proceeds from borrowings		193.2	175.5
Repayment of borrowings		(363.5)	–
Net cash flows used in financing activities		(271.3)	(2.8)
 Net increase/(decrease) in cash and cash equivalents		150.2	(65.2)
Cash and cash equivalents at beginning of year		67.3	136.7
Effect of foreign exchange rate changes		(4.4)	(4.2)
Cash and cash equivalents at end of year	16	213.1	67.3
 Reconciliation of changes in cash and cash equivalents to movements in net cash/(debt)	Note	2019 £m	2018 £m
Net increase/(decrease) in cash and cash equivalents		150.2	(65.2)
Proceeds from borrowings		(193.2)	(175.5)
Repayment of borrowings		363.5	–
Effect of foreign exchange rate changes		10.1	(5.9)
Movement in net cash/(debt)		330.6	(246.6)
Net debt at beginning of year		(297.1)	(50.5)
Net cash/(debt) at end of year	2	33.5	(297.1)

Notes to the Accounts

1. Basis of preparation and summary of significant accounting policies

a) Basis of preparation

Basis of accounting

The Consolidated Financial Statements have been prepared on a historical cost basis except for items that are required by IFRS to be measured at fair value, principally certain financial instruments. The Consolidated Financial Statements have been prepared in accordance with IFRS as issued by the International Accounting Standards Board ('IASB') and interpretations issued by the International Financial Reporting Interpretations Committee of the IASB, as adopted by the European Union ('IFRS'), and in accordance with the provisions of the Companies Act 2006.

The Financial Statements set out on pages 105 to 157 have been prepared using consistent accounting policies, except for the adoption of new accounting standards and interpretations noted below. Details of the application of new and revised IFRS that became applicable in 2019 are set out below.

These Financial Statements are presented in millions of Sterling rounded to the nearest one decimal place.

Basis of consolidation

The Consolidated Financial Statements set out the Group's financial position as at 31 December 2019 and the Group's financial performance for the year ended 31 December 2019, which incorporate the Financial Statements of Spectris plc and its subsidiaries.

Subsidiaries are those entities controlled by the Group. Control exists when the Group has the power, directly or indirectly, to govern the financial and operating policies of an entity so as to obtain benefits from its activities. Subsidiaries are consolidated from the date on which control is transferred to the Group and cease to be consolidated from the date on which control is transferred out of the Group.

Joint ventures are contractual arrangements which the Group has entered into with one or more parties to undertake an economic activity that is subject to joint control. Joint control is the contractually agreed sharing of control over an economic activity and exists only when decisions relating to the relevant activities require the unanimous consent of the parties sharing the control. The Group has assessed the nature of its joint arrangements and determined them to be joint ventures. Joint ventures are accounted for using the equity method, under which the investment in a joint venture is initially recognised in the Consolidated Statement of Financial Position at cost and adjusted thereafter to recognise the Group's share of the profit or loss and other comprehensive income of the joint venture. When the Group's share of the losses of a joint venture exceeds the Group's interest in that joint venture the Group discontinues recognising its share of further losses.

All inter-company balances and transactions, including unrealised profits arising from intra-group transactions, have been eliminated. Unrealised losses are eliminated in the same way as unrealised gains except that they are only eliminated to the extent that there is no evidence of impairment.

Going concern

The Group's business activities, together with factors likely to affect its future development, performance and financial position, are set out in the Strategic Report on pages 2 to 53. The financial position of the Group, its cash flows, liquidity position and borrowing facilities are described in the Financial Review on pages 36 to 41. In addition, Note 27 to the Financial Statements includes the Group's objectives, policies and processes for managing its capital; its financial risk management objectives; details of its financial instruments and hedging activities; and its exposure to credit risk and liquidity risk.

The Group's net cash balance at 31 December 2019 was £33.5m (2018: net debt £297.1m), with undrawn committed borrowing facilities in respect of its US Dollar \$800m revolving credit facility of £606.4m (2018: £467.9m).

The Board has reviewed a sensitivity analysis on the Group's forecasts to 30 June 2021, the maturity profile of its financial facilities and liabilities (Notes 17 and 28) and the ability of the Group to re-finance these obligations as they fall due. The principal liquidity risk is mitigated through its financial risk management policies (Note 27). For the foreseeable future, the Board has a high level of confidence that the Group will have the necessary liquid resources to meet its liabilities as they fall due and will be able to sustain its business model, strategy and operations and remain solvent, including the impact of reasonably possible adverse scenarios. For this reason, it continues to adopt the going concern basis in preparing the Group Financial Statements. There are no key sensitivities identified in relation to this conclusion. Further information on the going concern of the Group can be found on page 47 in the Viability Statement.

New standards and interpretations adopted

In the current year the Group has applied a number of new standards and amendments to IFRSs issued by the IASB. Details of the new standards that have had a material impact on the Group's Statement of Financial Position are set out below.

IFRS 16 'Leases'

In the current year, the Group has applied IFRS 16 (as issued by the IASB in January 2016) that is effective for annual periods that begin on or after 1 January 2019. The date of initial application of IFRS 16 for the Group is 1 January 2019.

IFRS 16 provides a single model for lessees which recognises a right-of-use asset and a lease liability for all leases, with exceptions available for short-term and low-value leases. The impact of IFRS 16 is to recognise a lease liability and a corresponding asset in the Statement of Financial Position for leases previously classified as operating leases. The most significant impact has been that the Group's land, building and car leases are now recognised on the Statement of Financial Position. Previously rentals payable under operating leases were not recognised on the Statement of Financial Position and were charged to the Consolidated Income Statement on a straight-line basis over the term of the relevant lease.

Notes to the Accounts continued

1. Basis of preparation and summary of significant accounting policies continued

Approach to transition

The Group has applied IFRS 16 using the modified retrospective approach, without restatement of the comparative information. In respect of those leases the Group previously treated as operating leases, the Group has elected to measure its right-of-use assets using the approach set out in IFRS 16.C8(b)(i). Under IFRS 16.C8(b)(i) right-of-use assets are calculated as if the Standard applied at lease commencement, but discounted using the borrowing rate at the date of initial application.

The Group has applied the practical expedients available in IFRS 16 for excluding low-value assets and short-term leases from the requirements of the standard and right-of-use assets have been adjusted by the carrying amount of onerous lease provisions at 31 December 2019 instead of performing impairment reviews under IAS 36.

The impacts of the adoption of IFRS 16 at 1 January 2019 were: a decrease in retained earnings of £3.6m; an increase in property, plant and equipment of £65.0m; a decrease in trade and other payables of £2.3m; an increase in lease liabilities of £71.9m; a decrease in provisions of £0.5m; a decrease in trade and other receivables of £0.5m; and an increase in deferred tax assets of £1.0m. In 2019, the Group incurred a finance charge of £2.9m, reflecting the unwinding of discount on lease liabilities, with depreciation and impairment of £22.1m on right-of-use assets. These items effectively replace the operating lease rentals previously charged to profit before taxation under IAS 17 'Leases'. For the year ended 31 December 2018, operating lease rentals charged to profit before tax amounted to £20.1m. The lease liabilities recognised at 1 January 2019 are £7.1m lower than the total operating lease commitments of £79.0m disclosed in the Annual Report and Accounts for 2018, which were prepared under IAS 17. The reasons for the differences are set out in the table below. The right-of-use assets are shown within property, plant and equipment and the lease liabilities are presented in a separate category in the Consolidated Statement of Financial Position.

The Group's weighted average incremental borrowing rate applied to lease liabilities as at 1 January 2019 is four per cent.

The key judgements in applying IFRS 16 for the Group are: the selection of discount rates and determining whether lease extension and termination options included in the contract are reasonably certain to be exercised.

The table below presents a reconciliation from operating lease commitments disclosed at 31 December 2018 to lease liabilities recognised at 1 January 2019.

	£m
Operating lease commitments disclosed under IAS 17 at 31 December 2018	79.0
Short-term and low-value lease commitments straight-line expensed under IFRS 16	(0.6)
Effect of discounting	(12.4)
Payments due in periods covered by extension options that are included in the lease term	4.6
Finance lease liabilities recognised under IAS 17 at 31 December 2018	1.3
Lease liabilities recognised at 1 January 2019	71.9

New Accounting Policy under IFRS 16

The Group assesses whether a contract is or contains a lease, at inception of the contract. The Group recognises a right-of-use asset and a corresponding lease liability with respect to all lease arrangement in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low-value assets. For these leases, the Group recognises the lease payments as an operating expense on a straight-line basis over the term of the lease.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate. Lease payments included in the measurement of the lease liability comprise: fixed lease payments (including in substance fixed payments), less any lease incentives; variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date; the amount expected to be payable by the lessee under residual value guarantees; the exercise price of purchase options, if the lessee is reasonably certain to exercise the options; and payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease. The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective-interest method) and by reducing the carrying amount to reflect the lease payments made.

The right-of-use assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day and any initial direct costs. They are subsequently measured at cost less accumulated depreciation and impairment losses. Right-of-use assets are depreciated over the shorter period of lease term and useful life of the underlying asset. Whenever the Group incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognised and measured under IAS 37.

The Group remeasures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) whenever: the lease term has changed or there is a change in the assessment of exercise of a purchase option, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate; the lease payments change due to changes in an index or rate or a change in expected payment under a guaranteed residual value, in which case the lease liability is remeasured by discounting the revised lease payments using the initial discount rate; or a lease contract is modified, in which case the lease liability is remeasured by discounting the revised lease payments using a revised discount rate. The interest portion of lease payments is presented under financing activities in the Consolidated Statement of Cash Flows.

IFRIC 23 Uncertainty over income tax treatments

IFRIC 23 provides further guidance on how to apply the recognition and measurement requirements of IAS 12 when there is uncertainty over income tax treatments. The Group has adopted IFRIC 23 with the cumulative effect of initially applying the Interpretation recognised at the date of initial application of 1 January 2019. The impacts of the adoption of IFRIC 23 at 1 January 2019 were an increase in retained earnings of £0.7m and a decrease in current tax liabilities of £0.7m.

New accounting standards and interpretations not yet adopted

There are no other standards that are not yet effective and that would be expected to have a material impact on the entity in the current or future reporting periods and on foreseeable future transactions.

Significant accounting judgements and estimates

In determining and applying accounting policies, judgement is often required where the choice of specific policy, assumption or accounting estimate to be followed could materially affect the reported amounts of assets, liabilities, income and expenses, should it later be determined that a different choice be more appropriate. Estimates and assumptions are reviewed on an ongoing basis and are based on historical experience and various other factors that are believed to be reasonable under the circumstances.

Critical accounting judgements

i) Restructuring costs

Restructuring costs consist of costs incurred under significant restructuring programmes. These costs are presented in a separate income statement category, as adjusting items to operating profit. The classification and presentation of these items require significant judgement to determine the nature and intention of the transaction. Details of the Group's adjusted measures are included in Note 2.

Key sources of estimation uncertainty

Management considers the following to be the key sources of estimation uncertainty for the Group at the end of the current reporting period due to the risk of causing a material change to the carrying amount of assets and liabilities within the next year.

i) Taxation

The Group operates in a number of countries and is subject to taxes in numerous jurisdictions. Significant estimation is required in determining the provision for taxes as the tax treatment is often by its nature complex and cannot be finally determined until a formal resolution has been reached with the relevant tax authority which may take several years to conclude. Amounts provided are accrued based on management's interpretation of country-specific tax laws and the likelihood of settlement. Actual liabilities could differ from the amount provided which could have a consequent adverse impact on the results and net position of the Group. The assumptions and estimates which have been applied in the determination of taxation are detailed in Note 8. Details of the accounting policies applied in respect of taxation are set out on pages 113 and 114.

ii) Retirement benefit plans

Accounting for retirement benefit plans under IAS 19 (revised) requires an assessment of the future benefits payable in accordance with actuarial assumptions. The discount rate and rate of retail price inflation ('RPI') assumptions applied in the calculation of plan liabilities, which are set out in Note 20, represent a key source of estimation uncertainty for the Group. Details of the accounting policies applied in respect of retirement benefit plans are set out on page 115.

iii) Impairment reviews

Goodwill arising on business combinations is allocated to the relevant cash-generating unit ('CGU'). Impairment reviews in respect of the relevant CGUs are performed at least annually or more regularly if events indicate that this is necessary. Impairment reviews are based on a value in use model with future cash flows discounted using the weighted average cost of capital for the relevant CGU with terminal values calculated applying a long-term growth rate. The future cash flows, which are based on operating company forecasts, the long-term growth rates and the discount rates used are dependent upon management estimates. Future events could cause the assumptions used in impairment reviews to change with a consequential adverse impact on the results and net position of the Group. Since its acquisition in 2016, Spectris has made significant capital investment in Millbrook alongside two bolt-on acquisitions in Leyland and Millbrook Revolutionary Engineering. Given the early programme life cycle stage, the headroom between the recoverable amount (determined based on a value in use model) and the carrying value of the Millbrook CGU is modest at £17m. We expect the headroom to increase in future periods as the recent capital investments depreciate and the expected returns on these assets are realised. We have considered reasonably possible changes in key assumptions that could cause an impairment at 31 December 2019, and have identified two key assumptions as follows:

- Discount rate applied to future cash flows – our assessment of impairment assumes a pre-tax discount rate of 12.1% based on our determination of Group WACC and risks specific to the Millbrook CGU cash flows. An increase to 12.8% would see the headroom reduced to nil.
- Years 1 to 5 cash flows – our assessment of impairment assumes a CAGR of 14% after year 1. A decrease in the CAGR by 2%, equivalent to a 7% reduction in years 2 to 5 cash flows, would see the headroom reduced to nil.

Details of this sensitivity and the assumptions used in the impairment review are set out in Note 11. Details of the accounting policies applied in respect of goodwill are set out on page 112.

Notes to the Accounts continued

1. Basis of preparation and summary of significant accounting policies continued

b) Summary of significant accounting policies

The accounting policies set out below have been applied consistently by Group entities to all years presented in these Financial Statements.

Business combinations and goodwill

Goodwill represents the excess of the fair value of the purchase consideration for the interests in subsidiary undertakings over the net fair value to the Group of the identifiable assets, liabilities and contingent liabilities acquired. Where the fair value of the Group's share of identifiable net assets acquired exceeds the fair value of the consideration, the difference is recognised immediately in the Consolidated Income Statement. Contingent consideration is initially recognised as a liability with changes to estimates of contingent consideration reflected in operating profit unless they occur during the 12-month measurement period, in which situation the amount of goodwill recognised on the acquisition is adjusted. Adjustments to contingent consideration are treated as an adjusting item for the purposes of alternative performance measures (see Note 2).

Transaction costs on a business combination are expensed as incurred in the Consolidated Income Statement and treated as an adjusting item for the purposes of alternative performance measures (see Note 2).

Goodwill arising on the acquisition of a business is tested annually for impairment. Goodwill is not amortised, and any impairment losses are not subsequently reversed. The net book value of goodwill at the date of transition to IFRS has been treated as deemed cost. On the subsequent disposal or discontinuance of a previously-acquired business, the relevant goodwill is dealt with in the Consolidated Income Statement except for the goodwill already charged to reserves. From 1 January 2004, goodwill is allocated on acquisition to CGUs that are anticipated to benefit from the combination. Goodwill is tested for impairment by assessing the recoverable amount of the CGU to which the goodwill relates and comparing it against the net book value. This estimate of recoverable amount is determined annually and additionally when there is an indication that a CGU may be impaired. The Group's identified CGUs are equivalent to or smaller than the reportable operating segments in Note 3.

The estimate of recoverable amount requires significant assumptions to be made and is based on a number of factors such as the near-term business outlook for the CGU, including both its operating profit and operating cash flow performance. Where the recoverable amount of the CGU is less than the carrying amount, an impairment loss is recognised in the Consolidated Income Statement. Where goodwill forms part of a CGU and part of the operation within that unit is disposed of, the goodwill associated with the operation disposed of is included in the carrying amount of the operation when determining the gain or loss on disposal. Goodwill disposed of in this circumstance is measured on the basis of the relative values of the operation disposed of and the portion of the CGU retained.

Intangible assets and amortisation

The cost of acquiring software (including associated implementation costs where applicable) that is not specific to an item of property, plant and equipment is classified as an intangible asset.

Self-funded research and development costs are charged to the Consolidated Income Statement in the year in which they are incurred unless development expenditure meets certain strict criteria for capitalisation. These criteria include demonstration of the technical feasibility, intent of completing a new intangible asset that is separable and that the asset will generate probable future economic benefits. From the point where expenditure meets the criteria, development costs are capitalised and amortised over the useful economic lives of the assets to which they relate.

Intangible assets arising from a business combination that are separable from goodwill are recognised initially at fair value at the date of acquisition. Other acquired intangible assets (including software not specific to an item of property, plant and equipment) are initially recognised at cost (plus any associated implementation costs where applicable).

Subsequent expenditure is capitalised only when it increases the future economic benefits, otherwise it is expensed as incurred.

Amortisation of intangible assets is charged to administrative expenses in the Consolidated Income Statement on a straight-line basis over the shorter of the estimated useful economic life (determined on an asset-by-asset basis) or underlying contractual life. The estimated useful lives are as follows:

- Software – 3 to 7 years.
- Patents, contractual rights and technology – up to 10 years, dependent upon the nature of the underlying contractual right.
- Customer-related and trade names – 3 to 20 years, dependent upon the underlying contractual arrangements and specific circumstances such as customer retention experience.

Property, plant and equipment and depreciation

Property, plant and equipment is stated at cost less accumulated depreciation and impairment losses. The cost comprises the purchase price paid and any costs directly attributable to bringing it into working condition for its intended use. Tangible assets arising from a business combination are recognised initially at fair value at the date of acquisition.

Depreciation is recognised in the Consolidated Income Statement on a straight-line basis to write off the cost, less the estimated residual value (which is reviewed annually) of property, plant and equipment over its estimated useful economic life. Depreciation commences on the date the assets are available for use within the business and the asset carrying values are reviewed for impairment when there is an indication that they may be impaired. The depreciation charge is revised where useful lives are different from those previously estimated, or where technically obsolete assets are required to be

written down. Where parts of an item of plant and equipment have separate lives, they are accounted for and depreciated as separate items. Land is not depreciated. Estimated useful lives are as follows:

- Freehold and long leasehold property and automotive testing tracks – 20 to 40 years.
- Short leasehold property – over the period of the lease.
- Plant and equipment – 3 to 20 years.

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets that take a substantial period of time to get ready for their intended use are capitalised as part of the cost of the respective asset.

Inventories

Inventories and work in progress are carried at the lower of cost and net realisable value. Inventory acquired as part of business combinations is valued at fair value less cost to sell. Cost represents direct costs incurred and, where appropriate, production or conversion costs and other costs to bring the inventory to its existing location and condition. In the case of manufacturing inventory and work in progress, cost includes an appropriate share of production overheads based on normal operating capacity. Inventory is accounted for on a first-in, first-out basis or, in some cases, a weighted-average basis, if deemed more appropriate for the business. Provisions are made to write down slow-moving, excess and obsolete items to net realisable value, based on an assessment of technological and market developments and on an analysis of historical and projected usage with regard to quantities on hand.

Trade and other receivables

Trade and other receivables are carried at original invoice amount (which is considered a reasonable proxy for fair value) and are subsequently held at amortised cost less provision for impairment. The provision for impairment of receivables is based on lifetime expected credit losses. Lifetime expected credit losses are calculated by assessing historic credit loss experience, adjusted for factors specific to the receivable and operating company. The movement in the provision is recognised in the Consolidated Income Statement.

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand and short-term deposits held on call or with maturities of less than three months at inception. Bank overdrafts that are repayable on demand and form an integral part of the Group's cash management are included as a component of cash equivalents for the purposes of the Consolidated Statement of Cash Flows.

Assets and liabilities held for sale

Assets, liabilities and disposal groups classified as held for sale are measured at the lower of carrying amount and fair value less costs to sell.

Assets, liabilities and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than continuing use. This condition 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 and when management is committed to the sale which is expected to qualify for recognition as a completed sale within one year from the date of classification.

Trade and other payables

Trade and other payables are recognised at the amounts expected to be paid to counterparties and subsequently held at amortised cost.

Provisions

A provision is recognised in the Consolidated Statement of Financial Position when the Group has a present legal or constructive obligation as a result of a past event and it is probable that an outflow of resources, that can be reliably measured, will be required to settle the obligation. In respect of warranties, a provision is recognised when the underlying products or services are sold. Provisions are recognised at an amount equal to the best estimate of the expenditure required to settle the Group's liability. A contingent liability is disclosed where the existence of the obligation will only be confirmed by future events or where the amount of the obligation cannot be measured with reasonable reliability. Contingent assets are not recognised but are disclosed where an inflow of economic benefit is probable. Obligations arising from restructuring plans are recognised when detailed formal plans have been established and when there is a valid expectation that such a plan will be carried out.

Taxation

Tax on the profit or loss for the year comprises both current and deferred tax. Tax is recognised in the Consolidated Income Statement except to the extent that it relates to items recognised either in other comprehensive income or directly in equity, in which case tax is recognised in the Consolidated Statement of Comprehensive Income or the Consolidated Statement of Changes in Equity, respectively.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the Statement of Financial Position date, and any adjustments to tax payable in respect of prior years. Tax positions are reviewed to assess whether a provision should be made based on prevailing circumstances. Tax provisions are included within current taxation liabilities.

Notes to the Accounts continued

1. Basis of preparation and summary of significant accounting policies continued

Deferred taxation is provided on taxable temporary differences between the carrying amounts of assets and liabilities in the Financial Statements and their corresponding tax bases. No provision is made for deferred tax which would become payable on the distribution of retained profits by overseas subsidiaries where the timing of the reversal of the temporary difference can be controlled and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax is measured using the tax rates expected to apply when the asset is realised, or the liability settled based on tax rates enacted or substantively enacted at the Statement of Financial Position date.

Deferred tax is not provided on the initial recognition of goodwill, nor on the initial recognition of an asset or liability unless the related transaction is a business combination or affects tax or accounting profit.

A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the asset can be utilised. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

Deferred tax assets and liabilities are offset if a legally enforceable right exists to set off current tax assets against current tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

Additional income taxes that arise from the distribution of intra-group dividends are recognised at the same time as the liability to pay the related dividend.

Foreign currency translation

The functional currency for each entity in the Group is determined with reference to the currency of the primary economic environment in which it operates. Transactions in currencies other than the functional currency are initially recorded at the functional currency rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are retranslated at the rate of exchange ruling at the Statement of Financial Position date. Exchange gains and losses on settlement of foreign currency transactions are determined using the rate prevailing at the date of the transactions, or the translation of monetary assets and liabilities at period end exchange rates, and are charged/credited to the Consolidated Income Statement. Non-monetary assets and liabilities denominated in foreign currencies that are stated at historical cost are translated to the functional currency at the foreign exchange rate ruling at the date of the transaction.

On consolidation, the Income Statement items of subsidiaries are translated into Sterling at average rates of exchange. Statement of Financial Position items are translated into Sterling at year-end exchange rates. Exchange differences on the retranslation are taken to the translation reserve within equity. Exchange differences on foreign currency borrowings designated as a hedge of the net investment in a foreign operation are reported in the Consolidated Statement of Comprehensive Income. All other exchange differences are charged or credited to the Consolidated Income Statement in the year in which they arise. On disposal of an overseas subsidiary, any cumulative exchange movements relating to that subsidiary held in the translation reserve are transferred to the Consolidated Income Statement.

Derivative financial instruments may be purchased to hedge the Group's exposure to changes in foreign exchange rates. The accounting policies applied in these circumstances are described below.

Interest-bearing borrowings

Interest-bearing borrowings are recognised initially at the fair value of consideration received less directly attributable transaction costs. Subsequent to initial recognition, interest-bearing borrowings are measured at amortised cost with any difference between cost and redemption value being recognised in the Consolidated Income Statement over the period of the borrowings on an effective-interest basis.

Financial instruments

Recognition

The Group recognises financial assets and liabilities on its Consolidated Statement of Financial Position when it becomes a party to the contractual provisions of the instrument.

Financial assets and liabilities are offset, and the net amount is reported in the Consolidated Statement of Financial Position when there is a legally enforceable right to set off the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously.

Measurement

When financial assets and liabilities are initially recognised, they are measured at fair value, being the consideration given or received plus directly attributable transaction costs. In determining estimated fair value, investments are valued at quoted bid prices on the trade date. When quoted prices on an active market are not available, fair value is determined by reference to price quotations for similar instruments traded. In determining fair value for deferred contingent consideration, the fair value is determined by reference to best estimates of the likely outcome.

Originated loans and receivables are initially recognised in accordance with the policy stated above and subsequently re-measured at amortised cost using the effective-interest method. Allowance for impairment is estimated on a case-by-case basis.

The Group uses derivative financial instruments such as forward foreign exchange contracts to hedge risks associated with foreign exchange fluctuations. These are designated as cash flow hedges. At the inception of the hedge relationship, the Group documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Group documents whether the hedging instrument that is used in a hedging relationship is highly effective in offsetting changes in cash flows of the hedged item.

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is deferred in equity. The gain or loss relating to the ineffective portion is recognised immediately in the Consolidated Income Statement.

Amounts deferred in equity are reclassified to the Consolidated Income Statement in the periods when the hedged item is recognised in the Consolidated Income Statement, in the same line of the Consolidated Income Statement as the recognised hedged item. However, when the forecast transaction that is hedged results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously deferred in equity are transferred from equity and included in the initial measurement of the cost of the asset or liability.

Hedge accounting is discontinued when the Group revokes the hedging relationship, the hedging instrument expires or is sold, terminated, or exercised, or no longer qualifies for hedge accounting. Any cumulative gain or loss deferred in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised in the Consolidated Income Statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was deferred in equity is recognised immediately in the Consolidated Income Statement.

Derecognition

A financial asset is derecognised when the Group loses control over the contractual rights to the cash flows from the asset. This occurs when the rights are realised, expire or are surrendered. A financial liability is derecognised when the obligation specified in the contract is discharged, cancelled or expired. Originated loans and receivables are derecognised on the date they are transferred by the Group.

Impairment of financial assets

The Group assesses at each Consolidated Statement of Financial Position reporting date whether there is any objective evidence that a financial asset, or group of financial assets, is impaired. A financial asset, or group of financial assets, is deemed to be impaired if, and only if, there is objective evidence of impairment as a result of one or more events that has occurred after the initial recognition of the asset (an incurred 'loss event') and that loss event has an impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated. For trade receivables the Group recognises impairment provisions based on lifetime expected credit losses.

Net investment hedge accounting

The Group uses Euro-denominated borrowings as a hedge against the translation exposure on the Group's net investment in overseas companies. To the extent that the hedge is effective at hedging the variability in the net assets of such companies, caused by changes in foreign exchange rates, the changes in the value of the borrowings are recognised in the Consolidated Statement of Comprehensive Income. The ineffective part of any change in value caused by changes in foreign exchange rates is recognised in the Consolidated Income Statement.

Employee benefits

The Group operates defined benefit post-retirement benefit plans and defined contribution pension plans.

Defined benefit plans

The Group's net obligation recognised in the Consolidated Statement of Financial Position in respect of defined benefit plans is calculated separately for each plan as the present value of the plan's liabilities less the fair value of the plan's assets. The operating and financing costs of defined benefit plans are recognised separately in the Consolidated Income Statement. Operating costs comprise the current service cost, plan administrative expense, any gains or losses on settlement or curtailments, and past service costs where benefits have vested. Finance items comprise the unwinding of the discount on the net asset surplus/deficit. Actuarial gains or losses comprising changes in plans' liabilities due to experience and changes in actuarial assumptions are recognised in the Consolidated Statement of Comprehensive Income.

The amount of any pension fund asset recognised in the Consolidated Statement of Financial Position is limited to any future refunds from the plan or the present value of reductions in future contributions to the plan.

Defined contribution plans

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions into a separate entity and will have no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution pension plans are recognised in the Consolidated Income Statement in the periods during which services are rendered by employees.

In certain countries, the Group participates in industry-wide defined benefit-type pension arrangements. In such circumstances, it is not possible to determine the amount of any surplus or deficit attributable to the Group and the pension costs are accounted for as if the arrangements were defined contribution plans. These are not material to the Group and, accordingly, no additional disclosures are provided.

Short-term benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided. A liability is recognised for the amount expected to be paid under short-term cash bonus or profit-sharing plans if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

Notes to the Accounts continued

1. Basis of preparation and summary of significant accounting policies continued

Share-based payments

Certain employees of the Group receive part of their remuneration in the form of share-based payment transactions, whereby employees render services in exchange for shares or rights over shares (equity-settled transactions). The cost of equity-settled transactions with employees is measured at fair value at the date at which they are granted. The fair value of share awards with market-related vesting conditions is determined by an external consultant and the fair value at the grant date is expensed on a straight-line basis over the vesting period based on the Group's estimate of shares that will eventually vest. The estimate of the number of awards likely to vest is reviewed at each Consolidated Statement of Financial Position reporting date up to the vesting date, at which point the estimate is adjusted to reflect the actual outcome of awards which have vested. No adjustment is made to the fair value after the vesting date even if the awards are forfeited or not exercised.

Where it is not possible to incentivise managers of the Group's operating companies with equity-settled options, they are issued with cash-settled options. The charge for these awards is adjusted to reflect the expected and actual levels of options that vest, and the fair value is based on either the share price at date of exercise or the share price at the Consolidated Statement of Financial Position date if sooner.

Own shares

Own equity instruments which are re-acquired (own shares) are recognised at cost and deducted from equity. No gain or loss is recognised in the Consolidated Income Statement on the purchase, sale, issue or cancellation of the Group's own equity instruments. Any difference between the carrying amount and the consideration paid to acquire such equity instruments is recognised within equity.

Dividends

Dividends are recognised as a liability in the period in which they are approved by shareholders.

Revenue

Revenue is measured based on the fair value of the consideration specified in a contract with a customer, net of returns and discounts, and excludes amounts collected on behalf of third parties, value added tax and other sales-related taxes. The Group recognises revenue when it transfers control of a product or service to a customer.

The Group's major revenue streams are the same as its reportable operating segments (Malvern Panalytical, HBK, Omega and Industrial Solutions).

The following table provides further details on the nature of each of the major revenue streams. The table shows where each revenue factor forms more than 10% of the operating segment's total revenue:

Revenue stream	% of total Group sales 2019	Revenue derived from		
		Provision of services	Sale of goods without installation	Sale of goods with simple installation
Malvern Panalytical	27%	✓	✓	✓
HBK	26%	✓	✓	
Omega	9%		✓	
Industrial Solutions	38%	✓	✓	✓

Further details of the nature of each major revenue stream is provided below.

Malvern Panalytical

Revenue from the provision of services, including ongoing support, servicing and maintenance, is recognised in line with the delivery of the service, either at a point in time or, for some ongoing services, over time.

Revenue from the sale of goods, where the goods are not required to be installed, is recognised at a point in time when legal title transfers to the customer, usually on delivery.

When the sale of goods is combined with installation, revenue recognition depends upon the nature of the installation. Simple installations are those which the customer perceives as a separate performance obligation within the overall contract to deliver goods, whereas complex installations are those for which the installation is an integral part of the delivery of the goods.

Revenue is recognised for simple installations separately from the delivery of goods, and only at a point in time when the installation has occurred.

For complex installations, revenue is normally deferred until installation is complete. For a small number of complex installations, revenue is recognised before installation when: a) a significant period of time has elapsed since completion of the product; b) an installation date has not been agreed despite multiple attempts to arrange; and c) payment has been received from the customer. Significant judgement is required for these installations. Revenue from these arrangements represents approximately 2% of the segment's total sales.

Occasionally, the initial contract covers both the supply of goods and ongoing support, servicing and maintenance. For such contracts, revenue is allocated across each of the individual components in line with their relative price and value of the performance obligation and each element is accounted for as described above.

Payment is normally due at the point that the performance obligation is completed. For some of the segment's business the customer may make partial payment in advance. Such payments are recognised as contract liabilities until the performance obligation has been satisfied.

Sales-related warranties associated with the products cannot be purchased separately and they serve as an assurance that the products sold comply with agreed-upon specifications.

HBK

Revenue from the provision of services, including ongoing support, servicing and maintenance, is recognised in line with the delivery of the service, either at a point in time or, for some ongoing services, over time.

Revenue from the sale of goods, where the goods are not required to be installed, is recognised at a point in time when legal title transfers to the customer on delivery.

Occasionally, the initial contract covers both the supply of goods and ongoing support, servicing and maintenance. For such contracts revenue is allocated across each of the individual components in line with their relative price and value of the performance obligation and each element is accounted for as described above.

Payment is normally due at the point that the performance obligation is completed. For some of the segment's business the customer may make partial payment in advance. Such payments are recognised as contract liabilities until the performance obligation has been satisfied.

Sales-related warranties associated with the products cannot be purchased separately and they serve as an assurance that the products sold comply with agreed-upon specifications.

Omega

The segment sells products direct to the customer and to the wholesale market (distributors).

For sale of products to retail customers and distributors, revenue is recognised when control of the goods has transferred, being when the goods have been shipped to the customer or wholesaler's location.

Sales-related warranties associated with the products cannot be purchased separately and they serve as an assurance that the products sold comply with agreed-upon specifications.

Payment is normally due at the point that the performance obligation is completed. For some of the segment's business the customer may make partial payment in advance. Such payments are recognised as contract liabilities until the performance obligation has been satisfied.

Industrial Solutions

Revenue from the provision of services, including ongoing support, servicing and maintenance, is recognised in line with the delivery of the service, either at a point in time or, for some ongoing services, over time.

Revenue from the sale of goods, where the goods are not required to be installed, is recognised at a point in time when legal title transfers to the customer, usually on delivery.

Simple installations are those which the customer perceives as a separate performance obligation within the overall contract to deliver goods, whereas complex installations are those for which the installation is an integral part of the delivery of the goods.

Occasionally, the initial contract covers both the supply of goods and ongoing support, servicing and maintenance. For such contracts, revenue is allocated across each of the individual components in line with their relative price and value of the performance obligation and each element is accounted for as described above.

Sales-related warranties associated with the products cannot be purchased separately and they serve as an assurance that the products sold comply with agreed-upon specifications.

Payment is normally due at the point that the performance obligation is completed. For some of the segment's business the customer may make partial payment in advance. Such payments are recognised as contract liabilities until the performance obligation has been satisfied.

Finance costs and financial income

Finance costs comprise the interest payable on borrowings calculated using the effective-interest method, the unwinding of discount factor on lease liabilities and the unwinding of the discount factor on deferred or contingent consideration. Financial income comprises interest income on cash and invested funds, together with interest income from the joint venture, and is recognised in the Consolidated Income Statement as it accrues. The net gain or loss on retranslation of short-term inter-company loan balances is also presented within net finance costs.

Notes to the Accounts continued

2. Alternative performance measures

Policy

Spectris uses adjusted figures as key performance measures in addition to those reported under IFRS, as management believe these measures enable management and stakeholders to better assess the underlying trading performance of the businesses as they exclude certain items that are considered to be significant in nature and/or quantum, foreign exchange movements and the impact of acquisitions and disposals.

The alternative performance measures ('APMs') are consistent with how the businesses' performance is planned and reported within the internal management reporting to the Board and Operating Committees. Some of these measures are used for the purpose of setting remuneration targets. The key APMs that the Group uses include like-for-like ('LFL') organic performance measures and adjusted measures for the income statement together with adjusted financial position and cash flow measures. Explanations of how they are calculated and how they are reconciled to an IFRS statutory measure are set out below.

Adjusted measures

The Group's policy is to exclude items that are considered to be significant in nature and/or quantum and where treatment as an adjusted item provides stakeholders with additional useful information to better assess the period-on-period trading performance of the Group. The Group excludes certain items, which management have defined as:

- restructuring costs from significant programmes;
- amortisation and impairment of acquisition-related goodwill and other intangible assets;
- bargain purchase on acquisition;
- depreciation of acquisition-related fair value adjustments to property, plant and equipment;
- transaction-related costs, deferred and contingent consideration fair value adjustments;
- profits or losses on termination or disposal of businesses;
- impairment of non-current receivable from joint venture and share of impairment of investment in joint venture;
- unwinding of the discount factor on deferred and contingent consideration;
- unrealised changes in the fair value of financial instruments;
- gains or losses on retranslation of short-term inter-company loan balances; and
- related tax effects on the above and other tax items which do not form part of the underlying tax rate (see Note 8).

During 2019, a profit on disposal of property of £5.2m in Omega was treated as an adjusting item since it was significant in quantum and would distort the underlying trading performance if included.

In November 2018, the Group announced the implementation of a Group-wide profit improvement programme. The total costs of implementation of this programme are considered to be significant in both nature and amount. On this basis the costs of the implementation of this programme are excluded from adjusted operating profit. Adjusted operating profit (including on a LFL basis) is therefore presented before the impact of the Group profit improvement programme costs. The ongoing benefits arising from this programme are considered to be part of underlying trading.

LFL measures

The Board reviews and compares current and prior year segmental sales and adjusted operating profit at constant exchange rates and excludes the impact of acquisitions and disposals during the year.

The constant exchange rate comparison uses the current year segmental information, stated in each entity's functional currency, and translates the results into its presentation currency using the prior year's monthly exchange rates, irrespective of the underlying transactional currency.

The incremental impact of business acquisitions is excluded for the first 12 months of ownership from the month of purchase. For business disposals, comparative figures for segmental sales and adjusted operating profit are adjusted to reflect the comparable periods of ownership. Due to the change in ownership structure the EMS B&K business was deconsolidated on 31 May 2018 and the segmental LFL adjusted sales and adjusted operating profit for HBK for 2018 exclude the trading results of EMS B&K for the first five months of 2018. BTG was disposed of on 1 December 2019 and the segmental LFL adjusted sales and adjusted operating profit for Industrial Solutions for 2018 exclude BTG for the month of December 2018.

The LFL measure is presented as a means of eliminating the effects of exchange rate fluctuations on the period-on-period statutory results as well as allowing the Board to assess the underlying trading performance of the businesses on a LFL basis for both sales and operating profit.

The tables on the following page show restated comparative figures for the operating segments for the year ended 31 December 2018, reflecting the impact of changes the Group made to its operating segments during the year ended 31 December 2019 (see note 3).

Based on the above policy, the adjusted performance measures are derived from the statutory figures as follows:

Income statement measures

a) LFL adjusted sales by segment

Sales by segment	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2019 Total £m
Sales	448.2	429.0	138.3	616.5	1,632.0
Constant exchange rate adjustment	(3.5)	(2.8)	(4.5)	(12.9)	(23.7)
Acquisitions	(3.8)	(13.3)	–	(3.4)	(20.5)
LFL adjusted sales	440.9	412.9	133.8	600.2	1,587.8

Sales by segment	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2018 Total £m
Sales	436.7	426.5	147.2	593.8	1,604.2
Disposal of businesses	(1.9)	(8.8)	–	(12.4)	(23.1)
LFL adjusted sales	434.8	417.7	147.2	581.4	1,581.1

b) Adjusted operating profit, operating margin and adjusted EBITDA

Adjusted operating profit	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2019 Total £m
Statutory operating (loss)/profit	(17.7)	18.1	12.0	71.9	84.3
Restructuring costs	16.4	17.7	2.2	15.9	52.2
Net transaction-related costs and fair value adjustments	(0.3)	3.1	–	3.3	6.1
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	0.4	–	–	0.6	1.0
Profit on disposal of property	–	–	(5.2)	–	(5.2)
Impairment of goodwill	35.1	–	–	–	35.1
Amortisation and impairment of acquisition-related intangible assets	42.3	21.5	7.9	12.9	84.6
Adjusted operating profit	76.2	60.4	16.9	104.6	258.1
Constant exchange rate adjustment	0.3	0.6	(0.6)	(3.3)	(3.0)
Acquisitions	0.5	0.4	–	(0.9)	–
LFL adjusted operating profit	77.0	61.4	16.3	100.4	255.1

Adjusted operating profit	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2018 Total £m
Statutory operating profit	52.9	43.1	18.0	62.4	176.4
Restructuring costs	3.6	4.3	1.6	6.1	15.6
Net transaction-related costs and fair value adjustments	1.3	1.4	–	9.5	12.2
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	0.2	–	–	0.6	0.8
Amortisation and impairment of acquisition-related intangible assets	15.0	7.8	7.2	13.3	43.3
Adjusted operating profit	73.0	56.6	26.8	91.9	248.3
Disposal of businesses	0.4	0.4	–	(3.2)	(2.4)
LFL adjusted operating profit	73.4	57.0	26.8	88.7	245.9

Notes to the Accounts continued

2. Alternative performance measures continued

	Malvern Panalytical %	HBK %	Omega %	Industrial Solutions %	2019 Total %
Operating margin					
Statutory operating margin	(3.9)	4.2	8.7	11.7	5.2
Adjusted operating margin	17.0	14.1	12.2	17.0	15.8
LFL adjusted operating margin	17.5	14.9	12.2	16.7	16.1

	Malvern Panalytical %	HBK %	Omega %	Industrial Solutions %	2018 Total %
Operating margin					
Statutory operating margin	12.1	10.1	12.2	10.5	11.0
Adjusted operating margin	16.7	13.3	18.2	15.5	15.5
LFL adjusted operating margin	16.9	13.6	18.2	15.3	15.6

		2019 £m	2018 £m
Restructuring costs			
Profit improvement programme		52.2	4.8
Project Uplift costs		–	10.8
Restructuring costs		52.2	15.6

	Note	2019 £m	2018 £m
Adjusted EBITDA			
Statutory operating profit		84.3	176.4
Depreciation and impairment of owned assets	12	35.5	30.3
Depreciation and impairment of right-of-use assets	12	22.1	–
Amortisation and impairment of intangible assets	11	95.2	49.1
Impairment of goodwill	11	35.1	–
EBITDA		272.2	255.8
Restructuring costs excluding impairment of owned and right-of-use property, plant and equipment and intangible assets		43.4	15.6
Profit on disposal of property classified as an adjusting item		(5.2)	–
Net acquisition-related costs and fair value adjustments		6.1	12.2
Adjusted EBITDA		316.5	283.6

EBITDA is calculated as statutory operating profit before depreciation, amortisation and impairment of property, plant and equipment, intangible assets and goodwill. Adjusted EBITDA is calculated as EBITDA excluding other adjusting items as defined previously. This measure is used for the purpose of assessing capital management and covenant compliance and is reported to the Group Executive Committee.

c) Adjusted net finance costs

	Note	2019 £m	2018 £m
Statutory net finance costs	7	(3.5)	(13.5)
Net (gain)/loss on retranslation of short-term inter-company loan balances	7	(4.0)	7.2
Unwinding of discount factor on deferred and contingent consideration	7	0.7	0.6
Adjusted net finance costs		(6.8)	(5.7)

d) Adjusted profit before taxation

	Note	2019 £m	2018 £m
Adjusted operating profit	2b	258.1	248.3
Share of post-tax results of joint venture	13	(3.9)	(1.2)
Adjusted net finance costs	2c	(6.8)	(5.7)
Adjusted profit before taxation		247.4	241.4

Share of post-tax results of the joint venture has been adjusted to exclude £1.0m of impairment of acquisition-related intangible assets consistent with the Group's treatment of adjusted operating profit measures.

e) Adjusted earnings per share

Adjusted earnings	Note	2019 £m	2018 £m
Statutory profit after tax		234.1	185.2
Adjusted for:			
Restructuring costs		52.2	15.6
Net transaction-related costs and fair value adjustments		6.1	12.2
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	12	1.0	0.8
Profit on disposal of property		(5.2)	–
Impairment of goodwill	11	35.1	–
Amortisation and impairment of acquisition-related intangible assets		84.6	43.3
Profit on disposal of businesses	25	(204.7)	(56.3)
Impairment of non-current receivable from joint venture	13	21.3	–
Share of impairment of acquisition-related intangible in joint venture	13	1.0	–
Net (gain)/loss on retranslation of short-term inter-company loan balances	7	(4.0)	7.2
Unwinding of discount factor on deferred and contingent consideration	7	0.7	0.6
Tax effect of the above and other non-recurring items	8	(27.7)	(14.8)
Adjusted earnings		194.5	193.8

Adjusted earnings per share	Note	2019	2018
Weighted average number of shares outstanding (millions)	10	115.8	117.5
Adjusted earnings per share (pence)		168.0	164.9

Basic earnings per share in accordance with IAS 33 'Earnings Per Share' are disclosed in Note 10.

Financial position measures**f) Net cash/(debt)**

	Note	2019 £m	2018 £m
Bank overdrafts	17	–	(5.8)
Bank loans unsecured	17	(179.6)	(364.4)
Total borrowings		(179.6)	(370.2)
Cash and cash equivalents	16	213.1	73.1
Net cash/(debt)		33.5	(297.1)

Net cash/(debt) excludes lease liabilities arising under IFRS 16 as this aligns with the definition of net debt under the Group's bank covenants.

Cash flow measures**g) Adjusted cash flow**

	2019 £m	2018 £m
Net cash inflow from operating activities	240.8	178.1
Transaction-related costs paid	1.6	10.8
Restructuring cash outflow	34.3	8.6
Net income taxes paid	37.0	37.7
Purchase of property, plant and equipment and intangible assets	(86.6)	(97.0)
Proceeds from government grants	5.0	2.9
Proceeds from disposal of property, plant and equipment and software ²	2.1	5.6
Adjusted cash flow	234.2	146.7
Adjusted cash flow conversion ¹	91%	59%

1 Adjusted cash flow conversion is calculated as adjusted operating cash flow as a proportion of adjusted operating profit.

2 Excludes the proceeds from disposal of property of £9.1m in 2019 classified as an adjusting item.

The net cash inflow from operating activities in 2019 excludes cash outflows of £20.5m arising from lease and associated interest payments as a result of the implementation of IFRS 16 from 1 January 2019 which requires these cash flows to be treated as a financing cash flow. Prior to 1 January 2019, these cash flows were included in the net cash inflow from operating activities.

Notes to the Accounts continued

2. Alternative performance measures continued

Other measures

h) Return on Gross Capital employed ('ROGCE')

The return on gross capital employed is calculated as adjusted operating profit for the last 12 months divided by the average of opening and closing gross capital employed. Gross capital employed is calculated as net assets excluding net debt and excluding accumulated amortisation and impairment of acquisition-related intangible assets including goodwill.

	31 December 2019 £m	31 December 2018 £m	31 December 2017 £m
Net (cash)/debt (see Note 2f)	(33.5)	297.1	50.5
Accumulated impairment losses on goodwill (see Note 11)	179.4	148.8	144.4
Accumulated amortisation and impairment of acquisition-related intangible assets (see Note 11)	366.3	306.1	253.0
Shareholders' equity	1,321.5	1,232.9	1,204.1
Gross capital employed	1,833.7	1,984.9	1,652.0
Average gross capital employed (current and prior year)	1,909.4	1,818.5	
 Adjusted operating profit for year (see Note 2b)	 258.1	 248.3	
 Return on gross capital employed	 13.5%	 13.7%	

i) Net transaction-related costs and fair value adjustments

Net transaction-related costs and fair value adjustments comprise transaction costs of £2.1m (2018: £7.4m) that have been recognised in the Consolidated Income Statement under IFRS 3 (Revised) 'Business Combinations' and other fair value adjustments relating to deferred and contingent consideration comprising a charge of £4.0m (2018: £4.8m). Net transaction-related costs and fair value adjustments are included within administrative expenses. Transaction-related costs have been excluded from the adjusted operating profit and transaction costs paid of £1.6m (2018: charge of £10.8m) have been excluded from the adjusted cash flow.

3. Operating segments

The Group has four reportable segments, as described below. From 1 July 2019, the Group's operating segments have changed following the strategic review which commenced in November 2018. The new segmental platform structure reflects the internal reporting provided to the Chief Operating Decision Maker (considered to be the Board) on a regular basis to assist in making decisions on capital allocated to each segment and to assess performance. The tables below show restated comparative figures for the operating segments for the year ended 31 December 2018, reflecting the impact of changes the Group made to its operating segments during the year ended 31 December 2019. The segment results include an allocation of head office expenses. The following summarises the operations in each of the Group's reportable segments:

- The Malvern Panalytical platform provides products and services that enable customers to determine structure, composition, quantity and quality of particles and materials during their research and product development processes, when assessing materials before production, or during the manufacturing process. The operating companies in this segment are Malvern Panalytical and Concept Life Sciences (acquired January 2018). Concept Life Sciences was merged into Malvern Panalytical as of 1 July 2019.
- The HBK platform supplies test, measurement and analysis equipment, software and services for product design optimisation, and manufacturing control. The operating companies in this segment are Hottinger, Brüel & Kjær and VI-grade (acquired August 2018). VI-grade was merged into HBK as of 1 July 2019.
- The Omega platform is a global leader in the technical marketplace, offering products for measurement and control of temperature, humidity, pressure, strain, force, flow, level, pH and conductivity. Omega also provides a complete line of data acquisition, electric heating and custom-engineered products. The operating company in this segment is Omega Engineering.
- The Industrial Solutions division ('ISD') comprises a portfolio of high-value, niche businesses. A number of ISD companies have platform potential, with strong market positions, growth prospects and margins. The operating companies in this segment are Brüel & Kjær Vibro, ESG Solutions, Millbrook, NDC Technologies, Particle Measuring Systems, Red Lion Controls, Servomex and BTG (disposed on 1 December 2019).

Further details of the nature of these segments and the products and services they provide are contained in the Strategic Report on pages 2 to 53.

Information about reportable segments	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2019 Total £m
Segment revenues	448.4	430.7	138.5	616.7	1,634.3
Inter-segment revenue	(0.2)	(1.7)	(0.2)	(0.2)	(2.3)
External revenue	448.2	429.0	138.3	616.5	1,632.0
Operating (loss)/profit	(17.7)	18.1	12.0	71.9	84.3
Share of post-tax results of joint venture ¹					(4.9)
Impairment of non-current receivable from joint venture ¹					(21.3)
Profit on disposal of businesses ¹					204.7
Financial income ¹					7.9
Finance costs ¹					(11.4)
Profit before tax ¹					259.3
Taxation charge ¹					(25.2)
Profit after tax ¹					234.1

1 Not allocated to reportable segments.

Information about reportable segments	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2018 Total £m
Segment revenues	436.7	428.1	147.3	594.3	1,606.4
Inter-segment revenue	–	(1.6)	(0.1)	(0.5)	(2.2)
External revenue	436.7	426.5	147.2	593.8	1,604.2
Operating profit	52.9	43.1	18.0	62.4	176.4
Share of post-tax results of joint venture ¹					(1.2)
Profit on disposal of businesses ¹					56.3
Financial income ¹					2.5
Finance costs ¹					(16.0)
Profit before tax ¹					218.0
Taxation charge ¹					(32.8)
Profit after tax ¹					185.2

1 Not allocated to reportable segments.

Reportable segment profit is consistent with that presented to the Chief Operating Decision Maker. Inter-segment revenue includes the movements in internal cash flow hedges with inter-segment pricing on an arm's length basis. Segments are presented on the basis of actual inter-segment charges made.

	Carrying amount of segment assets		Carrying amount of segment liabilities	
	2019 £m	2018 £m	2019 £m	2018 £m
Malvern Panalytical	486.9	570.5	(149.1)	(145.9)
HBK	446.7	401.0	(129.4)	(118.4)
Omega	242.8	251.7	(21.4)	(21.9)
Industrial Solutions	550.8	735.8	(111.6)	(116.9)
Total segment assets and liabilities	1,727.2	1,959.0	(411.5)	(403.1)
Cash and borrowings	213.1	73.1	(179.6)	(370.2)
Derivative financial instruments	1.5	0.4	(0.1)	(2.2)
Assets held for sale	18.9	3.9	–	–
Other receivable – joint venture	–	38.9	–	–
Investment in joint venture	–	5.0	–	–
Retirement benefit liabilities	–	–	(27.5)	(32.1)
Taxation	13.1	12.9	(33.6)	(52.7)
Consolidated total assets and liabilities	1,973.8	2,093.2	(652.3)	(860.3)

Notes to the Accounts continued

3. Operating segments continued

Segment assets comprise: goodwill; other intangible assets; property, plant and equipment; inventories; and trade and other receivables. Segment liabilities comprise: trade and other payables; provisions; lease liabilities; and other payables, which can be reasonably attributed to the reported operating segments. Unallocated items represent all components of net cash/(debt), derivative financial instruments, assets held for sale, other receivable – joint venture, investment in joint venture, defined benefit plan liabilities and current and deferred taxation balances.

	Additions to non-current assets		Depreciation, amortisation and impairment	
	2019 £m	2018 £m	2019 £m	2018 £m
Malvern Panalytical	10.9	182.2	99.9	23.3
HBK	19.2	43.4	36.9	17.0
Omega	7.9	11.7	13.4	10.1
Industrial Solutions	55.1	68.0	37.7	29.0
Total segments	93.1	305.3	187.9	79.4
Other receivable – joint venture	–	38.9		
Investment in joint venture	–	5.0		
Consolidated total	93.1	349.2	187.9	79.4

Geographical segments

The Group's operating segments are each located in several geographical locations and sell on to external customers in all parts of the world. No individual country amounts to more than 3% of revenue, other than those noted below. The following is an analysis of revenue by geographical destination.

	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2019 Total £m
UK	42.7	13.4	4.0	64.7	124.8
Germany	25.9	80.4	5.4	30.8	142.5
France	16.0	25.4	1.1	10.9	53.4
Rest of Europe	60.9	79.1	5.3	76.2	221.5
USA	84.9	88.3	89.9	195.3	458.4
Rest of North America	14.7	5.6	7.7	20.9	48.9
Japan	31.2	32.3	2.5	23.3	89.3
China	70.9	60.8	9.9	76.5	218.1
South Korea	12.4	10.1	4.1	27.4	54.0
Rest of Asia	50.9	20.1	6.0	60.6	137.6
Rest of the world	37.7	13.5	2.4	29.9	83.5
	448.2	429.0	138.3	616.5	1,632.0

	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2018 Total £m
UK	50.4	13	4.1	65.7	133.2
Germany	26.5	88.7	6.1	30.1	151.4
France	16.1	22.5	1.2	11.4	51.2
Rest of Europe	57.3	72.4	5.8	76.4	211.9
USA	84.1	81.4	94.2	188	447.7
Rest of North America	15.9	6.1	8.3	22.1	52.4
Japan	26.6	31.6	3.1	21.1	82.4
China	65.7	68.5	11.5	75.8	221.5
South Korea	11.3	10.7	4.6	24.6	51.2
Rest of Asia	48.6	19.3	6	53.4	127.3
Rest of the world	34.2	12.3	2.3	25.2	74.0
	436.7	426.5	147.2	593.8	1,604.2

	Non-current assets	
	2019 £m	2018 £m
UK	386.7	439.4
Germany	85.7	93.8
France	2.9	1.6
Rest of Europe ¹	264.5	373.1
USA	404.3	444.4
Rest of North America	22.4	26.4
Japan	5.1	5.2
China	10.5	10.8
South Korea	1.9	2.3
Rest of Asia	7.7	4.3
Rest of the world	2.6	3.7
	1,194.3	1,405.0
Deferred tax assets ²	9.0	11.3
Total non-current assets	1,203.3	1,416.3

1 Principally in Netherlands and Finland.

2 Not allocated to reportable geographic area in reporting to the Chief Operating Decision Maker.

4. Revenue

Disaggregation of revenue

The Group derives its revenue from the provision of goods and services both at a point in time and over time. Product lines are presented consistent with the revenue information that is disclosed for each reportable segment under IFRS 8 (see Note 3). The tables below show restated comparative figures for the year ended 31 December 2018, reflecting the impact of changes the Group made to its operating segments during the year ended 31 December 2019 (see Note 3).

IFRS 15 paragraph 114 requires an entity to disaggregate revenue recognised from contracts with customers into categories that depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors. This disaggregation will depend on the entity's individual facts and circumstances. The Group has assessed that the disaggregation of revenue by operating segments is appropriate in meeting this disclosure requirement as this is the information regularly reviewed by the Chief Operating Decision Maker in order to evaluate the financial performance of the entity. The Group also believes that presenting a disaggregation of revenue based on the timing of transfer of goods or services provides users of the Financial Statements with useful information as to the nature and timing of revenue from contracts with customers.

Timing of revenue recognition:

	2019 £m	2018 £m
At a point in time:		
Malvern Panalytical	381.7	377.1
HBK	368.8	371.3
Omega	138.3	147.2
Industrial Solutions	578.4	558.9
	1,467.2	1,454.5
Over time:		
Malvern Panalytical	66.5	59.6
HBK	60.2	55.2
Omega	–	–
Industrial Solutions	38.1	34.9
	164.8	149.7
Revenue	1,632.0	1,604.2

The Group's material revenue streams have an expected duration of one year or less. The Group has therefore applied the practical expedient in IFRS 15 paragraph 121 to not disclose information about its remaining performance obligations.

No individual customer accounted for more than 2% of external revenue in either 2019 or 2018.

Total revenue for the Group, after including financial income of £7.9m (2018: £2.5m) (see Note 7), was £1,639.9m (2018: £1,606.7m).

Notes to the Accounts continued

5. Operating profit

Operating profit is stated after charging/(crediting):

	Note	2019 £m	2018 £m
Net foreign exchange losses/(gains)		3.5	(2.1)
Research and development expense		93.8	96.2
Amortisation of intangible assets	11	48.1	47.1
Impairment of intangible assets (including £35.1m impairment of goodwill (2018: nil))	11	82.2	2.0
Depreciation of property, plant and equipment	12	33.0	30.3
Impairment of property, plant and equipment	12	2.5	–
Depreciation and impairment of right-of-use assets	12	22.1	–
Income from sub-leasing right-of-use assets		1.5	–
Expenses relating to short-term and low-value leases		0.8	–
Cost of inventories recognised as expense		414.9	402.4
Profit on disposal of property, plant and equipment and software		(4.9)	(1.9)

	2019 £m	2018 £m
Auditor's remuneration		
Fees payable to the Company's auditor for audit of the Company's annual accounts	0.4	0.5
Fees payable to the Company's auditor for the audit of the Company's subsidiaries, pursuant to legislation	1.6	1.4
Total audit-related fees	2.0	1.9
Fees payable to the Company's auditor for other services:		
· audit-related assurance services ¹	0.2	0.1
	2.2	2.0

1. Review of the half-year Financial Statements.

6. Employee costs and other information

Employee costs, including Directors' remuneration, comprise:

	Note	2019 £m	2018 £m
Wages and salaries		542.4	518.8
Social security costs		91.3	86.2
Defined benefit pension plans:			
· current service cost	20	1.8	2.0
· past service cost	20	–	2.7
Defined contribution pension plans	20	18.1	17.8
Equity-settled share-based payment expense		3.0	5.1
Cash-settled share-based payment expense		2.9	1.1
		659.5	633.7

	2019 £m	2018 £m
Directors' remuneration		
Short-term benefits	2.7	2.8
Equity-settled share-based payment expense	0.2	0.7
	2.9	3.5

Further details of Directors' remuneration and share options are given in the Directors' Remuneration Report on pages 70 to 91.

	2019 Number	2018 Number
Average number of employees		
Production and engineering	3,901	3,814
Sales, marketing and service	4,643	4,786
Administrative	950	947
	9,494	9,547

7. Financial income and finance costs

	2019 £m	2018 £m
Financial income		
Interest receivable	(0.7)	(0.5)
Income on receivable from joint venture	(3.2)	(2.0)
Net gain on retranslation of short-term inter-company loan balances	(4.0)	–
	(7.9)	(2.5)
Finance costs		
Interest payable on loans and overdrafts	7.1	7.3
Net loss on retranslation of short-term inter-company loan balances	–	7.2
Unwinding of discount factor on lease liabilities	2.9	–
Unwinding of discount factor on deferred and contingent consideration	0.7	0.6
Net interest cost on pension plan obligations	0.6	0.6
Other finance costs	0.1	0.3
	11.4	16.0
Net finance costs	3.5	13.5

Net interest costs of £6.4m (2018: £6.8m) for the purposes of the calculation of interest cover comprise interest receivable of £0.7m (2018: £0.5m) and interest payable on loans and overdrafts of £7.1m (2018: £7.3m).

Notes to the Accounts continued

8. Taxation

	UK £m	Overseas £m	Total £m	UK £m	Overseas £m	Total £m
Current tax charge	2.1	36.7	38.8	3.9	37.1	41.0
Adjustments in respect of current tax of prior years	–	(1.7)	(1.7)	(0.1)	(2.0)	(2.1)
Deferred tax – origination and reversal of temporary differences (Note 21)	(7.4)	(4.5)	(11.9)	(3.3)	(1.9)	(5.2)
Deferred tax – changes in US tax rate (Note 21)	–	–	–	–	(0.9)	(0.9)
Taxation charge	(5.3)	30.5	25.2	0.5	32.3	32.8

The standard rate of corporation tax for the year, based on the weighted average of tax rates applied to the Group's profits, is 18.6% (2018: 26.0%). The tax charge for the year is lower (2018: lower) than the standard rate of corporation tax for the reasons set out in the following reconciliation.

	2019 £m	2018 £m
Profit before taxation	259.3	218.0
Corporation tax charge at standard rate of 18.6% (2018: 26.0%)	48.2	56.7
Profit on disposal of business taxed at lower rate	(29.8)	(16.0)
Non-deductible impairments	9.9	–
Net impact of US tax reform measures	–	(0.9)
Effect of intra-group financing	–	(4.9)
Other non-deductible expenditure	3.3	3.8
Movements on unrecognised deferred tax assets	0.5	0.4
Tax credits and incentives	(5.1)	(4.1)
Change in tax rates (excluding US)	–	0.3
Adjustments to prior year current and deferred tax charges	(1.8)	(2.5)
Taxation charge	25.2	32.8

The Group's standard rate of corporation tax of 18.6% is lower than the prior year rate (26%), principally due to the profit on disposal of BTG arising in countries with lower tax rates. The standard rate of corporation tax applying to the profit on disposal of BTG has been calculated by using a weighted average of the rates in the main countries in which BTG operates.

'Profit on disposal of business taxed at a lower rate' above, in the current year principally refers to the benefit of tax exemptions for the sale of shares in certain countries.

'Tax credits and incentives' above refers principally to research and development tax credits and other reliefs for innovation such as the UK Patent Box regime and Dutch Innovation Box regime, as well as tax reliefs available for Foreign Derived Intangible Income in the US.

'Net impact of US tax reform measures' above refers to the impact of the US Tax Cuts and Jobs Act of 2017. In 2018, this comprises a credit of £0.9m arising as a prior year adjustment in respect of re-measuring the prior year net deferred tax liabilities.

Factors that may affect the future tax charge

The Group's tax charge in future years is likely to be affected by the proportion of profits arising, and the effective tax rates, in the various territories in which the Group operates, as well as changes in tax law affecting future periods. Such law changes may affect the future availability or amount of existing tax reliefs or incentives. Furthermore, the resolution of tax or other legal cases or investigations such as those mentioned below in respect of the UK's dividend taxation regime or the EU's State Aid investigation into aspects of UK tax legislation may result in a re-assessment of the Group's tax liabilities in respect of prior years.

	2019 £m	2018 £m
Tax on items recognised directly in the Consolidated Statement of Comprehensive Income		
Tax charge/(credit) on net (loss)/gain on effective portion of changes in fair value of forward exchange contracts	0.6	(0.5)
Tax (credit)/charge on re-measurement of net defined benefit obligations, net of foreign exchange	(1.7)	1.4
Aggregate current and deferred tax (credit)/charge relating to items recognised directly in the Consolidated Statement of Comprehensive Income	(1.1)	0.9

	2019 £m	2018 £m
Tax on items recognised directly in the Consolidated Statement of Changes in Equity		
Tax credit in relation to share-based payments	(0.7)	(0.1)
Aggregate current and deferred tax credit on items recognised directly in the Consolidated Statement of Changes in Equity	(0.7)	(0.1)

The following tax (credits)/charges relate to items of income and expense that are excluded from the Group's adjusted performance measures.

Tax on items of income and expense that are excluded from the Group's adjusted profit before tax	2019 £m	2018 £m
Tax credit on amortisation and impairment of acquisition-related intangible assets	(16.9)	(9.6)
Tax credit on depreciation of acquisition-related fair value adjustments to property, plant and equipment	(0.2)	(0.1)
Tax credit arising from net impact of US tax reform measures	–	(0.9)
Tax credit on net transaction-related costs and fair value adjustments	(0.8)	(0.6)
Tax charge on profit on disposal of property	1.2	–
Tax credit on retranslation of short-term inter-company loan balances	(0.1)	(0.5)
Tax charge on profit on disposal of businesses	3.2	0.4
Tax credit relating to prior year acquisitions	(2.2)	–
Tax credit on restructuring costs	(11.9)	(3.5)
Total tax credit	(27.7)	(14.8)

The effective adjusted tax rate for the year was 21.4% (2018: 19.7%) as set out in the reconciliation below.

Reconciliation of the statutory taxation charge to the adjusted taxation charge	2019 £m	2018 £m
Statutory taxation charge	25.2	32.8
Tax credit on items of income and expense that are excluded from the Group's adjusted profit before tax	27.7	14.8
Adjusted taxation charge	52.9	47.6

Management judgement is applied to determine the level of provisions required in respect of both direct and indirect taxes. The Group is potentially subject to tax audits in many jurisdictions. By their nature these are often complex and could take a significant period of time to be agreed with the tax authorities. Judgement is therefore applied based on the interpretation of country-specific tax legislation and the likelihood of settlement. The Group estimates and accrues taxes that will ultimately be payable when reviews or audits by tax authorities of tax returns are completed. These estimates include judgements about the position expected to be taken by each tax authority.

The Group applies judgement in respect of possible tax audit adjustments primarily in respect of transfer pricing as well as in respect of financing arrangements and tax credits and incentives. In respect of transfer pricing, the level of provision is determined by reference to management judgements of the adjustments that would arise in the event that certain intra-group transactions are successfully challenged as not being at arm's length.

Management estimates of the level of risk arising from tax audit may change in the next year as a result of changes in legislation or tax authority practice or correspondence with tax authorities during a specific tax audit. It is not possible to quantify the impact that such future developments may have on the Group's tax positions. Actual outcomes and settlements may differ significantly from the estimates recorded in these Consolidated Financial Statements. Further detail is provided below in relation to tax provisions that are known to be potentially material.

Judgement is also applied relating to the recognition of deferred tax assets which are dependent on an assessment of the generation of future taxable income in the countries concerned in which temporary differences become deductible or in which tax losses can be utilised. These estimates may change in the next year if there are changes in the forecast profitability of the relevant company.

IFRIC 23 provides further guidance on how to apply the recognition and measurement requirements of IAS 12. The Group has adopted IFRIC 23 with the cumulative effect of initially applying the Interpretation recognised at the date of initial application of 1 January 2019. See Note 1 on page 111 for further details.

Notes to the Accounts continued

8. Taxation continued

The UK's dividend taxation regime prior to July 2009 is the subject of long-running litigation between HMRC and other taxpayers in relation to the tax charge on dividends received from EU-based companies. The outcome of this dispute is likely to be relevant to the Group in respect of certain dividends received by UK Group companies before that date. Pending resolution in the courts, an amount of £8.8m (2018: £8.8m) continues to be held as a tax creditor for the potential tax liabilities arising if the final decision is in HMRC's favour. An amount of £5.5m (2018: £5.4m) relating to accrued interest on the potential tax liabilities is also held as a tax-related provision (see Note 19) and an amount of £0.9m (2018: £1.4m) has been booked as a deferred tax asset in respect of future tax relief on the accrued interest.

In October 2017, the EU Commission opened a formal State Aid investigation into an exemption within the UK's Controlled Foreign Company regime for certain finance income. A final decision was published by the Commission during 2019, concluding that certain aspects of the exemption (as it was implemented in UK law for the years 2013–2018) constituted State Aid and requiring the UK to recover such aid from affected parties. Spectris is impacted by this decision since we have claimed the benefit of the group finance exemption during the period in question.

The Group, along with the UK government and a number of other affected taxpayers, has sought annulment of the EU Commission's decision through the EU Courts. No provision has been made in respect of this matter since we believe that it is more likely than not that the decision will subsequently be annulled and no additional tax will be due. In the event that the Commission's decision is upheld then, as at 31 December 2019, the Group's maximum estimated exposure is £19.0m (2018: £18.0m) in respect of tax and £1.0m (2018: £0.5m) in respect of interest. However, quantification of the liability in accordance with the Commission's judgement is complex and depends on the facts of each individual case, and therefore the Group's liability may ultimately be determined to be less than this amount.

9. Dividends

	2019 £m	2018 £m
Amounts recognised and paid as distributions to owners of the Company in the year		
Final dividend for the year ended 31 December 2018 of 40.5p (2017: 37.5p) per share	46.9	44.5
Interim dividend for the year ended 31 December 2019 of 21.9p (2018: 20.5p) per share	25.4	23.7
	72.3	68.2
Amounts arising in respect of the year		
Interim dividend for the year ended 31 December 2019 of 21.9p (2018: 20.5p) per share	25.4	23.7
Proposed final dividend for the year ended 31 December 2019 of 43.2p (2018: 40.5p) per share	50.1	46.8
	75.5	70.5

In addition, subject to shareholder approval, a special dividend of 150.0p per existing ordinary share is proposed, totalling £175m. In order to maintain the comparability of the Group's share price and per-share metrics before and after the special dividend, the Group plans to undertake a share consolidation, which will be subject to shareholder approval.

The proposed final and special dividends are subject to approval by shareholders at the AGM on 22 May 2020 and have not been included as a liability in these Financial Statements.

10. Earnings per share

Basic earnings per share amounts are calculated by dividing net profit for the year attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the year (excluding treasury shares).

Diluted earnings per share amounts are calculated by dividing the net profit attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the year but adjusted for the effects of dilutive options. The key features of the Company's share option schemes are described in Note 23.

	2019	2018
Basic earnings per share		
Profit after tax (£m)	234.1	185.2
Weighted average number of shares outstanding (millions)	115.8	117.5
Basic earnings per share (pence)	202.2	157.6
Diluted earnings per share		
Profit after tax (£m)	234.1	185.2
Basic weighted average number of shares outstanding (millions)	115.8	117.5
Weighted average number of dilutive 5p ordinary shares under option (millions)	0.4	0.6
Weighted average number of 5p ordinary shares that would have been issued at average market value from proceeds of dilutive share options (millions)	(0.1)	(0.1)
Diluted weighted average number of shares outstanding (millions)	116.1	118.0
Diluted earnings per share (pence)	201.6	156.9

11. Goodwill and other intangible assets

Cost	Note	Goodwill £m	Patents, contractual rights and technology £m	Customer- related and trade names £m	Software £m	Total £m
At 1 January 2018		771.9	201.8	236.1	70.1	1,279.9
Additions – separately acquired		–	2.6	–	15.4	18.0
Additions – internal development		–	4.7	–	–	4.7
Additions – business combinations		121.8	18.8	53.2	–	193.8
Reclassification		–	(7.3)	7.3	–	–
Disposals		–	–	–	(1.7)	(1.7)
Foreign exchange difference		21.4	7.2	9.4	2.1	40.1
At 31 December 2018		915.1	227.8	306.0	85.9	1,534.8
Additions – separately acquired		–	–	–	12.7	12.7
Additions – internal development		–	7.3	–	–	7.3
Additions – business combinations		2.4	1.8	–	–	4.2
Disposals		–	(3.2)	(9.1)	(1.0)	(13.3)
Disposals of business	25	(66.7)	(8.4)	(2.1)	(5.9)	(83.1)
Foreign exchange difference		(24.6)	(5.2)	(6.1)	(2.7)	(38.6)
At 31 December 2019		826.2	220.1	288.7	89.0	1,424.0
Accumulated amortisation and impairment						
At 1 January 2018		144.4	135.1	117.9	45.1	442.5
Charge for the year		–	17.8	23.7	5.6	47.1
Impairment		–	2.0	–	–	2.0
Reclassification		–	(6.0)	6.0	–	–
Disposals		–	–	–	(1.7)	(1.7)
Foreign exchange difference		4.4	4.7	5.1	1.1	15.3
At 31 December 2018		148.8	153.6	152.7	50.1	505.2
Charge for the year		–	18.0	22.6	7.5	48.1
Impairment		35.1	3.1	41.3	2.7	82.2
Disposals		–	(3.2)	(9.1)	(1.0)	(13.3)
Disposals of business	25	(0.2)	(3.6)	(0.7)	(5.2)	(9.7)
Foreign exchange difference		(4.3)	(3.7)	(4.0)	(1.8)	(13.8)
At 31 December 2019		179.4	164.2	202.8	52.3	598.7
Carrying amount						
At 31 December 2019		646.8	55.9	85.9	36.7	825.3
At 31 December 2018		766.3	74.2	153.3	35.8	1,029.6

Goodwill is allocated to the cash-generating units that are anticipated to benefit from the acquisition.

The Group's identified cash-generating units are the same or smaller than the four reportable segments, being the ten operating companies as at 31 December 2019. Goodwill arising on a bolt-on acquisition is combined with the goodwill in the existing Group company and is not considered separately for impairment purposes, since such acquisitions are quickly integrated.

Notes to the Accounts continued

11. Goodwill and other intangible assets continued

The most significant amounts of goodwill are as follows:

	2019		2018	
	Goodwill £m	Pre-tax discount rate %	Goodwill £m	Pre-tax discount rate %
Malvern Panalytical ¹	208.6	10.2	140.1	11.2
HBK ²	179.3	10.3	n/a	n/a
Omega Engineering	111.8	11.6	115.3	13.2
Millbrook	57.6	12.1	58.1	13.1
Red Lion Controls	40.5	11.5	41.6	13.2
Servomex	24.6	11.6	25.4	12.5
Concept Life Sciences ¹	n/a	n/a	105.5	13.6
HBM ²	n/a	n/a	106.1	11.9
Brüel & Kjær Sound & Vibration ²	n/a	n/a	66.4	11.1
BTG ³	n/a	n/a	69.5	12.6
Other ²	24.4	10.3–13.2	38.3	11.2–14.7
	646.8		766.3	

Changes to cash generating units during 2019

1 Concept Life Sciences was merged into Malvern Panalytical as of 1 July 2019, resulting in one cash generating unit (called Malvern Panalytical) from this date.

2 At the start of 2019 HBM and Brüel & Kjær Sound & Vibration were merged into one cash generating unit (called HBK). VI-grade was merged into the HBK cash generating unit as of 1 July 2019.

3 BTG was disposed during 2019 and therefore is no longer a Group cash generating unit.

Included within 'Other' are three (2018: four) cash-generating units, in which none of the goodwill balances are considered to be individually significant.

Goodwill is not amortised but is tested for impairment annually or whenever there is an indication that the asset may be impaired. As part of the annual impairment review, the carrying amount of goodwill has been assessed with reference to its recoverable amount determined based on value in use. In assessing value in use, the forecast projected cash flows of each cash-generating unit, which are based on actual operating results, the most recent budget for the next financial year as approved by the Board, detailed strategic review projections and an assumed long-term growth rate to perpetuity, are discounted to their present value using a pre-tax discount rate that reflects the time value of money and the risks specific to the cash-generating unit.

The key assumptions on which the value in use calculations are based relate to future business performance over the forecast period (five years), projected long-term growth rates and the discount rates applied. The forecast cash flows include management's latest estimates on sales volumes and pricing, production and other costs. The key estimates applied in the impairment review are the forecast level of revenue, operating margins and the proportion of operating profit converted to cash in each year. A long-term growth rate of 2.0% (2018: 2.0%) has been consistently applied in the impairment review for all cash-generating units based on current forecast global industrial production growth rates, and long-term GDP growth rates for the Group's primary markets. The cash flow projections have been discounted using cash-generating unit specific pre-tax discount rates of between 10.2% and 13.2% (2018: 11.5% and 17.9%). These rates have been determined by taking into account the size of business, specific geographical and industry risk factors, as well as the period of ownership by the Group.

Impairment of goodwill

Results at Concept Life Sciences ('CLS'), which was acquired in January 2018, were below expectations during the initial period of ownership to 31 December 2018. Performance was impacted by a reduction in project work from two major customers, delays in gaining accreditations and sub-optimal performance at the environmental laboratories. This was partly attributable to internal issues reflecting the state of the business on acquisition by the Group, which was in the process of integrating previous acquisitions into two divisions, as well as distraction and disruption caused by the acquisition. In February 2019, management considered that remedial action was having a positive impact, progress was being made and that the end markets for CLS were still strong as customers look to outsource analytical services and pharmaceutical development.

During the first six months of 2019, performance had not improved as anticipated, with sales declining by 9% on a LFL basis and resulting gross margin lower than 2018. This under-performance was attributable to the exit of its major customer in the pharmaceutical development/integrated drug development services business as well as continued sub-optimal performance in the environmental analytical services division. The analytical services division, despite continued focus on on-time delivery, was impacted by high staff attrition rates and a deterioration in customer relationships. New senior management for CLS were in place by June and a detailed strategic review of the CLS businesses was undertaken. In agreement with the Spectris Group Executive, it was proposed, subject to consultation and legal requirements, that the environmental analytical laboratories be closed. New management believed that in their current state, these laboratories would not be able to recapture share in this market. The environmental consultancy and testing business was subsequently sold in October 2019 (see Note 25) and the four environmental laboratories were closed. Management believe that the market for pharmaceutical development/integrated drug development services remains strong and attractive and existing activities here will be strengthened.

As a result of this, an impairment of CLS goodwill of £35.1m was charged to the consolidated income statement during the year. This impairment reflects the loss of value from the acquired workforce particularly in the analytical service division, the loss of expected future customer relationships across both divisions and reduced synergies from cross-selling instruments and services. The estimated recoverable amount of the CLS cash generating unit at 30 June 2019 was £105.3m which was determined on a value in use basis using a pre-tax discount rate of 10.0% (31 December 2018: 13.4%).

Sensitivity analysis

Since its acquisition in 2016, Spectris has made significant capital investment in Millbrook alongside two bolt-on acquisitions in Leyland and Millbrook Revolutionary Engineering. Given the early programme life cycle stage, the headroom between the recoverable amount (determined based on a value in use model) and the carrying value of the Millbrook CGU is modest at £17m. We expect the headroom to increase in future periods as the recent capital investments depreciate and the expected returns on these assets are realised. We have considered reasonably possible changes in key assumptions that could cause an impairment at 31 December 2019, and have identified two key assumptions as follows:

- Discount rate applied to future cash flows – our assessment of impairment assumes a pre-tax discount rate of 12.1% based on our determination of Group WACC and risks specific to the Millbrook CGU cash flows. An increase to 12.8% would see the headroom reduced to nil.
- Years 1 to 5 cash flows – our assessment of impairment assumes a CAGR of 14% after year 1. A decrease in the CAGR by 2%, equivalent to a 7% reduction in years 2 to 5 cash flows, would see the headroom reduced to nil.

For all other cash-generating units the Directors do not consider that there are any reasonably possible sensitivities for the business that could arise in the next 12 months that could result in an impairment charge being recognised.

Other intangible assets

Impairment of other intangible assets includes £32.4m relating to customer relationships and technology acquired as part of the CLS acquisition. The remaining £14.7m impairment of other intangible assets relates to items impaired as a result of restructuring activities undertaken following the strategic review.

Internally generated assets arising from the capitalisation of qualifying development expenditure typically have a finite expected useful life of four to ten years. Capitalised development expenditure is amortised on a straight-line basis. All amortisation charges for the year have been charged against operating profit. The Group has capitalised £7.3m of internally-generated intangible assets from development expenditure in 2019 (2018: £4.7m). Accumulated amortisation on internally-generated intangible assets was £0.7m (2018: £0.2m).

The trade names and technology assets recognised on the acquisition of Omega Engineering in 2011, and included within the Omega reportable segment, are considered significant by the Directors as they represent 51% (2018: 32%) of total customer-related and trade names, and 11% (2018: 14%) of total patents, contractual rights and technology, respectively. The carrying amount of the Omega customer-related and trade name intangible assets at 31 December 2018 is £44.1m (2018: £49.3m) and is being amortised over 20 years with the remaining amortisation period being 12 years. The carrying amount of the Omega patents, contractual rights and technology intangible assets at 31 December 2019 is £6.2m (2018: £10.1m) and is being amortised over ten years with the remaining amortisation period being two years.

Notes to the Accounts continued

12. Property, plant and equipment

Property, plant and equipment: owned

Cost	Note	Freehold property £m	Leasehold property £m	Plant and equipment £m	Total £m
At 1 January 2018		210.9	17.1	257.3	485.3
Additions – separately acquired		30.2	1.5	41.6	73.3
Additions – business combinations		2.9	0.5	12.1	15.5
Reclassifications		6.9	0.3	(7.2)	–
Transfer to assets held for sale		(4.5)	–	–	(4.5)
Adjustments to assets held for sale		0.5	–	(0.6)	(0.1)
Disposals		(2.5)	(0.9)	(11.3)	(14.7)
Foreign exchange difference		3.5	0.4	3.9	7.8
At 31 December 2018		247.9	18.9	295.8	562.6
Adoption of IFRS 16		–	0.5	(2.4)	(1.9)
At 31 December 2018 (restated)		247.9	19.5	293.4	560.7
Additions – separately acquired		13.8	1.4	41.1	56.3
Reclassifications		(2.6)	–	2.6	–
Disposals		(1.4)	(0.9)	(12.9)	(15.2)
Disposal of business	25	(14.9)	(0.2)	(28.5)	(43.6)
Foreign exchange difference		(7.5)	(0.6)	(8.1)	(16.2)
At 31 December 2019		235.3	19.1	287.6	542.0
Accumulated depreciation and impairment					
At 1 January 2018		58.1	11.7	139.7	209.5
Charge for the year		6.2	1.4	22.7	30.3
Reclassifications		(0.2)	0.2	–	–
Transfer to assets held for sale		(0.6)	–	–	(0.6)
Disposals		–	(1.0)	(10.0)	(11.0)
Adjustments to assets held for sale		0.3	–	(0.5)	(0.2)
Foreign exchange difference		0.4	0.2	2.5	3.1
At 31 December 2018		64.2	12.5	154.4	231.1
Adoption of IFRS 16		–	0.4	(1.3)	(0.9)
At 31 December 2018 (restated)		64.2	12.9	153.1	230.2
Charge for the year		6.9	1.6	24.5	33.0
Impairment		–	–	2.5	2.5
Disposals		(0.5)	(0.8)	(11.2)	(12.5)
Disposal of business	25	(5.2)	(0.2)	(15.3)	(20.7)
Foreign exchange difference		(2.9)	(0.3)	(5.4)	(8.6)
At 31 December 2019		62.5	13.2	148.2	223.9
Carrying amount					
At 31 December 2019		172.8	5.9	139.4	318.1
At 31 December 2018		183.7	6.4	141.4	331.5

The amount included in the cost of plant and equipment of assets in the course of construction was £20.5m (2018: £47.9m).

No borrowing costs were capitalised during either year.

Of the total depreciation charge of £33.0m (2018: £30.3m), the amount attributable to the depreciation of fair value adjustments to acquisition-related property, plant and equipment was £1.0m (2018: £0.8m).

Additions are net of £5.0m (2018: £2.9m) relating to the receipt of government grants.

Property, plant and equipment: right-of-use

	Property £m	Plant and equipment £m	Total £m
At 1 January 2019 on adoption of IFRS 16	53.2	12.8	66.0
Additions	8.9	3.7	12.6
Depreciation and impairment	(16.0)	(6.1)	(22.1)
Disposals	(0.3)	(0.8)	(1.1)
Disposal of business	(3.0)	(0.9)	(3.9)
Foreign exchange difference	(0.3)	(0.3)	(0.6)
At 31 December 2019	42.5	8.4	50.9
			2019 £m
Property, plant and equipment: owned			318.1
Property, plant and equipment: right-of-use			50.9
			369.0

13. Investment in joint venture and 2019 assets held for sale

The Group has one joint venture at 31 December 2019 and 31 December 2018, Brüel & Kjær EMS Pty Ltd ('EMS B&K'). The Group has an effective 45% ownership interest in EMS B&K. EMS B&K's place of incorporation and principal place of business is Australia and its principal activity is environmental monitoring.

	2019 £m	2018 £m
At 1 January	5.0	–
Addition	–	6.0
Share of post-tax results (including £1.0m impairment of acquired intangible assets (2018: £nil))	(4.9)	(1.2)
Foreign exchange difference	(0.1)	0.2
Transfer to held for sale	–	–
At 31 December	–	5.0

The Group did not receive dividends from its joint venture during the year.

The Group also has a long-term receivable from EMS B&K which arose on the formation of the joint venture. The recoverable amount is based on the future value which is expected to be achieved upon an ultimate exit of the joint venture.

During December 2019, as part of the plan to simplify the Group's portfolio, the Group entered into preliminary discussions in conjunction with its joint venture partner with a third party for the acquisition of the joint venture. On 17 January 2020, an announcement was made that agreement had been reached for the sale of our interest in the joint venture for consideration of £17.9m in cash and approximately £1.2m in shares in Envirosuite Limited. The closing of the deal is subject to approval by Envirosuite's shareholders at a meeting to be held on 24 February 2020 and the conditional placement of shares by Envirosuite required to fund the consideration for the transaction, with completion expected to take place shortly thereafter.

As a result, the receivable from the joint venture has been impaired by £21.3m to the £18.9m expected recoverable amount. This remaining balance, which represents fair value less costs to sell, has been included within assets held for sale at 31 December 2019. The investment in the joint venture (nil value) has also been transferred to assets held for sale. In 2018, the £3.9m of assets classified as held for sale related to the disposal of a property in Omega.

14. Inventories

	2019 £m	2018 £m
Raw materials	70.0	78.2
Work in progress	51.9	53.8
Finished goods and goods held for resale	75.3	84.4
	197.2	216.4

In the ordinary course of business, the Group makes provision for slow-moving, excess and obsolete inventory to write it down to its net realisable value based on an assessment of technological and market developments specific to the relevant business, and an analysis of historical and projected usage on an individual item or product line basis.

Expenses relating to inventories written down during the year totalled £12.6m (2018: £7.4m).

Finished goods and goods held for resale expected to be utilised after 12 months amounted to £0.9m (2018: £1.5m).

Notes to the Accounts continued

15. Trade and other receivables

Current	2019 £m	2018 £m
Trade receivables	271.7	311.8
Prepayments	17.9	20.7
VAT and similar taxes receivable	11.2	11.8
Other receivables	24.4	21.5
Contract assets	10.5	15.7
	335.7	381.5

Non-current	2019 £m	2018 £m
Other receivable – joint venture (see Note 13)	–	38.9

Trade receivables are non-interest bearing. Standard credit terms provided to customers differ according to business and country, and are typically between 30 and 60 days. Trade receivables are stated after the provision for impairment of £4.8m (2018: £4.6m). Trade and other receivables include £6.7m of receivables expected to be received in more than one year.

The fair value of trade and other receivables approximates to its carrying amount due to the short-term maturities associated with these items. There is no impairment risk identified with regards to other receivables where no amounts are past due. The non-current other receivable – joint venture arose on the formation of the joint venture and is held at amortised cost. This balance has been transferred to assets held for sale at 31 December 2019 (see Note 13).

The maximum exposure to credit risk for trade receivables at 31 December by geographic region was:

	2019 £m	2018 £m
UK	20.2	23.5
Germany	19.9	27.7
France	15.7	13.5
Rest of Europe	49.2	53.3
USA	67.8	83.6
Rest of North America	9.5	13.9
Japan	12.0	17.5
China	27.4	29.9
South Korea	6.4	8.3
Rest of Asia	29.1	25.1
Rest of the world	14.5	15.5
	271.7	311.8

Expected credit losses

The Group measures the loss allowance for trade receivables at an amount equal to lifetime expected credit losses ('ECL'). The ECL on trade receivables are estimated using a provision matrix by reference to past default experience of the debtor and an analysis of the debtor's current financial position, adjusted for factors that are specific to the debtor, general economic conditions of the industry in which the debtor operates and an assessment of both the current as well as the forecast direction of conditions at the reporting date.

There has been no change in the estimation techniques or significant assumptions made during the current reporting period.

The Group writes off a trade receivable when there is information indicating that the debtor is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the debtor has been placed under liquidation or has entered into bankruptcy proceedings.

The ageing of trade receivables and related provisions for impairment at 31 December was:

	2019		2018	
	Gross £m	Impairment £m	Gross £m	Impairment £m
Not past due	180.5	0.6	199.7	0.2
One month past due	43.3	–	55.4	0.1
Two months past due	18.5	0.9	21.5	0.1
Three months past due	7.2	–	12.7	0.1
Four months past due	6.0	–	7.2	0.1
More than four months past due	21.0	3.3	19.9	4.0
	276.5	4.8	316.4	4.6

The movement in the provision for impairment in respect of trade receivables during the year was as follows:

	2019 £m	2018 £m
At 1 January	4.6	7.0
Adoption of IFRS 9	–	(2.9)
At 1 January (restated)	4.6	4.1
Provision for impairment of receivables	1.8	1.1
Impairment loss utilised	(0.5)	(0.7)
Disposal of business	(1.0)	–
Foreign exchange difference	(0.1)	0.1
At 31 December	4.8	4.6

All of the above impairment losses relate to receivables arising from contracts with customers.

Significant changes in contract assets during the year

The decrease in contract assets during 2019 reflects progress on a number of larger contracts in the Industrial Solutions business. There were no other significant changes in contract assets during 2019.

16. Cash and cash equivalents

	Note	2019 £m	2018 £m
Cash and cash equivalents included in current assets		213.1	73.1
Bank overdrafts included in current borrowings	17	–	(5.8)
Cash and cash equivalents in the Consolidated Statement of Cash Flows		213.1	67.3

The Group's exposure to interest rate risk and a sensitivity analysis for financial assets and liabilities is disclosed in Note 28.

17. Borrowings

Current	Interest rate	Repayable date	2019 £m	2018 £m
Bank overdrafts		On demand	–	5.8
Bank loans unsecured – €94.8m	Fixed 2.56%	14 October 2020	80.7	–
Bank loans unsecured – £50.0m uncommitted facility	Relevant LIBOR +50bps	On demand	–	17.9
Total current borrowings			80.7	23.7
Non-current	Interest rate	Maturity date	2019 £m	2018 £m
Bank loans unsecured – €94.8m	Fixed 2.56%	14 October 2020	–	84.8
Bank loans unsecured – €116.2m	Fixed 1.15%	9 September 2022	98.9	104.0
Bank loans unsecured – \$800.0m revolving credit facility	Relevant LIBOR +65bps	31 July 2024	–	157.7
Total non-current borrowings			98.9	346.5
Total current and non-current borrowings			179.6	370.2
Total unsecured borrowings			179.6	364.4

At 31 December 2019, the Group had available £606.4m of undrawn committed borrowing facilities in respect of its \$800m revolving credit facility (2018: £467.9m).

Movements in total unsecured borrowings are reconciled as follows:

	2019 £m	2018 £m
At 1 January	364.4	187.2
Proceeds from borrowings	193.2	175.5
Repayment of borrowings	(363.5)	–
Effect of foreign exchange rates	(14.5)	1.7
At 31 December	179.6	364.4

Notes to the Accounts continued

18. Trade and other payables

	2019 £m	2018 £m
Current		
Trade payables	53.1	70.5
Accruals	89.2	106.4
Customer advances	19.5	27.1
Contract liabilities	73.4	74.9
Deferred and contingent consideration on acquisitions and disposals	11.6	9.7
VAT and similar taxes payable	14.7	11.1
Other payables	35.3	44.4
	296.8	344.1
Non-current		
Contract liabilities	2.8	2.8
Deferred and contingent consideration on acquisitions and disposals	3.2	9.1
Other payables	15.3	15.5
	21.3	27.4

The fair value of trade and other payables approximates to their carrying amount due to the short-term maturities associated with these items.

Total contract liabilities relate to the following product groups:

	2019 £m	2018 £m
Malvern Panalytical	45.0	44.9
HBK	23.1	21.1
Omega	0.1	0.2
Industrial Solutions	8.0	11.5
	76.2	77.7

Significant changes in contract liabilities during the year

2019:

During the year £1.6m of contract liability balances were derecognised on the disposal of BTG. There were no other significant changes in contract liability balances during 2019.

2018:

The Group recognised £38.2m of additional contract liabilities as a result of adopting IFRS 15 at 1 January 2018, bringing the total contract liability balance to £79.2m. Of this balance, £78.7m was recognised as revenue during 2018. The contract liability balance at 31 December 2018 included £6.0m arising from businesses acquired during 2018 (business combinations), of which £2.8m was in Malvern Panalytical, £1.5m in HBK and £1.7m in Industrial Solutions. There were no other significant changes in contract liability balances during 2018.

19. Provisions

	Note	Reorganisation £m	Product warranty £m	Legal, contractual and other £m	Total £m
At 1 January 2019		5.4	12.8	13.4	31.6
Adoption of IFRS 16		–	–	(0.5)	(0.5)
At 1 January 2019 (restated)		5.4	12.8	12.9	31.1
Provision during the year		26.4	10.0	0.8	37.2
Disposal of business	25	(0.1)	(0.2)	–	(0.3)
Utilised during the year		(19.8)	(8.9)	(2.0)	(30.7)
Released during the year		(0.3)	(2.3)	(0.9)	(3.5)
Foreign exchange difference		(0.4)	(0.4)	(0.1)	(0.9)
At 31 December 2019		11.2	11.0	10.7	32.9

Reorganisation

Reorganisation provisions relate to committed restructuring plans in place within the business, with much of the movement during 2019 relating to the Group-wide profit improvement programme (see Note 2). Costs are mostly expected to be incurred within one year and there is little judgement in determining the amount.

Product warranty

Product warranty provisions reflect commitments made to customers on the sale of goods in the ordinary course of business and included within the Group's standard terms and conditions. Warranty commitments typically apply for a 12-month period, but can extend to 36 months. These extended warranties are not individually significant.

Legal, contractual and other

Legal, contractual and other provisions mainly comprise amounts provided against open legal and contractual disputes arising in the normal course of business. The Company has on occasion been required to take legal or other actions to protect its intellectual property rights, to enforce commercial contracts or otherwise and similarly to defend itself against proceedings brought by other parties. Provisions are made for the expected costs associated with such matters, based on past experience of similar items and other known factors, taking into account professional advice received, and represent management's best estimate of the most likely outcome. The timing of utilisation of these provisions is frequently uncertain, reflecting the complexity of issues and the outcome of various court proceedings and negotiations. Contractual and other provisions represent the Directors' best estimate of the cost of settling current obligations. Other provisions includes £5.5m (2018: £5.4m) relating to accrued interest on potential tax liabilities (see Note 8).

No provision is made for proceedings which have been or might be brought by other parties against Group companies unless management, taking into account professional advice received, assesses that it is probable that such proceedings may be successful. Contingent liabilities associated with such proceedings have been identified, but the Directors are of the opinion that any associated claims that might be brought can be defeated successfully and, therefore, the possibility of any material outflow in settlement is assessed as remote.

20. Retirement benefit plans

Spectris plc operates funded defined benefit and defined contribution pension plans for the Group's qualifying employees in the UK. At 31 December 2019, 12 overseas subsidiaries (2018: 14) in three overseas countries provided defined benefit plans. During 2019 two subsidiaries left the Group as a result of the disposal of BTG, with most of the net liability being disposed of being in Switzerland. Other UK and overseas subsidiaries have their own defined contribution plans invested in independent funds.

Defined benefit plans

The UK, German, Dutch and Swiss plans provide pensions in retirement, death in service and in some cases disability benefits to members. The pension benefit is linked to members' final salary at retirement and their service life. Since 31 December 2009, the UK plan has been closed to all service accruals. The German and Dutch plans are closed to new members.

The UK plan is administered by a pension fund, but the Swiss and Dutch plans are held by insurance companies that are legally separate from the Group. The majority of the overseas plan assets are insurance policies. The UK plan is managed by a Board of Trustees that represents both employees and employer, who is required to act in the best interest of the plan's participants and is responsible for setting certain policies (e.g. investment, contribution and indexation policies) of the various funds.

The plans expose the Group to actuarial risks, such as longevity risk, currency risk, interest rate risk and market (investment) risk. Inflation and interest rate hedges are taken out to mitigate against risks arising on the UK plan and some reinsurance exists in respect of the overseas plans.

The overseas plans are funded by the Group's overseas subsidiaries, and the UK plan has been funded in the past by both the Group's UK subsidiaries and the Company. The assets of the UK plan are invested in accordance with Section 40 of the Pensions Act 1995. Although the Act permits 5% of the plan's assets to be invested in 'employer-related investments', the Trustees have elected that none of the plan assets are to be invested directly in Spectris plc shares. The Trustees also hold interest rate and inflation swaps to help protect against the impact of changes in prevailing interest rates and price inflation, which in conjunction with the corporate bond portfolio aims to fully hedge against interest and inflation rate risks on the basis used by the Trustee to fund the plan. Trustee investment in derivatives is only made in so far as they contribute to the reduction of investment risks or facilitate efficient portfolio management and are managed such as to avoid excessive risk exposure to a single counterparty or other derivative operations.

The Trustee of the UK Plan has invested a large proportion of the Plan's assets in a buy and maintain corporate bond portfolio, designed to move in a similar way to the value of the Plan's liabilities. The Trustee has also entered into a swaps strategy which seeks to further mitigate against movement in interest rates and price inflation over time.

The funding requirements are based on the individual funds' actuarial measurement framework set out in the funding policies of the various plans.

The Group has determined that, in accordance with the terms and conditions of the defined benefit plans, and in accordance with statutory requirements (including minimum funding requirements) of the plans of the respective jurisdictions, the present value of the refunds or reductions in future contributions is not lower than the balance of the total fair value of the plan assets less the total present value of obligations. This determination has been made on a plan-by-plan basis. As such, no decrease in the defined benefit asset was necessary at 31 December 2019.

The last full actuarial valuation for the UK plan was 31 December 2017 and for the overseas plans was 31 December 2019. Where applicable, the valuations were updated to 31 December 2019 for IAS 19 (Revised) 'Employee Benefits' purposes by qualified independent actuaries.

Notes to the Accounts continued

20. Retirement benefit plans continued

The Group's contributions to defined benefit plans during the year ended 31 December 2019 were £2.3m (2018: £2.2m). Contributions for 2020 are expected to be £1.0m for the overseas plans.

Contributions to the Spectris Pension Plan (UK) ceased from 1 July 2012. The contribution rates are subject to review at future valuations and periodic certifications of the schedule of contributions.

The assumptions used by the actuary to value the liabilities of the defined benefit plans were:

	2019		2018	
	UK plan % p.a.	Overseas plans % p.a.	UK plan % p.a.	Overseas plans % p.a.
Discount rate	1.9	0.1–1.0	2.7	0.95–2.1
Salary increases	n/a	1.25–3.0	n/a	1.0–3.0
Pension increases in payment	2.2–3.5	0.0–2.0	2.2–3.7	0.0–2.0
Pension increases in deferment	2.2–3.0		2.4–3.3	
Inflation assumption	2.2–3.0	1.0–2.0	2.4–3.3	1.0–2.0
Interest credit rate		0.0–1.0		0.0–1.0

The weighted average duration of the defined benefit obligation at 31 December 2019 was approximately 14 years (2018: 14 years) for the UK plan and 17.9 years (2018: 18.3 years) for the overseas plans.

Pensioner life expectancy assumed in the 31 December 2019 valuation is based on the following tables:

UK plan	92% SIPMA/96% S1PFA centred in 2006, future improvements in line with the core CMI_2018 model with a long-term rate of improvement of 1.25% per annum and initial addition of 0.5%
German plans	Dr K Heubeck pension tables 2018 G
Dutch plans	A.G. Prognosetafel 2018 tables
Swiss plan	BVG 2015 – CMI 1.50%

Samples of the ages to which pensioners are assumed to live are as follows:

	Male	Female
Pensioners aged 65 in 2019	85.2–86.9	88.2–88.9
Pensioners aged 65 in 2029	86.6–87.8	89.4–89.9

Amounts recognised in the Consolidated Income Statement	UK plan		Overseas plans		Total	
	2019 £m	2018 £m	2019 £m	2018 £m	2019 £m	2018 £m
Current service cost	–	–	1.8	2.0	1.8	2.0
Past service cost	–	2.5	–	0.2	–	2.7
Administrative cost	0.4	0.3	0.1	0.1	0.5	0.4
Disposal	–	–	(15.8)	–	(15.8)	–
Net interest cost	0.3	0.3	0.3	0.3	0.6	0.6
	0.7	3.1	(13.6)	2.6	(12.9)	5.7

The current service cost and past service cost are recognised in administrative expenses in the Consolidated Income Statement. The net interest cost on the net defined benefit obligation is recognised in finance costs in the Consolidated Income Statement. The disposal consists of the balance disposed as a result of the sale of BTG and has been recognised in profit on disposal of business in the Consolidated Income Statement (see Note 25). Actuarial losses or gains are recognised in the Consolidated Statement of Comprehensive Income.

During the year, insurance premiums for death-in-service benefits amounting to £0.5m (2018: £0.3m) were paid.

There was a positive total return on plan assets in the year of £14.2m (2018: a negative return of £4.4m).

Amounts recognised in the Consolidated Statement of Comprehensive Income	UK plan		Overseas plans		Total	
	2019 £m	2018 £m	2019 £m	2018 £m	2019 £m	2018 £m
Actuarial (losses)/gains recognised in the current year	(1.9)	3.9	(9.1)	2.1	(11.0)	6.0
Foreign exchange losses in the current year	–	–	0.4	(0.6)	0.4	(0.6)
Total (losses)/gains recognised in the current year	(1.9)	3.9	(8.7)	1.5	(10.6)	5.4

	UK plan		Overseas plans		Total	
	2019 £m	2018 £m	2019 £m	2018 £m	2019 £m	2018 £m
Amounts recognised in the Consolidated Statement of Financial Position						
Present value of defined benefit obligations	(133.2)	(125.7)	(27.0)	(57.4)	(160.2)	(183.1)
Fair value of plan assets	118.1	113.2	14.6	37.8	132.7	151.0
Net deficit in plans	(15.1)	(12.5)	(12.4)	(19.6)	(27.5)	(32.1)

	UK plan		Overseas plans		Total	
	2019 £m	2018 £m	2019 £m	2018 £m	2019 £m	2018 £m
Reconciliation of movement in net deficit						
At 1 January	(12.5)	(13.3)	(19.6)	(20.7)	(32.1)	(34.0)
Current service cost	–	–	(1.8)	(2.0)	(1.8)	(2.0)
Net interest cost	(0.3)	(0.3)	(0.3)	(0.3)	(0.6)	(0.6)
Plan administrative cost	(0.4)	(0.3)	(0.1)	(0.1)	(0.5)	(0.4)
Disposal	–	–	15.8	–	15.8	–
Past service cost	–	(2.5)	–	(0.2)	–	(2.7)
Contributions from sponsoring company and plan members	–	–	1.7	1.6	1.7	1.6
Benefits paid	–	–	0.6	0.6	0.6	0.6
Actuarial (losses)/gains	(1.9)	3.9	(9.1)	2.1	(11.0)	6.0
Foreign exchange difference	–	–	0.4	(0.6)	0.4	(0.6)
At 31 December	(15.1)	(12.5)	(12.4)	(19.6)	(27.5)	(32.1)

	UK plan		Overseas plans		Total	
	2019 £m	2018 £m	2019 £m	2018 £m	2019 £m	2018 £m
Analysis of movement in the present value of the defined benefit obligation						
At 1 January	125.7	137.4	57.4	54.7	183.1	192.1
Current service cost	–	–	1.8	2.0	1.8	2.0
Interest cost	3.3	3.2	0.7	0.7	4.0	3.9
Disposal	–	–	(41.9)	–	(41.9)	–
Past service credit	–	2.5	–	0.2	–	2.7
Contributions from plan members	–	–	1.2	1.2	1.2	1.2
Actuarial losses/(gains) – financial	12.2	(4.1)	10.6	(1.8)	22.8	(5.9)
Actuarial (gains)/losses – demographic	(1.4)	(8.6)	0.9	0.1	(0.5)	(8.5)
Actuarial (gains)/losses – experience	(0.2)	0.7	(0.6)	–	(0.8)	0.7
Benefits paid	(6.4)	(5.4)	(2.2)	(1.6)	(8.6)	(7.0)
Foreign exchange difference	–	–	(0.9)	1.9	(0.9)	1.9
At 31 December	133.2	125.7	27.0	57.4	160.2	183.1

Analysed as:

Present value of unfunded defined benefit obligation	–	–	7.7	7.6	7.7	7.6
Present value of funded defined benefit obligation	133.2	125.7	19.3	49.8	152.5	175.5

	UK plan		Overseas plans		Total	
	2019 £m	2018 £m	2019 £m	2018 £m	2019 £m	2018 £m
Reconciliation of movement in fair value of plan assets						
At 1 January	113.2	124.1	37.8	34.0	151.0	158.1
Interest income on assets	3.0	2.9	0.4	0.4	3.4	3.3
Plan administration cost	(0.4)	(0.3)	(0.1)	(0.1)	(0.5)	(0.4)
Disposal	–	–	(26.1)	–	(26.1)	–
Contributions from sponsoring company	–	–	1.7	1.6	1.7	1.6
Contributions from plan members	–	–	1.2	1.2	1.2	1.2
Actuarial gains/(losses)	8.7	(8.1)	1.8	0.4	10.5	(7.7)
Benefits paid	(6.4)	(5.4)	(1.6)	(1.0)	(8.0)	(6.4)
Foreign exchange difference	–	–	(0.5)	1.3	(0.5)	1.3
At 31 December	118.1	113.2	14.6	37.8	132.7	151.0

Notes to the Accounts continued

20. Retirement benefit plans continued

	UK plan		Overseas plans		2019 £m	2018 £m
	2019 £m	2018 £m	2019 £m	2018 £m		
Fair value of assets						
Equity instruments	5.7	5.3	–	–	5.7	5.3
Corporate bonds	103.3	94.0	–	–	103.3	94.0
Government bonds	20.1	10.3	–	–	20.1	10.3
Cash and financial derivatives and other (net)	(11.0)	3.6	–	–	(11.0)	3.6
Insurance policies	–	–	14.6	37.8	14.6	37.8
	118.1	113.2	14.6	37.8	132.7	151.0

The UK plan assets are invested in active markets which have a quoted market price. The overseas plan assets are invested in insurance policies.

Sensitivity analysis

The table below shows the sensitivity of the Consolidated Statement of Financial Position to changes in the significant pension assumptions based on a reasonably expected change given current market conditions:

	Impact on plan liabilities as at 31 December 2019		
	Change in assumption	UK plan	Overseas plans
Discount rate	Increase by 1%	Decrease by £18.2m	Decrease by £4.4m
Rate of price inflation (RPI)	Increase by 1%	Increase by £13.0m	Increase by £1.6m
Assumed life expectancy at age 65	Increase by 1 year	Increase by £5.1m	Increase by £1.0m

Defined contribution plans

The total cost of the defined contribution plans for the year was £18.1m (2018: £17.8m). There were no outstanding or prepaid contributions to these plans as at the end of the year.

21. Deferred tax

The movement in the net deferred tax liability/(asset) is shown below.

	Note	2019 £m	2018 £m
At 1 January		18.9	14.5
Adoption of IFRS 16 (2018: Adoption of IFRS 9 and IFRS 15)		(1.0)	(5.8)
At 1 January (restated)		17.9	8.7
Foreign exchange difference		(0.1)	0.1
Acquisition of subsidiary undertakings	24	0.4	13.8
Disposal of businesses		(1.5)	1.0
Deferred tax on changes in fair value of forward exchange contracts recognised in the Consolidated Statement of Comprehensive Income		0.5	(0.1)
Deferred tax on re-measurement of net defined benefit liability recognised in the Consolidated Statement of Comprehensive Income		(1.7)	1.4
Deferred tax on share-based payments recognised in equity		0.2	0.1
Credited to the Consolidated Income Statement	8	(11.9)	(6.1)
At 31 December		3.8	18.9

Comprising:

Deferred tax liabilities	12.8	30.2
Deferred tax assets	(9.0)	(11.3)
	3.8	18.9

The movements in deferred tax assets and liabilities during the year are shown below. Deferred tax assets and liabilities are only offset where there is a legally enforceable right of offset and they relate to income taxes levied by the same taxation authority.

Net deferred tax (assets)/liabilities	Accelerated tax depreciation £m	Accruals and provisions £m	Tax losses £m	Unrealised profit on inter-company transactions £m	Pension plans £m	Goodwill and other intangible assets £m	Other £m	2019 Total £m
At 1 January 2019	4.3	(13.2)	(1.1)	(8.3)	(7.0)	45.2	(1.0)	18.9
Adoption of IFRS 16	–	–	–	–	–	–	(1.0)	(1.0)
At 1 January 2019 (restated)	4.3	(13.2)	(1.1)	(8.3)	(7.0)	45.2	(2.0)	17.9
Foreign exchange difference	–	–	–	–	–	(0.1)	–	(0.1)
Acquisition of subsidiary undertakings	–	–	–	–	–	0.4	–	0.4
Disposal of businesses	–	–	–	–	2.1	(3.6)	–	(1.5)
Deferred tax on changes in fair value of forward exchange contracts recognised in the Consolidated Statement of Comprehensive Income	–	–	–	–	–	–	0.5	0.5
Deferred tax on re-measurement of net defined benefit obligation recognised in the Consolidated Statement of Comprehensive Income	–	–	–	–	(1.7)	–	–	(1.7)
Deferred tax on share-based payments recognised in equity	–	–	–	–	–	–	0.2	0.2
Charged/(credited) to the Consolidated Income Statement	0.8	(0.8)	0.4	1.0	0.5	(14.8)	1.0	(11.9)
At 31 December 2019	5.1	(14.0)	(0.7)	(7.3)	(6.1)	27.1	(0.3)	3.8

Net deferred tax (assets)/liabilities	Accelerated tax depreciation £m	Accruals and provisions £m	Tax losses £m	Unrealised profit on inter-company transactions £m	Pension plans £m	Goodwill and other intangible assets £m	Other £m	2018 Total £m
At 1 January 2018	3.7	(11.0)	(2.2)	(5.3)	(7.7)	36.2	0.8	14.5
Adoption of IFRS 9 and IFRS 15	–	(5.8)	–	–	–	–	–	(5.8)
At 1 January 2018 (restated)	3.7	(16.8)	(2.2)	(5.3)	(7.7)	36.2	0.8	8.7
Foreign exchange difference	–	–	–	(0.6)	–	0.7	–	0.1
Acquisition of subsidiary undertakings	–	–	–	–	–	13.8	–	13.8
Disposal of business	–	–	–	–	–	1.0	–	1.0
Deferred tax on changes in fair value of forward exchange contracts recognised in the Consolidated Statement of Comprehensive Income	–	–	–	–	–	–	(0.1)	(0.1)
Deferred tax on re-measurement of net defined benefit obligation recognised in the Consolidated Statement of Comprehensive Income	–	–	–	–	1.4	–	–	1.4
Deferred tax on share-based payments recognised in equity	–	–	–	–	–	–	0.1	0.1
Charged/(credited) to the Consolidated Income Statement	0.6	3.6	1.1	(2.4)	(0.7)	(6.5)	(1.8)	(6.1)
At 31 December 2018	4.3	(13.2)	(1.1)	(8.3)	(7.0)	45.2	(1.0)	18.9

Notes to the Accounts continued

21. Deferred tax continued

Unrecognised temporary differences

Deferred tax assets have not been recognised on the following temporary differences due to the degree of uncertainty over both the amount and utilisation of the underlying tax losses and deductions in certain jurisdictions. £2.2m will expire between 2026 and 2030. There is no expiry date associated with the remaining tax losses of £49.1m.

	2019 £m	2018 £m
Tax losses	51.3	48.2
Other temporary differences	0.3	1.1
	51.6	49.3

A reduction in the UK corporation tax rate to 17% from 1 April 2020 was substantively enacted in the UK Finance Act 2016. However, the UK government included a pledge to reverse the tax rate cut in their election manifesto. This pledge was not substantively enacted as at the balance sheet date. The enacted tax rate cut may therefore not go ahead in which case the UK corporation tax rate would remain at 19%. If this pledge is enacted we would expect the deferred tax liability above to increase by £1.0m.

It is likely that the unremitted earnings of overseas subsidiaries would qualify for the UK dividend exemption such that no UK tax would be due upon remitting these earnings to the UK. However, £82.7m (2018: £67.5m) of those earnings may still result in a tax liability, principally as a result of the dividend withholding taxes levied by the overseas tax jurisdictions in which those subsidiaries operate. These tax liabilities are not expected to exceed £4.8m (2018: £3.8m), of which only £2.0m (2018: £1.9m) has been provided for as the Group is able to control the timing of the dividends. It is not expected that further amounts will crystallise in the foreseeable future.

22. Share capital and reserves

	2019		2018	
	Number of shares Millions	£m	Number of shares Millions	£m
Issued and fully paid (ordinary shares of 5p each):				
At 1 January and 31 December	121.2	6.0	121.2	6.0

No ordinary shares were issued upon exercise under share option schemes during the year (2018: nil).

At 31 December 2019, the Group held 5,182,366 treasury shares (2018: 5,636,153). During the year, 453,787 of these shares were issued to satisfy options exercised by, and SIP Matching shares awarded to, employees which were granted under the Group's share schemes (2018: 111,207). Nil ordinary shares were repurchased and cancelled by the Group during the year (2018: 3,825,802 ordinary shares were repurchased and cancelled as part of the share buyback programme announced on 5 March 2018, which concluded on 13 August 2018).

In July 2018, the Group established an employee benefit trust ('EBT') to operate the Spectris Share Incentive Plan ('SIP') to all eligible UK-based employees. The EBT holds shares in Spectris plc for the purposes of the SIP, further details of which are disclosed in the Directors' Remuneration Report. At 31 December 2019, the EBT held 33,780 shares which were purchased from the market during the year (31 December 2018: 11,353). The costs of funding and administering the plan are charged to the Income Statement in the period to which they relate.

Other reserves

Movements in reserves are set out in the Consolidated Statement of Changes in Equity. The retained earnings reserve also includes own shares purchased by the Company and treated as treasury shares. The nature and purpose of other reserves forming part of equity are as follows:

Translation reserve

The foreign currency translation reserve is used to record exchange differences arising from the translation of the Financial Statements of foreign subsidiaries, including gains or losses arising on net investment hedges.

Hedging reserve

This reserve records the cumulative net change in the fair value of forward exchange contracts where they are designated as effective cash flow hedge relationships.

Merger reserve

This reserve arose on the acquisition of Servomex Limited in 1999, a purchase satisfied substantially by the issue of share capital and therefore eligible for merger relief under the provisions of Section 612 of the Companies Act 2006.

Capital redemption reserve

This reserve records the historical repurchase of the Company's own shares. There were no movements in this reserve during 2019. During 2018, as a result of the share buyback programme, the capital redemption reserve increased by £0.2m, reflecting the nominal value of the cancelled ordinary shares.

23. Share-based payments

Spectris Performance Share Plan ('PSP')

The PSP is used to grant share awards to senior executives and key employees that are settled in either equity or cash. Equity-settled PSP awards are granted in the form of nominal share options. Some PSP awards granted to UK employees are linked to a grant of market value share options under the terms of HMRC's tax-advantaged Company Share Option Plan ('Linked (tax-advantaged) awards').

Linked (tax-advantaged) awards are granted up to an aggregate value of £30,000, which is HMRC's limit. The Linked (tax-advantaged) awards have the same performance and vesting conditions as the PSP awards to which they are linked.

When an employee chooses to exercise a PSP award which is linked to a Linked (tax-advantaged) award, both parts are also automatically exercised at the same time. Should there be a gain on exercise from the Linked (tax-advantaged) award part, then a proportion of the PSP award will lapse to ensure that the overall gross value received from the combined exercise of these awards is no more than would have been delivered from a stand-alone equivalent PSP award. Should there be no gain on exercise from the Linked (tax-advantaged) award part, then this part is forfeited and there is no reduction in the remaining PSP award.

Both cash and equity-settled PSP awards are expected to vest, subject to their performance conditions, after three years. Vested equity-settled awards must be exercised within the next seven years, whereas vested cash-settled awards are paid out on or shortly after the vesting date. From 2017 onwards, all PSP awards granted to Executive Directors are subject to an additional two-year holding period. These PSP awards vest after five years (three-year performance period plus two-year holding period) and equity-settled awards must be exercised within the next five years.

Subject to the PSP awards vesting, participants receive additional dividend shares on the vested shares under the PSP award. For PSP awards granted in or after 2014, the dividend shares are of equivalent value to the Company's dividends paid between the date of grant and the vesting date. For PSP awards granted before 2014, dividend shares were of equivalent value to Company's dividends paid between the date of grant and the date of exercise.

PSP performance conditions

Outstanding PSP awards granted to Executive Directors are subject to the following performance conditions: one-third subject to an adjusted earnings per share growth target ('EPS'); one-third subject to an economic profit ('EP') target; and one-third subject to a Total Shareholder Return target ('TSR').

PSP awards granted to other members of the Executive Committee were subject to the same performance conditions up to 2016. For grants in 2017 and 2018, PSP awards to the Executive Committee are subject to the following performance conditions: one-third subject to the same EPS target; one-third subject to the same EP target; and one-third solely subject to continuous employment over the three-year vesting period. In 2019, the same conditions applied for Head Office Executive Committee roles however the EP target was replaced for an operating company profit target for the Executive Committee members who are Presidents of an operating company.

PSP awards granted to other senior head office managers were, until 2016, 50% subject to EPS and 50% subject to TSR. From 2017 onwards, senior head office management have two-thirds of their PSP awards subject to EPS and the remaining one-third solely subject to continuous employment over the three-year vesting period.

PSP awards granted to executives and senior managers of the Group's operating companies in 2008 and 2009 were subject to an operating company profit target (50%) and EPS (50%). PSP awards granted between 2010 and 2016 had two-thirds subject to an operating company profit target and one-third subject to EPS. Between 2017 and 2018, the performance conditions have been two-thirds operating company profit targets and one-third continuous employment over the three-year vesting period. In 2019, the performance conditions were one-third operating company profit targets, one-third EPS and one-third continuous employment over the three-year vesting period.

Normally, PSP awards granted to participants who leave employment prior to vesting will be forfeited. In the event a participant leaves due to a qualifying reason, they receive a time pro-rated entitlement.

Restricted Shares Plan ('RSP')

RSP is used to grant cash-settled share awards to selected key employees within the Spectris Group. RSP awards, which have been granted from 2014 onwards, are subject to the same rules as the PSP but generally no performance conditions apply. RSP awards cannot be granted to an Executive Director of Spectris plc.

Spectris Savings Related Share Option Scheme ('SAYE')

The SAYE is a UK tax-advantaged all employee share option scheme. UK employees could choose to save up to £500 per month over three years and then can use their savings to exercise options to purchase ordinary shares in the Company during a six-month window following the SAYE maturity date.

The exercise price of the SAYE options, which have no performance conditions attached to them, is set as the mid-market closing share price on the day before the SAYE invitation date. No SAYE invitation has been made since September 2016.

Spectris Share Incentive Plan ('SIP')

The SIP, a UK tax-advantaged share matching plan, was launched after it was approved by shareholders at the May 2018 AGM. UK employees can invest up to £150 per month to buy ordinary shares in the Company ('Partnership shares') tax efficiently and for every five Partnership shares purchased, the Company will gift one free ordinary share ('Matching share'). Matching shares need to be held in the SIP Trust for at least three years otherwise these shares are potentially subject to forfeiture. The Company incurs a charge on any Matching shares awarded under the SIP although the charge in 2019 was £0.1m.

Notes to the Accounts continued

23. Share-based payments continued

The number of outstanding share incentives are summarised below:

	2019 Number thousands	2018 Number thousands
Incentive plan		
Equity-settled:		
Performance Share Plan	1,326	1,615
Performance Share Plan (Linked tax-advantaged)	99	113
SAYE	5	45
Total equity-settled	1,430	1,773
Cash-settled: Performance Share Plan (Phantom allocations) and Restricted Share Plan	217	374
Total outstanding	1,647	2,147

Share options outstanding at the end of the year (equity-settled)

Performance Share Plan Year of grant	Remaining contractual life of options	2019		2018	
		Number thousands	Weighted average exercise price £	Number thousands	Weighted average exercise price £
2009	–	–	–	13	0.04
2010	1 year	3	0.04	27	0.04
2011	2 years	9	0.04	31	0.04
2012	3 years	1	0.04	2	0.04
2013	4 years	1	0.04	2	0.04
2014	5 years	–	–	2	0.05
2015	6 years	3	0.05	16	0.05
2016	7 years	37	0.05	531	0.05
2017	8 years	333	0.05	441	0.05
2018	9 years	377	0.05	550	0.05
2019	10 years	562	0.05	–	–
		1,326	0.05	1,615	0.05

The weighted average remaining contractual life of the PSP awards is 9.04 years (2018: 8.68 years).

Performance Share Plan (share options)	2019			2018		
	Number thousands	Weighted average exercise price £	Weighted average fair value at grant date £	Number thousands	Weighted average exercise price £	Weighted average fair value at grant date £
At 1 January	1,615	0.05	–	1,576	0.05	–
Shares granted	663	0.05	24.46	580	0.05	24.74
Addition of reinvested dividends	30	–	–	8	–	–
Exercised	(396)	0.05	–	(68)	0.05	–
Forfeited	(586)	0.05	–	(481)	0.05	–
At 31 December	1,326	0.05	–	1,615	0.05	–
Exercisable at 31 December	121	0.05	–	94	0.04	–

Performance Share Plan (Linked tax-advantaged) Year of grant	Remaining contractual life of options	2019		2018	
		Number thousands	Weighted average exercise price £	Number thousands	Weighted average exercise price £
2011	2 years	–	–	1	11.30
2012	3 years	–	17.31	2	17.31
2013	4 years	–	–	–	24.10
2015	5 years	1	21.97	5	21.97
2016	7 years	2	18.30	16	17.29
2017	8 years	23	26.03	36	26.00
2018	9 years	31	26.65	53	26.63
2019	10 years	42	26.48	–	–
		99	26.18	113	24.61

The weighted average remaining contractual life of the PSP (Linked tax-advantaged) awards is 9.11 years (2018: 9.11 years).

Performance Share Plan (Linked tax-advantaged)	2019			2018		
	Number thousands	Weighted average exercise price £	Weighted average fair value at grant date £	Number thousands	Weighted average exercise price £	Weighted average fair value at grant date £
At 1 January	113	24.61	–	97	22.31	–
Shares granted	47	26.50	3.19	57	26.64	3.95
Exercised	(17)	17.66	–	(5)	19.11	–
Forfeited	(44)	25.75	–	(36)	22.37	–
At 31 December	99	26.18	–	113	24.61	–
Exercisable at 31 December	4	19.79	–	8	19.83	–

SAYE Year of grant	2019			2018	
	Exercise price £	Expected remaining life of options	Number thousands	Number thousands	Number thousands
2015	17.37	1 year	–	–	19
2016	19.38	2 years	5	5	26
			5	5	45

The weighted average remaining contractual life of the SAYE options is 1 year (2018: 1.57 years).

SAYE	2019			2018	
	Number thousands	Weighted average exercise price £	Number thousands	Weighted average exercise price £	Weighted average exercise price £
At 1 January	45	18.51	86	86	18.22
Exercised	(37)	18.33	(36)	(36)	17.82
Forfeited	(3)	19.19	(5)	(5)	18.44
At 31 December	5	19.38	45	45	18.51
Exercisable at 31 December	5	19.38	20	20	17.38

Share options outstanding at the end of the year (cash-settled)

Performance Share Plan (Phantom allocations) and Restricted Shares Plan Year of grant	Remaining contractual life of options	2019			2018		
		Number thousands	Weighted average exercise price £	Number thousands	Weighted average exercise price £	Number thousands	Weighted average exercise price £
2016	–	–	–	133	0.05	–	–
2017	1 year	83	0.05	109	0.05	–	–
2018	2 years	109	0.05	132	0.05	–	–
2019	3 years	25	0.05	–	–	374	0.05
		217	0.05	374	0.05	–	–

Notes to the Accounts continued

23. Share-based payments continued

The weighted average remaining contractual life of the PSP/RSP awards is 1.74 years (2018: 2.00 years).

Performance Share Plan (Phantom allocations) and Restricted Shares Plan	Number thousands	Exercise price £	2019		2018	
			Weighted average fair value at grant date £	Number thousands	Exercise price £	Weighted average fair value at grant date £
At 1 January	374	0.05		370	0.05	
Shares granted	30	0.05	25.52	140	0.05	26.45
Addition of reinvested dividends	8	–		4	–	
Exercised	(128)	0.05		(61)	0.05	
Forfeited	(67)	0.05		(79)	0.05	
At 31 December	217	0.05		374	0.05	
Exercisable at 31 December	–	–		–	–	

Share-based payment expense

Share options are valued using the stochastic option pricing model (also known as the Monte Carlo model) in respect of TSR, and the Black-Scholes model for all other options, with support from an independent remuneration consultant. The TSR performance condition was included in the calculation of fair value under the PSP. For options granted in 2019 and 2018, the fair value of options granted and the assumptions used in the calculation, are as follows:

	Equity-settled			Cash-settled		
	Performance Share Plan		Performance Share Plan (Linked tax-advantaged)	Performance Share Plan (Phantom) and Restricted Shares Plan		
	2019	2018	2019	2018	2019	2018
Weighted average share price at date of grant (£)	25.54	26.81	25.47	26.85	25.57	26.50
Weighted average exercise price (£)	0.05	0.05	26.50	26.64	0.05	0.05
Expected volatility	24.78%	24.66%	24.84%	24.65%	24.76%	24.73%
Expected life	3.25 yrs	3.07 yrs	3.05 yrs	3.04 yrs	3 yrs	3 yrs
Risk-free rate	0.71%	0.86%	0.69%	0.86%	0.70%	0.84%
Expected dividends (expressed as a yield)	–	–	2.40%	2.11%	2.40%	–
Weighted average fair values at date of grant (£):						
TSR condition	14.22	15.30	3.49	3.73	–	–
Profit condition	25.32	26.54	3.20	3.99	25.56	26.96
EPS condition	25.16	26.09	3.19	3.94	25.46	26.96
Economic profit condition	25.50	26.46	3.19	4.00	–	–
Service condition	25.25	26.57	3.19	3.99	25.56	26.96
Weighted average fair values at 31 December (£):						
Profit condition (cash-settled)					28.42	21.50
EPS condition (cash-settled)					27.99	21.50
Service condition (cash-settled)					28.38	21.46

The expected volatility is based on historical volatility over the expected term. The expected life is the average expected period to exercise. The risk-free rate of return is the yield on zero-coupon UK government bonds of a term consistent with the assumed option life.

The weighted average share price at the date of exercise for share options exercised under the PSP in 2019 was £26.47 (2018: £26.11). The weighted average fair value of cash-settled options outstanding at 31 December 2019 is £27.99 (2018: £21.98) for the EPS condition. The Group recognised a total share-based payment charge of £5.9m (2018: £6.2m) in the Consolidated Income Statement, of which £3.0m (2018: £5.1m) related to equity-settled share-based payment transactions.

24. Acquisitions

2019

The Group completed the acquisition of 100% of RightHook Inc. on 25 February 2019 for a gross consideration of £3.8m. RightHook Inc. is an engineering software provider based in the USA. The provisional fair value of net assets acquired was £1.4m, including £1.8m of intangible assets and £0.4m of deferred tax liabilities, which generated goodwill of £2.4m. There are no material contingent liabilities recognised in accordance with IFRS 3 (Revised). The fair value of the net assets is provisional, reflecting the timing of the acquisition, and is expected to be finalised within 12 months of the acquisition date. The acquisition is included in the HBK segment and cash generating unit.

	2019 £m	2018 £m
Analysis of cash outflow in Consolidated Statement of Cash Flows		
Net consideration in respect of acquisitions during the year	3.8	195.7
Deferred and contingent consideration on acquisitions during the year to be paid in future years	–	(6.0)
Cash paid during the year in respect of acquisitions during the year	3.8	189.7
Cash paid in respect of prior years' acquisitions	5.9	6.7
Net cash outflow relating to acquisitions	9.7	196.4

25. Disposal of businesses

The Group completed the disposal of 100% of its pulp and paper business, BTG, on 1 December 2019 in exchange for gross consideration of £274.5m. This generated a profit on disposal of £206.1m which included transaction expenses of £7.9m, of which £7.1m were paid during 2019.

The profit on disposal of BTG is calculated as follows:

	2019 £m
Goodwill and other intangible assets	73.4
Property, plant and equipment	26.1
Inventories	14.1
Trade and other receivables	23.1
Cash and cash equivalents	3.0
Trade and other payables	(21.0)
Lease liabilities	(3.4)
Provisions	(0.3)
Net deferred and current tax liabilities	(2.8)
Retirement benefit obligations	(15.8)
Net assets disposed	96.4

Consideration received, satisfied in cash	272.8
Deferred consideration	1.7
Transaction costs	(7.9)
Net consideration from disposal of business	266.6
Net assets disposed of (including £3.0m of cash and cash equivalents held by BTG)	(96.4)
Currency translation differences transferred from translation reserve	35.9
Profit on disposal of business	206.1

On 10 October 2019, the Group completed the disposal of its environment consultancy and testing business for nil purchase price. The net assets disposed were £2.3m, generating a loss on disposal of £2.3m. Profit on disposal of businesses in the Consolidated Income Statement also includes a £0.9m credit from other disposals.

The above disposals did not meet the definition of discontinued operations given in IFRS 5 'Non-Current Assets Held for Sale and Discontinued Operations' and, therefore, no disclosures in relation to discontinued operations have been made.

The Consolidated Statement of Cash Flows includes £262.7m of net proceeds from the sale of BTG, which consists of £272.8m of consideration received in cash less £7.1m of transaction fees paid and £3.0m of cash and cash equivalents held by BTG units that were disposed of. The Consolidated Statement of Cash Flows also includes £2.3m paid in respect of deferred consideration and tax payments on the 2018 partial disposal of EMS B&K and £0.3m of payments from other business disposals.

Notes to the Accounts continued

26. Cash generated from operations

	Note	2019 £m	2018 £m
Cash flows from operating activities			
Profit after tax		234.1	185.2
Adjustments for:			
Taxation charge	8	25.2	32.8
Profit on disposal of businesses	25	(204.7)	(56.3)
Share of post-tax results of joint venture	13	4.9	1.2
Finance costs	7	11.4	16.0
Financial income	7	(7.9)	(2.5)
Depreciation and impairment of property, plant and equipment	12	57.6	30.3
Amortisation and impairment of intangible assets	11	95.2	49.1
Impairment of non-current receivable from joint venture	13	21.3	–
Impairment of goodwill	11	35.1	–
Transaction-related fair value adjustments		4.0	4.8
Profit on disposal of property, plant and equipment	5	(4.9)	(1.9)
Equity-settled share-based payment transactions	6	3.0	5.1
Operating cash flow before changes in working capital and provisions		274.3	263.8
Decrease/(increase) in trade and other receivables		13.9	(30.4)
Increase in inventories		(3.3)	(17.4)
Decrease in trade and other payables		(10.0)	(3.6)
Increase in provisions and retirement benefits		2.9	3.4
Cash generated from operations		277.8	215.8

27. Financial risk management

The Group's multinational operations and debt financing expose it to a variety of financial risks. In the course of its business, the Group is exposed to foreign currency risk, interest rate risk, liquidity risk and credit risk. Financial risk management is an integral part of the way the Group is managed. Financial risk management policies are set by the Board of Directors. These policies are implemented by a central treasury department that has formal procedures to manage foreign exchange risk, interest rate risk and liquidity risk, including, where appropriate, the use of derivative financial instruments. The Group has clearly defined authority and approval limits. The central treasury department operates as a service centre to the Group and not as a profit centre.

In accordance with its treasury policy, the Group does not hold or use derivative financial instruments for trading or speculative purposes. Such instruments are only used to manage the risks arising from operating or financial assets or liabilities, or highly probable future transactions. The quantitative analysis of financial risk is included in Note 28.

Foreign currency risk

Foreign currency risk arises both where sale or purchase transactions are undertaken in currencies other than the respective functional currencies of Group companies (transactional exposures) and where the results of overseas companies are consolidated into the Group's reporting currency of Sterling (translational exposures). The Group has operations around the world which record their results in a variety of different local functional currencies. In countries where the Group does not have operations, it invariably has some customers or suppliers that transact in a foreign currency. The Group is therefore exposed to the changes in foreign currency exchange rates between a number of different currencies but the Group's primary exposures relate to the US Dollar, Euro, Danish Krone, Chinese Yuan Renminbi and Japanese Yen. Where appropriate, the Group manages its foreign currency exposures using derivative financial instruments.

The Group's translational exposures to foreign currency risks can relate both to the Consolidated Income Statement and net assets of overseas subsidiaries. The Group's policy is not to hedge the translational exposure that arises on consolidation of the Consolidated Income Statement of overseas subsidiaries. The Group finances overseas company investments partly through the use of foreign currency borrowings in order to provide a natural hedge of foreign currency risk arising on translation of the Group's foreign currency subsidiaries. The quantitative analysis of foreign currency risk is included in Note 28.

The Group manages its transactional exposures to foreign currency risks through the use of forward exchange contracts. Forward exchange contracts are used to hedge highly probable transactions which can be forecast to occur typically up to 18 months into the future. For the hedges of highly probable forecast sales and purchases, as the critical terms (i.e. the notional amount, life and the underlying) of the forward exchange contracts and their corresponding hedged items are the same, the Group performs a qualitative assessment of effectiveness and it is expected that the value of the forward contracts and the value of the corresponding hedged items will systematically change in opposite directions in response to movements in the underlying exchange rates.

The main potential source of hedge ineffectiveness in these hedging relationships is the effect of the counterparty and the Group's own credit risk on the fair value of the forward contracts, which is not reflected in the fair value of the hedged item attributable to changes in foreign exchange rates. No other sources of ineffectiveness emerged from these hedging relationships.

The following tables detail the foreign currency forward contracts outstanding at the end of the reporting period, as well as information regarding their related hedged items. Foreign currency forward contract assets and liabilities are presented in the line 'Derivative financial instruments' (either as assets or liabilities) within the Statement of Financial Position.

Hedging instruments – outstanding contracts

	Change in fair value for recognising hedge ineffectiveness		Carrying amount of the hedging instruments	
	2019 £m	2018 £m	2019 £m	2018 £m
Cash flow hedges				
Currency risk – forward exchange contracts				
Less than 6 months	–	(1.0)	–	(1.0)
6 to 12 months	1.2	(0.7)	1.2	(0.7)
12 to 18 months	0.2	(0.1)	0.2	(0.1)
	1.4	(1.8)	1.4	(1.8)

Hedging instruments – hedged items

	Change in value used for calculating hedge effectiveness		Balance in cash flow hedge reserve/foreign currency translation reserve for continuing hedges	
	2019 £m	2018 £m	2019 £m	2018 £m
Currency risk				
Forecast sales	(1.4)	1.8	(1.4)	(3.8)

Notes to the Accounts continued

27. Financial risk management continued

Interest rate risk

Interest rate risk comprises both the interest rate price risk that results from borrowing at fixed rates of interest and also the interest cash flow risk that results from borrowing at variable rates. Where appropriate, interest rate swaps are used to manage the Group's interest rate profile.

Liquidity risk

Liquidity risk represents the risk that the Group will not be able to meet its financial obligations as they fall due. The Group's approach to managing this risk is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Group's reputation. The Group manages this risk through the use of regularly updated cash flow and covenant compliance forecasts and a liquidity headroom analysis which is used to determine funding requirements. Adequate committed lines of funding are maintained from high-quality investment grade lenders. The facilities committed to the Group as at 31 December 2019 are set out in Note 17.

Credit risk

Credit risk arises because a counterparty may fail to perform its obligations. The Group is exposed to credit risk on financial assets such as cash balances, derivative financial instruments and trade and other receivables.

The Group's credit risk is primarily attributable to its trade receivables. The amounts recognised in the Consolidated Statement of Financial Position are net of appropriate allowances for doubtful receivables, estimated by the Group's management based on whether receivables are past due based on contractual terms, payment history and other available evidence of collectability. Trade receivables are subject to credit limits and control and approval procedures in the operating companies. Due to its large geographical base and number of customers, the Group is not exposed to material concentrations of credit risk on its trade receivables. The quantitative analysis of credit risk relating to receivables is included in Note 15.

Credit risk associated with cash balances and derivative financial instruments is managed centrally by transacting with existing relationship banks with strong investment grade ratings. Accordingly, the Group's associated credit risk is limited. The Group has no significant concentration of credit risk.

The Group's maximum exposure to credit risk is represented by the carrying amount of each financial asset, including derivative financial instruments, as shown in Note 28.

Capital management

The Board considers equity shareholders' funds, together with undrawn committed debt facilities, as capital for the purposes of funding the Group's operations. Total managed capital at 31 December is:

	2019 £m	2018 £m
Equity shareholders' funds	1,321.5	1,232.9
Undrawn committed debt facilities	606.4	467.9
	1,927.9	1,700.8

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of ordinary shares and share options are recognised as a deduction from equity, net of any tax effects.

The Board's policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain the future development of the business. The Board of Directors monitors both the geographic spread of shareholders and the level of dividends to ordinary shareholders.

The Board encourages employees to hold shares in the Company. This is carried out through the Spectris Share Incentive Plan in the UK, as well as Performance and Restricted Share Plans. Full details of these schemes are given in Note 23.

The main financial covenants in the Company's debt facilities are the ratio of net debt to adjusted earnings before interest, tax, depreciation and amortisation, and the ratio of finance charges to adjusted earnings before interest, tax, amortisation and impairment. Covenant testing is completed twice a year based on the half-year and year-end Financial Statements. At 31 December 2019, the Company had, and is expected to continue to have, significant headroom under these financial covenant ratios.

From time to time the Group purchases its own shares in the market; the timing of these purchases depends on market prices. Buy and sell decisions are made on a specific transaction basis by the Board.

There were no ordinary share repurchase and cancellations in 2019 and there were no changes to the Group's approach to capital management during 2019. During 2018, 3,825,802 ordinary shares were repurchased and cancelled by the Group as part of the share buyback programme announced on 5 March 2018.

Neither the Company nor any of its subsidiaries is subject to externally imposed capital requirements.

28. Financial instruments

The following tables show the fair value measurement of financial instruments by level following the fair value hierarchy:

- level 2: inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- level 3: inputs for assets and liabilities derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data.

Fair value and carrying amount of financial instruments	2019		
	Level 2 fair value £m	Level 3 fair value £m	Carrying amount £m
Trade and other receivables excluding prepayments and contract assets	–	–	307.3
Trade and other payables excluding contract liabilities and customer advances	–	(14.8)	(222.4)
Financial instruments included in assets held for sale (see note 13)	18.9	–	18.9
Forward exchange contract assets	1.5	–	1.5
Cash and cash equivalents	213.1	–	213.1
Fixed rate borrowings	(183.8)	–	(179.6)
Forward exchange contract liabilities	(0.1)	–	(0.1)
			138.8

Fair value and carrying amount of financial instruments	2018		
	Level 2 fair value £m	Level 3 fair value £m	Carrying amount £m
Trade and other receivables excluding prepayments and contract assets	–	–	345.1
Trade and other payables excluding contract liabilities and customer advances	–	(18.8)	(266.7)
Other receivable – joint venture	–	–	38.9
Forward exchange contract assets	0.4	–	0.4
Cash and cash equivalents	73.1	–	73.1
Floating rate borrowings (including bank overdrafts)	(181.4)	–	(181.4)
Fixed rate borrowings	(195.0)	–	(188.8)
Forward exchange contract liabilities	(2.2)	–	(2.2)
			(181.6)

There were no movements between the different levels of the fair value hierarchy in the year.

The fair value of cash and cash equivalents, receivables and payables approximates to the carrying amount because of the short maturity of these instruments.

The fair value of floating rate borrowings approximates to the carrying amount because interest rates are at floating rates where payments are reset to market rates at intervals of less than one year.

The fair value of fixed rate borrowings is estimated by discounting the future contracted cash flow, using appropriate yield curves, to the net present values.

The fair value of forward exchange contracts is determined using discounted cash flow techniques based on readily available market data.

The fair value of forward exchange contracts outstanding as at 31 December 2019 is a net asset of £1.4m (2018: net liability of £1.8m), of which £1.4m has been credited to the hedging reserve (2018: £1.6m charged) and £nil credited/charged to the Consolidated Income Statement (2018: £0.2m charged). These contracts mature over periods typically not exceeding 18 months. A summary of the movements in the hedging reserve during the year is presented below. All of the cash flow hedges in 2019 and 2018 were deemed to be effective.

Analysis of movements in hedging reserve net of tax	2019 £m	2018 £m
At 1 January	(3.9)	(2.0)
Amounts removed from the Consolidated Statement of Changes in Equity and included in the Consolidated Income Statement during the year	2.9	1.4
Amounts recognised in the Consolidated Statement of Changes in Equity during the year	(0.4)	(3.3)
At 31 December	(1.4)	(3.9)

The amount included in the Consolidated Income Statement is split between revenue and administrative expenses depending on the nature of the hedged item.

Notes to the Accounts continued

28. Financial instruments continued

Reconciliation of level 3 fair value for deferred and contingent consideration payable on acquisitions and disposals	2019 £m	2018 £m
At 1 January	(18.8)	(11.1)
Deferred and contingent consideration arising from current year acquisitions payable in future years	–	(6.0)
Deferred and contingent consideration payable arising from current year disposals	–	(5.0)
Deferred and contingent consideration paid in the current year relating to previous years' acquisitions and disposals	7.3	8.7
Costs charged to the Consolidated Income Statement:		
Subsequent adjustments on acquisitions and disposals	(3.1)	(4.8)
Unwinding of discount factor on deferred and contingent consideration	(0.7)	(0.6)
Foreign exchange difference	0.5	–
At 31 December	(14.8)	(18.8)

The fair value of deferred and contingent consideration is determined by considering the performance expectations of the acquired or disposed entity or the likelihood of non-financial integration milestones whilst applying the entity-specific discount rates. The unobservable inputs are the projected forecast measures that are assessed on an annual basis. Changes in the fair value of deferred and contingent consideration relating to updated projected forecast performance measures are recognised in the Consolidated Income Statement within administrative expenses in the Consolidated Income Statement in the period that the change occurs.

Deferred and contingent consideration relates to financial (2019: £8.6m, 2018: £7.1m) and non-financial (2019: £6.2m, 2018: £11.7m) milestones on current and prior year acquisitions and disposals, as disclosed in Note 24 and Note 25. The financial milestones are mainly sensitive to risk-adjusted discount rates and annual future revenue targets.

The following table shows the total outstanding contractual forward exchange contracts hedging designated transactional exposures split by currencies which have been sold back into the functional currency of the underlying business. These contracts typically mature in the next 18 months and, therefore, the cash flows and resulting effect on the Consolidated Income Statement are expected to occur within this time period.

Forward exchange contracts at 31 December	2019	2018
Foreign currency sale amount (£m)	124.1	154.6
Percentage of total:		
US Dollar	37%	31%
Euro	15%	26%
Japanese Yen	22%	21%
Other	26%	22%

A maturity profile of the gross cash flows related to financial liabilities is:

Maturity of financial liabilities	2019			2018			
	Derivative financial liabilities £m	Unsecured loans £m	Total £m	Derivative financial liabilities £m	Bank loans and overdrafts £m	Unsecured loans £m	Total £m
Due within one year	0.1	83.9	84.0	1.0	5.8	23.1	29.9
Due between one and two years	–	1.1	1.1	0.7	–	90.2	90.9
Due between two and five years	–	100.1	100.1	0.1	–	267.5	267.6
	0.1	185.1	185.2	1.8	5.8	380.8	388.4

Trade and other payables (Note 18) are substantially due within one year.

It is not expected that the cash flows described above could occur significantly earlier or at substantially different amounts.

Interest rate exposure of financial assets and liabilities by currency	Financial assets					Financial liabilities			2019 Net financial assets/(liabilities) £m
	Fixed rate £m	Floating rate £m	Non-interest bearing £m	Total £m	Fixed rate £m	Floating rate £m	Total £m		
Sterling	74.5	47.8	9.3	131.6	–	–	–	–	131.6
Euro	0.7	6.0	13.8	20.5	(179.6)	–	(179.6)	–	(159.1)
US Dollar	0.5	5.3	16.0	21.8	–	–	–	–	21.8
Other	–	20.7	18.5	39.2	–	–	–	–	39.2
	75.7	79.8	57.6	213.1	(179.6)	–	(179.6)	–	33.5

Interest rate exposure of financial assets and liabilities by currency	Financial assets					Financial liabilities			2018 Net financial assets/(liabilities) £m
	Fixed rate £m	Floating rate £m	Non-interest bearing £m	Total £m	Fixed rate £m	Floating rate £m	Total £m		
Sterling	0.1	1.0	2.9	4.0	–	(95.0)	(95.0)	–	(91.0)
Euro	0.5	1.8	22.8	25.1	(188.8)	(80.6)	(269.4)	–	(244.3)
US Dollar	1.6	1.6	10.6	13.8	–	(0.8)	(0.8)	–	13.0
Other	1.2	4.6	24.4	30.2	–	(5.0)	(5.0)	–	25.2
	3.4	9.0	60.7	73.1	(188.8)	(181.4)	(370.2)	–	(297.1)

Sensitivity analysis

The tables below show the Group's sensitivity to foreign exchange rates and interest rates. The US Dollar, Euro, Danish Krone, Chinese Yuan Renminbi and Swiss Franc represent the main foreign exchange translational exposures for the Group, although since the disposal of BTG the Group no longer has a significant translational exposure to the Swiss Franc. The Group's borrowings are in Euros.

	2019		2018	
	Decrease/(Increase) in equity £m	Decrease/(Increase) in profit before tax £m	Decrease/(Increase) in equity £m	Decrease/(Increase) in profit before tax £m
Impact on foreign exchange translational exposures against Sterling				
10% weakening in the US Dollar	88.8	7.4	98.1	6.0
10% weakening in the Euro/Danish Krone	52.2	7.4	70.8	6.7
10% weakening in the Chinese Yuan Renminbi	4.4	2.2	3.4	1.7
10% weakening in the Swiss Franc	0.7	1.6	3.5	1.5
Impact of interest rate movements				
1pp increase in interest rates	(0.8)	(0.8)	1.7	1.7

29. Contingent liabilities

In the normal course of business, Group companies have provided bonds and guarantees through local banking arrangements amounting to £15.2m (2018: £20.3m). Contingent liabilities in respect of taxation are disclosed in Note 8.

Notes to the Accounts continued

30. Lease liabilities

2019 Undiscounted lease liability maturity analysis under IFRS 16

	Property £m	Plant and equipment £m	2019 Total £m
Within one year	12.6	4.6	17.2
More than one year but less than five years	31.3	5.7	37.0
Greater than five years	19.4	–	19.4
Total undiscounted lease liabilities at 31 December	63.3	10.3	73.6

2018 – operating leases under IAS 17

Total commitments under non-cancellable operating leases expiring:	Property £m	Other £m	2018 Total £m
Within one year	14.8	5.5	20.3
More than one year but less than five years	34.0	6.2	40.2
Greater than five years	18.4	0.1	18.5
	67.2	11.8	79.0

31. Capital commitments

At 31 December 2019, the Group had entered into contractual commitments for the purchase of property, plant and equipment and software amounting to £12.5m (2018: £31.0m) which have not been accrued.

32. Related party transactions

The Group has related party relationships with its subsidiaries (a list of all related undertakings is shown in Note 15 of the Company Financial Statements) on pages 168 to 171, with its joint venture (see Note 13) and with its Executive Directors and members of the Executive Management Committee.

Transactions with key management personnel

The remuneration of key management personnel during the year was as follows:

	2019 £m	2018 £m
Short-term benefits	5.1	5.2
Post-employment benefits	0.5	0.6
Equity-settled share-based payment expense	1.0	1.6
	6.6	7.4

In accordance with IAS 24 'Related Party Disclosures', key management personnel are those having authority and responsibility for planning, directing and controlling the activities of the Group, directly or indirectly. Key management personnel comprise the Directors and the other members of the Executive Management Committee.

Further details of the Executive Directors' remuneration are included in the Directors' Remuneration Report on pages 70 to 91.

Transactions with joint venture

	2019 £m	2018 £m
Sales	1.9	1.2
Income on receivable (see Note 7)	(3.2)	(2.0)
Loan receivable	3.0	0.9
Other receivable (see note 13)	–	38.9
Assets classified as held for sale (see note 13)	18.9	–
Trade receivables	1.5	1.7
Trade payables	(1.6)	(2.7)

During 2019, the Group transferred the other receivable balance to assets classified as held for sale and booked an impairment of £21.3m against this balance, leaving a remaining balance of £18.9m. See Note 13 for further details.

There were no other related party transactions in either 2019 or 2018.

33. Subsidiary undertakings

The table below lists the Group's principal subsidiary undertakings at 31 December 2019. They operate mainly in the countries of incorporation. All of the subsidiaries are involved in the manufacture and sale of highly specialised measuring instruments and controls, together with the provision of services.

Spectris plc holds 100% of the ordinary share capital of all the subsidiaries either directly or indirectly through intermediate holding companies.

Name	Country of incorporation
Engineering Seismology Group Canada Inc.	Canada
Brüel & Kjær Sound & Vibration Measurement A/S	Denmark
Malvern Panalytical Limited	England & Wales
Millbrook Proving Ground Limited	England & Wales
Servomex Group Limited	England & Wales
Brüel & Kjær Vibro GmbH	Germany
Hottinger Baldwin Messtechnik GmbH	Germany
NDC Technologies, Inc.	USA
Omega Engineering, Inc.	USA
Particle Measuring Systems, Inc.	USA
Red Lion Controls, Inc.	USA

A full list of subsidiaries is given in Note 15 of the Company Financial Statements on pages 168 to 171.

34. Events after the balance sheet date

On 17 January 2020, an announcement was made that agreement had been reached for the sale of the Group's interest in the EMS B&K joint venture for consideration of £17.9m in cash and approximately £1.2m in shares in Envirosuite Limited ('Envirosuite'). The closing of the deal is subject to approval by Envirosuite's shareholders at a meeting to be held on 24 February 2020 and the conditional placement of shares by Envirosuite required to fund the consideration for the transaction, with completion expected to take place shortly thereafter. As a result, the receivable from the joint venture has been impaired by £21.3m to the expected recoverable amount and the remaining balance of £18.9m has been included within assets held for sale at 31 December 2019 (see Note 13).

On 31 January 2020, the Group sold its interest in the rheology range of products to Netzsch Group for consideration of £8.8m in cash. This product range, part of the Malvern Panalytical segment, generated approximately £12m of revenue and £1m of operating profit in 2019.

Spectris plc Statement of Financial Position

As at 31 December 2019

	Note	2019 £m	2018 £m
ASSETS			
Non-current assets			
Intangible assets	4	6.0	3.5
Property, plant and equipment	5	2.8	2.4
Investments in subsidiary undertakings	6	1,071.1	1,070.2
Deferred tax assets		3.5	3.9
		1,083.4	1,080.0
Current assets			
Current tax assets		4.7	3.6
Other receivables (due after more than one year: £430.7m (2018: £417.9m))	7	764.3	785.1
Derivative financial instruments		2.1	2.8
Cash and cash equivalents		130.3	20.7
		901.4	812.2
Total assets		1,984.8	1,892.2
LIABILITIES			
Current liabilities			
Borrowings	8	(80.7)	(30.3)
Derivative financial instruments		(2.2)	(2.8)
Other payables	9	(777.5)	(521.9)
Provisions	10	(0.9)	(1.2)
		(861.3)	(556.2)
Net current assets		40.1	256.0
Non-current liabilities			
Borrowings	8	(98.9)	(346.5)
Other payables	9	(206.7)	(190.6)
Retirement benefit obligations	12	(15.1)	(12.5)
		(320.7)	(549.6)
Total liabilities		(1,182.0)	(1,105.8)
Net assets		802.8	786.4
EQUITY			
Share capital	11	6.0	6.0
Share premium		231.4	231.4
Retained earnings		527.7	511.3
Merger reserve	11	3.1	3.1
Capital redemption reserve	11	0.5	0.5
Special reserve	11	34.1	34.1
Total equity		802.8	786.4

The Company's profit for the year was £86.4m (2018: £18.5m).

The Financial Statements on pages 158 to 171 were approved by the Board of Directors on 19 February 2020 and were signed on its behalf by:

Derek Harding
Chief Financial Officer

Company Registration No. 02025003

Spectris plc Statement of Changes in Equity

For the year ended 31 December 2019

	Note	Share capital £m	Share premium £m	Retained earnings £m	Merger reserve £m	Capital redemption reserve £m	Special reserve £m	Total equity £m
At 1 January 2019		6.0	231.4	511.3	3.1	0.5	34.1	786.4
Profit for the year		–	–	86.4	–	–	–	86.4
Other comprehensive income:								
Re-measurement of net defined benefit obligations, net of tax		–	–	(1.6)	–	–	–	(1.6)
Total comprehensive income for the year		–	–	84.8	–	–	–	84.8
Transactions with owners recorded directly in equity:								
Equity dividends paid	14	–	–	(72.3)	–	–	–	(72.3)
Capital contribution relating to share-based payments		–	–	3.1	–	–	–	3.1
Share-based payments, net of tax		–	–	(0.2)	–	–	–	(0.2)
Utilisation of treasury shares		–	–	1.0	–	–	–	1.0
At 31 December 2019		6.0	231.4	527.7	3.1	0.5	34.1	802.8

	Note	Share capital £m	Share premium £m	Retained earnings £m	Merger reserve £m	Capital redemption reserve £m	Special reserve £m	Total equity £m
For the year ended 31 December 2018								
At 1 January 2018		6.2	231.4	652.7	3.1	0.3	34.1	927.8
Profit for the year		–	–	18.5	–	–	–	18.5
Other comprehensive income:								
Re-measurement of net defined benefit obligations, net of tax		–	–	3.0	–	–	–	3.0
Total comprehensive income for the year		–	–	21.5	–	–	–	21.5
Transactions with owners recorded directly in equity:								
Own shares acquired for share buyback programme		(0.2)	–	(100.5)	–	0.2	–	(100.5)
Equity dividends paid	14	–	–	(68.2)	–	–	–	(68.2)
Capital contribution relating to share-based payments		–	–	1.8	–	–	–	1.8
Share-based payments, net of tax		–	–	3.1	–	–	–	3.1
Utilisation of treasury shares		–	–	0.9	–	–	–	0.9
At 31 December 2018		6.0	231.4	511.3	3.1	0.5	34.1	786.4

Notes to the Company Accounts

1. Basis of preparation and summary of significant accounting policies

The separate Financial Statements of the Company are presented as required by the Companies Act 2006. As permitted by that Act, the separate Financial Statements have been prepared in accordance with applicable accounting standards in the United Kingdom. In accordance with the exemption provided by Section 408 of the Companies Act 2006, the Company has not presented its own income statement or statement of comprehensive income.

a) Basis of preparation

These Financial Statements were prepared in accordance with Financial Reporting Standard 101 'Reduced Disclosure Framework' ('FRS 101'). The Company's shareholders were notified in 2015 of the use of the EU-adopted IFRS disclosure exemptions and there were no objections to the adoption of FRS 101.

In preparing these Financial Statements, the Company applies the recognition, measurement and disclosure requirements of International Financial Reporting Standards as adopted by the EU ('IFRS'), but makes amendments where necessary in order to comply with the Companies Act 2006 and has set out below where advantage of the FRS 101 disclosure exemptions has been taken.

The Company has applied the exemptions available under FRS 101 in respect of the following disclosures:

- A Cash Flow Statement and related notes.
- Comparative period reconciliations for share capital, property, plant and equipment and intangible assets.
- Disclosures in respect of transactions with wholly owned subsidiaries.
- Disclosures in respect of capital management.
- The effects of new but not yet effective IFRSs.
- Disclosures in respect of the compensation of key management personnel.

As the Consolidated Financial Statements of Spectris plc (pages 105 to 157) include the equivalent disclosures, the Company has also taken the exemptions under FRS 101 available in respect of the following disclosures:

- IFRS 2 'Share Based Payments' in respect of Group-settled share-based payments.
- Certain disclosures required by IFRS 13 'Fair Value Measurement' and the disclosures required by IFRS 7 'Financial Instrument Disclosures'.

The Financial Statements have been prepared on the historical cost basis, except for the revaluation of financial instruments. Historical cost is generally based on the fair value of the consideration given in exchange for the assets. The principal accounting policies are set out below.

As permitted by Section 408 of the Companies Act 2006 the Company has elected not to present its own Income Statement or Statement of Comprehensive Income for the year. The profit attributable to the Company is disclosed in the footnote to the Company's Statement of Financial Position.

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the Financial Statements.

Significant accounting judgements and estimates

In determining and applying accounting policies, judgement is often required where the choice of specific policy, assumption or accounting estimate to be followed could materially affect the reported amounts of assets, liabilities, income and expenses, should it later be determined that a different choice be more appropriate. Estimates and assumptions are reviewed on an ongoing basis and are based on historical experience and various other factors that are believed to be reasonable under the circumstances.

In the course of preparing these Financial Statements in accordance with the Group's accounting policies, no judgements that have a significant effect on the amounts recognised in the Financial Statements have been made, other than those involving estimation. Management consider the following to be areas of estimation for the Company due to greater complexity and/or are particularly subject to uncertainty.

Key sources of estimation uncertainty

Retirement benefit plans

Accounting for retirement benefit plans under IAS 19 (revised) requires an assessment of the future benefits payable in accordance with actuarial assumptions. The discount rate and rate of retail price inflation ('RPI') assumptions applied in the calculation of plan liabilities, which are set out in Note 20, represent a key source of estimation uncertainty for the Company. Details of the accounting policies applied in respect of retirement benefit plans are set out on page 162.

b) Summary of significant accounting policies

Intangible assets

Intangible assets purchased by the Company are capitalised at their cost.

Intangible assets with finite lives are amortised over the useful economic life and assessed for impairment whenever there is an indication that the intangible asset may be impaired. The estimated useful economic lives are as follows:

- Software – 3 to 7 years.

Property, plant and equipment

Property, plant and equipment is stated at cost less accumulated depreciation and impairment losses. The cost comprises the purchase price paid and any costs directly attributable to bringing it into working condition for its intended use.

Depreciation is recognised in the Income Statement on a straight-line basis to write off the cost, less the estimated residual value (which is reviewed annually), of property, plant and equipment over its estimated useful economic life. Depreciation commences on the date the assets are available for use within the business and the asset carrying values are reviewed for impairment when there is an indication that they may be impaired. Land is not depreciated. Estimated useful lives are as follows:

- Freehold property – 20 to 25 years.
- Office equipment – 3 to 20 years.

Investments

Investments in subsidiaries are stated at historical cost, less provision for any impairment in value.

Trade and other receivables

Trade and other receivables are carried at original invoice amount (which is considered a reasonable proxy for fair value) and are subsequently held at amortised cost less provision for impairment. The provision for impairment of receivables is based on lifetime expected credit losses. Lifetime expected credit losses are calculated by assessing historic credit loss experience, adjusted for factors specific to the receivable and operating company.

Cash and cash equivalents

This comprises cash at bank and in hand and short-term deposits held on call or with maturities of less than three months at inception.

Trade and other payables

Trade and other payables are recognised at the amounts expected to be paid to counterparties and subsequently held at amortised cost.

Provisions

A provision is recognised in the Statement of Financial Position when the Company has a present legal or constructive obligation as a result of a past event and it is probable that an outflow of resources, that can be reliably measured, will be required to settle the obligation. In respect of warranties, a provision is recognised when the underlying products or services are sold. Provisions are recognised at an amount equal to the best estimate of the expenditure required to settle the Company's liability. A contingent liability is disclosed where the existence of the obligation will only be confirmed by future events or where the amount of the obligation cannot be measured with reasonable reliability. Contingent assets are not recognised but are disclosed where an inflow of economic benefit is probable. Obligations arising from restructuring plans are recognised when detailed formal plans have been established and when there is a valid expectation that such a plan will be carried out.

Taxation

Tax on the profit or loss for the year comprises both current and deferred tax. Tax is recognised in the Income Statement except to the extent that it relates to items recognised either in other comprehensive income or directly in equity, in which case tax is recognised in the Statement of Comprehensive Income or the Statement of Changes in Equity, respectively.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the Statement of Financial Position date, and any adjustments to tax payable in respect of prior years. Tax positions are reviewed to assess whether a provision should be made based on prevailing circumstances. Tax provisions are included within current taxation liabilities.

Deferred taxation is provided on taxable temporary differences between the carrying amounts of assets and liabilities in the Financial Statements and their corresponding tax bases. Deferred tax is measured using the tax rates expected to apply when the asset is realised or the liability settled based on tax rates enacted or substantively enacted at the Statement of Financial Position date.

A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the asset can be utilised or that they will reverse. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

Deferred tax assets and liabilities are offset if a legally enforceable right exists to set off current tax assets against current tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

Foreign currency translation

The functional currency of the Company is Sterling and is determined with reference to the currency of the primary economic environment in which it operates. Transactions in currencies other than the functional currency are initially recorded at the functional currency rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are retranslated at the rate of exchange ruling at the Statement of Financial Position date. Exchange gains and losses on settlement of foreign currency transactions are translated at the rate prevailing at the date of the transactions, or the translation of monetary assets and liabilities at period end exchange rates, and are charged/credited to the Income Statement. Non-monetary assets and liabilities denominated in foreign currencies that are stated at historical cost are translated to the functional currency at the foreign exchange rate ruling at the date of the transaction.

Notes to the Company Accounts continued

1. Basis of preparation and summary of significant accounting policies continued

Financial instruments

Recognition

The Company recognises financial assets and liabilities on its Statement of Financial Position when it becomes a party to the contractual provisions of the instrument.

Financial assets and liabilities are offset and the net amount is reported in the Statement of Financial Position when there is a legally enforceable right to set off the recognised amounts and there is an intention to settle on a net basis, or realise the asset and settle the liability simultaneously.

Measurement

When financial assets and liabilities are initially recognised, they are measured at fair value, being the consideration given or received plus directly attributable transaction costs.

Originated loans and debtors are initially recognised in accordance with the policy stated above and subsequently re-measured at amortised cost using the effective interest method. Allowance for impairment is estimated on a case-by-case basis.

The Company uses derivative financial instruments such as forward foreign exchange contracts to hedge risks associated with foreign exchange fluctuations. These are designated as cash flow hedges. At the inception of the hedge relationship, the Company documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Company documents whether the hedging instrument that is used in a hedging relationship is highly effective in offsetting changes in cash flows of the hedged item.

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges are deferred in equity. The gain or loss relating to the ineffective portion is recognised immediately in the Income Statement.

Amounts deferred in equity are reclassified to the Income Statement in the periods when the hedged item is recognised in the Income Statement, in the same line of the Income Statement as the recognised hedged item. However, when the forecast transaction that is hedged results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously deferred in equity are transferred from equity and included in the initial measurement of the cost of the asset or liability.

Hedge accounting is discontinued when the Company revokes the hedging relationship, the hedging instrument expires or is sold, terminated, or exercised, or no longer qualifies for hedge accounting. Any cumulative gain or loss deferred in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised in the Income Statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was deferred in equity is recognised immediately in the Income Statement.

Derecognition

A financial asset is derecognised when the Company loses control over the contractual rights to the cash flows from the asset. This occurs when the rights are realised, expire or are surrendered. A financial liability is derecognised when the obligation specified in the contract is discharged, cancelled or expires. Originated loans and debtors are derecognised on the date they are transferred by the Company.

Impairment of financial assets

The Company assesses at each Statement of Financial Position reporting date whether there is any objective evidence that a financial asset, or group of financial assets, is impaired. A financial asset, or group of financial assets, is deemed to be impaired if, and only if, there is objective evidence of impairment as a result of one or more events that have occurred after the initial recognition of the asset (an incurred 'loss event') and that loss event has an impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated.

Employee benefits

The Company operates a defined benefit post-retirement benefit plan and a defined contribution pension plan.

Defined benefit plan

The Company's net obligation recognised in the Statement of Financial Position in respect of its defined benefit plan is calculated as the present value of the plan's liabilities less the fair value of the plan's assets. The operating and financing costs of the defined benefit plan are recognised separately in the Income Statement. Operating costs comprise the current service cost, plan administrative expense, any gains or losses on settlement or curtailments, and past service costs where benefits have vested. Finance items comprise the unwinding of the discount on the net asset/deficit. Actuarial gains or losses comprising changes in plan liabilities due to experience and changes in actuarial assumptions are recognised in other comprehensive income.

The amount of any pension fund asset recognised in the Statement of Financial Position is limited to any future refunds from the plan or the present value of reductions in future contributions to the plan.

Defined contribution plan

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions into a separate entity and will have no legal or constructive obligation to pay further amounts. Obligations for contributions to defined contribution pension plans are recognised in the Income Statement in the periods during which services are rendered by employees.

Short-term benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided. A liability is recognised for the amount expected to be paid under short-term cash bonus or profit-sharing plans if the Company has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

Share-based payments

Certain employees of the Company receive part of their remuneration in the form of share-based payment transactions, whereby employees render services in exchange for shares or rights over shares (equity-settled transactions). The cost of equity-settled transactions with employees is measured at fair value at the date at which they are granted. The fair value of share awards with market-related vesting conditions is determined by an external consultant and the fair value at the grant date is expensed on a straight-line basis over the vesting period based on the Company's estimate of shares that will eventually vest. The estimate of the number of awards likely to vest is reviewed at each Statement of Financial Position reporting date up to the vesting date, at which point the estimate is adjusted to reflect the actual outcome of awards which have vested. No adjustment is made to the fair value after the vesting date even if the awards are forfeited or not exercised.

Where it is not possible to incentivise managers of the Company with equity-settled options, they are issued with cash-settled options. The charge for these awards is adjusted to reflect the expected and actual levels of options that vest and the fair value is based on either the share price at date of exercise or the share price at the Statement of Financial Position date if sooner.

Where the Company grants options over its own shares to the employees of its subsidiaries, it recognises an increase in the cost of investment in its subsidiaries equivalent to the equity-settled share based payment charge recognised in the subsidiary's Financial Statements with the corresponding credit being recognised directly in equity. In cases where a subsidiary is recharged for the share based payment expense, no such increase in investment is recognised which may result in a credit in a particular year.

Dividends

Dividends are recognised as a liability in the period in which they are approved by shareholders.

Treasury shares

Shares held in treasury are treated as a deduction from equity until the shares are cancelled, reissued or disposed. Where such shares are subsequently sold or reissued, any consideration received, net of any directly attributable incremental costs and related tax effects, is included in equity attributable to the Company's equity shareholders.

2. Auditor's remuneration

The details regarding the remuneration of the Company's auditor are included in Note 5 to the Group Consolidated Financial Statements under 'Fees payable to the Company's auditor for audit of the Company's annual accounts'.

3. Employee costs and other information

Average number of employees on a full-time equivalent basis:

	2019 Number	2018 Number
Administrative	80	86

Employee costs, including Directors' remuneration, are as follows:

	2019 £m	2018 £m
Wages and salaries	13.8	16.6
Social security costs	2.5	2.6
Defined contribution pension plans	0.5	0.5
Equity-settled share-based payment (credit)/charge	(0.2)	3.2
Cash-settled share-based payment charge	0.1	0.1
	16.7	23.0

Directors' remuneration

Further details of Directors' remuneration and share options are given in Note 6 to the Group Consolidated Financial Statements and in the Directors' Remuneration Report on pages 70 to 91.

Tax losses

As at 31 December 2019, the Company had capital tax losses of £16.4m (2018: £16.4m). No provision has been made for deferred tax on the basis that there is insufficient evidence that suitable taxable profits will arise in the future against which the losses may be offset and the asset recovered.

Notes to the Company Accounts continued

4. Intangible assets

Cost	Software £m
At 1 January 2019	7.5
Additions	5.5
At 31 December 2019	13.0

Accumulated amortisation and impairment

At 1 January 2019	4.0
Charge for the year	0.3
Impairment in the year	2.7
At 31 December 2019	7.0

Carrying amount

At 31 December 2019	6.0
At 31 December 2018	3.5

5. Property, plant and equipment

Cost	Freehold property £m	Office equipment £m	Total £m
At 1 January 2019	3.4	0.8	4.2
Additions	–	0.6	0.6
At 31 December 2019	3.4	1.4	4.8

Accumulated depreciation and impairment

At 1 January 2019	1.1	0.7	1.8
Charge for the year	0.1	0.1	0.2
At 31 December 2019	1.2	0.8	2.0

Carrying amount

At 31 December 2019	2.2	0.6	2.8
At 31 December 2018	2.3	0.1	2.4

6. Investments in subsidiary undertakings

Cost and carrying amount	Investment in subsidiary undertakings £m
At 1 January 2019	1,070.2
Movements relating to share options granted to subsidiary employees	2.2
Impairments	(1.3)
At 31 December 2019	1,071.1

Details of the Company's subsidiaries are given in Note 15.

7. Other receivables

	2019 £m	2018 £m
Current		
Amounts owed by Group undertakings	1.8	5.9
Loans owed by Group undertakings	325.4	357.4
Loans owed by indirectly held joint venture	3.0	0.9
Prepayments	1.9	2.2
Other receivables	1.5	0.8
	333.6	367.2
Non-current		
Loans owed by Group undertakings	428.7	415.8
Prepayments	2.0	2.1
	430.7	417.9
Total other receivables	764.3	785.1

All loans owed by Group undertakings are in relation to interest-bearing intra-group loans which are formalised arrangements on an arm's length basis. Interest is charged at fixed rates between 2% and 10%. Other amounts owed by Group undertakings are non-interest-bearing and repayable on demand.

8. Borrowings

	Interest rate	Repayable date	2019 £m	2018 £m
Current				
Bank overdrafts		On demand	–	12.4
Bank loans unsecured – €94.8m		14 October 2020	80.7	–
Bank loans unsecured – £50.0m uncommitted facility	Relevant LIBOR +50bps	On demand	–	17.9
Total current borrowings			80.7	30.3
Non-current		Interest rate	Maturity date	2019 £m
Bank loans unsecured – €94.8m		Fixed 2.56%	14 October 2020	–
Bank loans unsecured – €116.2m		Fixed 1.15%	9 September 2022	98.9
Bank loans unsecured – \$800.0m revolving credit facility	Relevant LIBOR +65bps	31 July 2024	–	157.7
Total non-current borrowings			98.9	346.5
Total current and non-current borrowings			179.6	376.8

Further details of borrowings are provided in Note 17 to the Group Consolidated Financial Statements.

9. Other payables

	2019 £m	2018 £m
Current		
Amounts owed to Group undertakings	0.7	0.5
Loans owed to Group undertakings	766.6	510.7
Accruals	10.2	10.7
	777.5	521.9
Non-current		
Loans owed to Group undertakings	206.7	190.6

All loans owed to Group undertakings are in relation to interest-bearing intra-group loans which are formalised arrangements on an arm's length basis. Interest is charged at fixed rates between 0% and 10%. Other amounts owed to Group undertakings are non-interest-bearing and repayable on demand.

Notes to the Company Accounts continued

10. Provisions

	Reorganisation £m
At 1 January 2019	1.2
Provision during the year	10.3
Utilised during the year	(10.6)
At 31 December 2019	0.9

Provisions are all presented as current liabilities.

Reorganisation provisions relate to committed restructuring plans in place within the business. Costs are expected to be incurred within one year and there is little judgement in determining the amount.

11. Share capital and reserves

	2019		2018	
	Number of shares Millions	£m	Number of shares Millions	£m
Allotted, called-up and fully paid				
Issued and fully paid (ordinary shares of 5p each):				
At 1 January and 31 December	121.2	6.0	121.2	6.0

No ordinary shares were issued upon exercise under share option schemes during the year (2018: nil).

Share options have been granted to subscribe for ordinary shares of Spectris plc. Full details of share options currently in issue, including those issued during the year, together with information regarding the basis of calculation of the share-based payment expense, is contained in Note 23 to the Group Consolidated Financial Statements.

At 31 December 2019, the Company held 5,182,366 treasury shares (2018: 5,636,153). During the year 453,787 of these shares were issued to satisfy options exercised by, and SIP Matching shares awarded to, employees which were granted under the Group's share schemes (2018: 111,207). Nil ordinary shares were repurchased and cancelled by the group during the year (2018: 3,825,802 ordinary shares were repurchased and cancelled as part of the share buyback programme announced on 5 March 2018, which concluded on 13 August 2018).

In July 2018, Spectris plc established an employee benefit trust ('EBT') to operate the Spectris Share Incentive Plan ('SIP') to all eligible UK-based employees. The EBT holds shares in Spectris plc for the purpose of the SIP, further details of which are disclosed in the Directors' Remuneration Report. At 31 December 2019, the EBT held 33,780 shares which were purchased from the market during the year (31 December 2018: 11,353). The costs of funding and administering the plan are charged to the income statement in the period to which they relate.

Other reserves

Movements in reserves are set out in the Statement of Changes in Equity. The retained earnings reserve also includes own shares purchased by the Company and treated as treasury shares. The nature and purpose of other reserves forming part of equity are as follows:

Merger reserve

This reserve arose on the acquisition of Servomex Limited in 1999, a purchase satisfied substantially by the issue of share capital and therefore eligible for merger relief under the provisions of Section 612 of the Companies Act 2006.

Capital redemption reserve

This reserve records the historical repurchase of the Company's own shares. During 2018, as a result of the share buyback programme, the capital redemption reserve increased by £0.2m reflecting the nominal value of the cancelled ordinary shares.

Special reserve

The special reserve was created historically following the cancellation of an amount of share premium for the purpose of writing off goodwill. The special reserve is not distributable.

12. Retirement benefit plan

The Company participates in, and is the sponsoring employer of the UK Group defined benefit plan. The plan provides pensions in retirement, death in service and in some cases disability benefit to members. The pension benefit is linked to members' final salary at retirement and their service life. Since 31 December 2009, the UK plan has been closed to new members.

In accordance with IAS 19 (Revised 2011), there were no Company contributions made to the defined benefit plan during the year (2018: £nil).

Further details of the Spectris Pension Plan (UK) including all disclosures required under FRS 101 are contained in Note 20 to the Group Consolidated Financial Statements.

13. Contingent liabilities

The cross-guarantee arrangements to support trade finance facilities are included in Note 29 of the Group Consolidated Financial Statements.

Where the Company enters into financial guarantee contracts to guarantee the indebtedness of other companies within its group the Company considers these to be insurance arrangements in accordance with the requirements of IFRS 4 and accounts for them as such. In this respect, the Company treats the guarantee contract as a contingent liability until such time as it becomes probable that the Company will be required to make a payment under the guarantee.

In the normal course of business, the Company has provided bonds and guarantees through local banking arrangements amounting to £15.2m (2018: £19.6m).

14. Dividends

	2019 £m	2018 £m
Amounts recognised and paid as distributions		
Final dividend for the year ended 31 December 2018 of 40.5p (2017: 37.5p) per share	46.9	44.5
Interim dividend for the year ended 31 December 2019 of 21.9p (2018: 20.5p) per share	25.4	23.7
	72.3	68.2
 Amounts arising in respect of the year		
Interim dividend for the year ended 31 December 2019 of 21.9p (2018: 20.5p) per share	25.4	23.7
Proposed final dividend for the year ended 31 December 2019 of 43.2p (2018: 37.5p) per share	50.1	46.8
	75.5	70.5

In addition, subject to shareholder approval, a special dividend of 150.0p per existing ordinary share is proposed, totalling £175m. In order to maintain the comparability of the Group's share price and per-share metrics before and after the special dividend, the Group plans to undertake a share consolidation, which will be subject to shareholder approval.

The proposed final and special dividends are subject to approval by shareholders at the AGM on 22 May 2020 and have not been included as a liability in these Financial Statements.

Notes to the Company Accounts continued

15. Related undertakings

In accordance with Section 409 of the Companies Act 2006, detailed below is a full list of related undertakings as at 31 December 2019.

All entities listed below have their registered office in their country of incorporation.

Subsidiaries

All wholly owned subsidiaries listed below are owned through intermediate holding companies, unless otherwise indicated.

Shareholdings are held in the class of ordinary shares, unless otherwise indicated.

Name	Registered address	Country of incorporation
Agenda 1 Analytical Services Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Aquila Biomedical Limited	Addleshaw Goddard LLP Exchange Tower, 19 Canning Street, Edinburgh, EH3 8EH	Scotland
BK Vibro America Inc	2243 Park Place, Suite A, Minden Nevada 89423	USA
Brüel & Kjaer France SAS	46 rue du Champoreux, F-91540 Mennecy, Cedex	France
Brüel & Kjaer GmbH	Linzer Straße 3, Bremen, D-28359	Germany
Brüel & Kjaer Italia SRL	Milano (MI), Via Pordenone 8, Milan 20132	Italy
Brüel & Kjaer North America Inc	3079 Premiere Parkway, Suite 120, Duluth, GA 30097	USA
Brüel & Kjaer Polska Sp.z.o.o.	ul. Goraszewska 12, PL-02-910 Warszawa	Poland
Brüel & Kjær Sound & Vibration Measurement A/S	Skodsborgvej 307, DK-2850, Nærum	Denmark
Brüel & Kjaer UK Limited ¹	Jarman Way, Royston, Hertfordshire, SG8 5BQ	England & Wales
Brüel & Kjær Vibro A/S	Skodsborgvej 307B, Nærum, 2850	Denmark
Brüel & Kjaer Vibro GmbH	Leydheckerstrasse 10, D-64293, Darmstadt	Germany
Brüel & Kjaer VTS Limited ³	Jarman Way, Royston, Hertfordshire, SG8 5BQ	England & Wales
Burnfield Limited	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
CAS Clean-Air-Service AG	Reinluftweg 1, Zurich, CH-9630	Switzerland
Concept Life Sciences (Discovery) Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Concept Life Sciences (Environmental Consulting) Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Concept Life Sciences (Holdings) Limited ³	One St Peter's Square, Manchester, M2 3DE	England & Wales
Concept Life Sciences (Laboratories) Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Concept Life Sciences (Midco) Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Concept Life Sciences Analytical & Development Services Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Concept Life Sciences Integrated Discovery & Development Services Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Concept Life Sciences Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
CXR Biosciences Limited	2 James Lindsay Place, Dundee Technopole, Dundee, DD1 5JJ	Scotland
DISCOM Elektronische Systeme und Komponenten GmbH	Maschmühlenweg 81, Göttingen, 37081	Germany
Engineering Seismology Group Canada Inc.	20 Hyperion Court, Kingston, ON, K7K 7K2	Canada
ESG (Beijing) Seismic Technology Co Ltd	Room 1226, Building No.1, Yinan, North Erlizhuang No.44, Beijing, Dongcheng District	China
ESG USA Inc	10815 Woodedge Dr, Houston, Texas 77070	USA
HBM Danmark ApS	Nydamsvæj 19D, 8362 Horning, Skanderborg	Denmark
HBM FiberSensing SA	Rua Vasconcelos Costa 277, Moreira, Maia	Portugal
HBM France SAS	46 Rue du Champoreux, Mennecy, 91540	France
HBM Italia S.R.L.	Milano (MI), Via Pordenone 8, Milan, 20132	Italy
HBM nCode Federal LLC ²	100 Research Blvd, Starkville, Mississippi	USA
HBM Netherlands B.V.	Schutweg 15a, Waalwijk, 5145 NP	Netherlands
HBM Norge AS	Rosenholmveien 25, Tøllasen, 1414	Norway
HBM Prenscia Inc	5210 E Williams Cir, 2nd Floor, Suite 240, Tucson Arizona 85711	USA
HBM Prenscia Pte. Ltd.	31 Kaki Bukit Road 3, 064-0/05 Techlink 417818	Singapore
HBM Prenscia s.p.z.o.o.	ul. Wronia, nr 45, lok. 200, Warsaw 00-870, Warsaw	Poland
HBM United Kingdom Limited	Technology Centre, Advanced Manufacturing Park, Brunel Way, Catcliffe, Rotherham, South Yorkshire, S60 5WG	England & Wales
Hottinger Baldwin (Suzhou) Electronic Measurement Technology Ltd	106 Henshan Road, Suzhou New District, Suzhou, Jiangsu Province, 215009	China

Name	Registered address	Country of incorporation
Hottinger Baldwin Measurements, Inc.	19 Bartlett Street, Marlborough, Massachusetts 01752	USA
Hottinger Baldwin Messtechnik AG ⁵	c/o Simon Berger, Alpenblickstrasse 57, Uster, 8610	Switzerland
Hottinger Baldwin Messtechnik GmbH	Im Tiefen See 45, Darmstadt, D-64293	Germany
Hottinger Baldwin Messtechnik GmbH	Lemboeckgasse 63/2, A-1230, Wien, Vienna	Austria
Hottinger Brüel & Kjaer Ibérica, S.L.U.	Calle Teide número 5, San Sebastián de los Reyes, Madrid	Spain
International Applied Reliability Symposium LLC ²	5210 E Williams Cir, 2nd Floor, Suite 240, Tucson Arizona 85711	USA
LLC Spectris CIS ²	Building 1, Usacheva Street, Moscow 119048	Russian Federation
Malvern Instruments Nordic Oy	Kumitehtaankatu, 5 04260, Kerava, Asianajotoimisto OY	Finland
Malvern Panalytical B.V.	Lelyweg 1, 7602EA, Almelo	Netherlands
Malvern Panalytical GmbH	Nürnbergstr 113, D 34123 Kassel	Germany
Malvern Panalytical Inc	117 Flanders Road, Westborough Massachusetts 01581-1042	USA
Malvern Panalytical Limited	Enigma Business Park, Grovewood Road, Malvern, Worcestershire, WR14 1XZ	England & Wales
Malvern Panalytical Nordic AB	Vallongatan 1, 752 28 Uppsala	Sweden
Malvern Panalytical S.A.S.	22 Avenue Descartes, BP-45, Limeil-Brevannes, Cedex, 94454	France
Malvern Panalytical srl	Via Cadore 21, Lissone, 20851	Italy
Malvern Panalytical (Pty) Limited	Private Bag 4015, Ferndale, 2160	South Africa
Malvern-Aimil Instruments Pvt Limited	Naimex House, A-8, Mohan Co-operative Industrial Estate, Mathura Road, New Delhi - 110044	India
Millbrook European Holdings Limited	Millbrook, Bedford, MK45 2JQ	England & Wales
Millbrook Proving Ground Limited	Millbrook, Bedford, MK45 2JQ	England & Wales
Millbrook Revolutionary Engineering GmbH	Hermann-Köhl-Strasse 7, 28199 Bremen	Germany
Millbrook Revolutionary Engineering Inc	36865 Schoolcraft #1, Livonia, Michigan 48150	USA
Millbrook Special Vehicles Limited	Millbrook, Bedford, MK45 2JQ	England & Wales
Millbrook US Inc	36865 Schoolcraft #1, Livonia, Michigan 48150	USA
MPG Finland Oy	c/o Tilisakut Oy, Kauppakatu 12, Kuopio, 70100	Finland
Nanosight Limited	Enigma Business Park, Grovewood Road, Malvern, Worcestershire, WR14 1XZ	England & Wales
NDC Technologies GmbH	Im Tiefen See 45, Darmstadt, D-64293	Germany
NDC Technologies Limited	Bates Road, Maldon, Essex, CM9 5FA	England & Wales
NDC Technologies S.A.	Rue H Goossens 16, B-4431 Loncin	Belgium
NDC Technologies SARL	2 Chemin du Moulin 94450 Limeil-Brévannes	France
NDC Technologies S.R.L.	Corso Cristoforo Colombo, 33 Gallarate (VA), CAP 21013	Italy
NDC Technologies, Inc.	8001 Technology Blvd, Dayton, Ohio 45424	USA
Newport Electronics Limited	One Omega Drive, Northbank, Irlam, Manchester, M44 5BD	England & Wales
Novisim Limited	Jarman Way, Royston, Hertfordshire, SG8 5BQ	England & Wales
Omega Engineering GmbH	Daimlerstrasse 26, Deckenpfronn, 75392	Germany
Omega Engineering Limited ⁴	One Omega Drive, Northbank, Irlam, Manchester, M44 5BD	England & Wales
Omega Engineering, Inc.	800 Connecticut Avenue, Norwalk, Connecticut 06854	USA
Omega Technologies Limited ⁴	One Omega Drive, Riverbend Technology Centre, Northbank, Irlam, Manchester, M44 5BD	England & Wales
PANalytical Limited ¹	Enigma Business Park, Grovewood Road, Malvern, Worcestershire, WR14 1XZ	England & Wales
Particle Measuring Systems Germany GmbH	Im Tiefen See 45, Darmstadt, D-64293	Germany
Particle Measuring Systems Limited ^{1,5}	2nd Floor, One Hood Street, Newcastle Upon Tyne, NE1 6JQ	England & Wales
Particle Measuring Systems S.R.L.	Via di Grotte Portella, Frascati, Rome, 34-00044	Italy
Particle Measuring Systems, Inc.	5475 Airport Boulevard, Boulder, Colorado 80301	USA
Peakdale Chemistry Services Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Peakdale Inc	117 Flanders Road, Westborough, Massachusetts 01581	USA
Peakdale Molecular Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Pixirad Imaging Counters S.r.l.	Via Cadore 21, Lissone, 20851	Italy
Red Lion Controls B.V.	Softwareweg 9, 3821 BN Amersfoort	Netherlands
Red Lion Controls, Inc.	20 Willow Springs Cir, York Pennsylvania 17406	USA

Notes to the Company Accounts continued

15. Related undertakings continued

Name	Registered address	Country of incorporation
ReliaSoft India Private Limited	New No.16, Old No.21, Cenotaph 1st Street, Alwarpet, Chennai, 600 018	India
Revolutionary Engineering (Shanghai) Co Ltd	Room 316, 3/F, Building 1, No.169 Shengxia Road and No. 1658 Zhangdong Road, Shanghai Pilot Free Trade Zone	China
SAL Food Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
SAL Laboratories Limited	69a Killyman Street, Moy, Dungannon, BT71 7EA	Northern Ireland
Scientific Analysis Laboratories Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Servomex B.V.	P O Box 406, 2700 AK, W Dreeslaan 436, 2729 NK Zoetermeer	Netherlands
Servomex Company	12300 Dairy Ashford Road #400, Sugar Land, Texas 77478	USA
Servomex GmbH	Im Tiefen See 45, Darmstadt, D-64293	Germany
Servomex Group Limited	Jarvis Brook, Crowborough, East Sussex, TN6 3FB	England & Wales
Servomex S.A.	23 Rue de Roule, Paris, 75001	France
Spectraseis Canada Inc.	1900, 520 - 3rd Avenue S.W., Calgary, AB, T2P 0R3	Canada
Spectraseis Inc	10815 Woodedge Dr, Houston, Texas 77070	USA
Spectraseis ISM LLC ²	10815 Woodedge Dr, Houston, Texas 77070	USA
Spectris Australia Pty Ltd	Suite 2, 6-10 Talavera Road, PO Box 349, North Ryde, New South Wales 2113	Australia
Spectris Canada Inc.	4921 Place Olivia, St-Laurent, Quebec, H4R 2V6	Canada
Spectris China Limited	Room 08, 20/F., China Shipbuilding Tower, 650 Cheung Sha Wan Road, Cheung Sha Wan, Kowloon, Hong Kong	Hong Kong
Spectris Co., Ltd.	Tsukasa-machi Bldg, 2-6 Kanda Tsukasa-machi, Chiyoda-ku, Tokyo, 101-0048	Japan
Spectris Denmark ApS	Skodsborgvej 307, Naerum, DK-2850	Denmark
Spectris Do Brasil Instrumentos Eletronicos Ltda.	Rua Laguna 276, Santo Amaro, CEP 04728-000, Sao Paulo SP	Brazil
Spectris Finance Ireland Designated Activity Company ⁴	12 Merrion Square, Dublin 2	Ireland
Spectris Finance UK Limited ⁵	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Spectris Funding B.V.	Lelyweg 1, 7602EA, Almelo	Netherlands
Spectris Germany GmbH	Im Tiefen See 45, Darmstadt, D-64293	Germany
Spectris Group Holdings Limited ^{1,4}	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Spectris Holdings Inc.	117 Flanders Road, Westborough Massachusetts 01581	USA
Spectris Inc.	117 Flanders Road, Westborough Massachusetts 01581	USA
Spectris Instrumentation and Systems Shanghai Ltd.	Bldg 9, No. 88, Lane 2888, HuaNing Road, MingHang District, Shanghai, 201108	China
Spectris Korea Ltd.	7th & 8th Fl, SH Energy Building, 16-6 Sunae-Dong, Bundang-Gu, Seongnam-City Kyeonggi-Do	Korea, Republic of
Spectris Mexico, S. De R.L. De C.V.	Av. Pedro Ramirez Vazquez No. 200-13, Nivel 1, Col. Valle Oriente, San Pedro Garza Garcia, C.P. 66269	Mexico
Spectris Netherlands B.V.	Lelyweg 1, 7602 EA Almelo	Netherlands
Spectris Netherlands Cooperatief W.A. ^{1,2}	Lelyweg 1, 7602 EA Almelo	Netherlands
Spectris Pension Trustees Limited ¹	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Spectris Pte Ltd	31 Kaki Bukit Road 3, Techlink #04-05/07, 417818	Singapore
Spectris Taiwan Limited	13F-1, No. 128, Sec. 3, Min Sheng E. Road, Taipei	Taiwan
Spectris Technologies Private Limited	202 Anarkali Complex, Jhandelwalan Extension, Opp Videcon Tower, New Delhi 110 055	India
Spectris UK Holdings Limited ³	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Spectris US Holdings Limited	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
System Level Simulation Inc.	25 Villa Perico, Rancho Santa Margarita, CA 92688	United States
Test World Holding Oy	Testitie 1, 9980 Ivalo	Finland
Test World Oy	PL 167, Nellimintie 569, Ivalo, 99801	Finland
The Omnicom Group Inc	50 Engineers Rd, Hauppauge, New York 11788	USA
VI-grade AG	Neustrasse 2, 8590 Romanshorn	Switzerland
VI-grade GmbH	Im Tiefen See 45, Darmstadt, D-64293	Germany
VI-grade Japan Ltd.	9-1, Shinjuku-ku 3 Chome, Shinjuku, Tokyo	Japan
VI-grade Limited	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales

Name	Registered address	Country of incorporation
VI-grade s.r.l.	Via Galileo Galilei 42, 33010 Tavagnacco (Udine)	Italy
VI-grade Systems GmbH	Im Tiefen See 45, Darmstadt, D-64293	Germany
Viscotek Europe Limited	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Zhuhai Omc Instruments Co., Ltd	Floor 1-3, No 9 R&D Main Building, Keji No 1 Road, Scientific & Technical Innovation Sea Shore, New High Tech Zone, Zuhai, Guangdong Province	China

Notes

- 1 Wholly owned by Spectris plc.
- 2 All LLC, Cooperative and other non-equity owned entities listed are wholly owned and controlled by Spectris plc directly or indirectly through intermediate holding companies.
- 3 Share capital consists of ordinary shares and deferred shares.
- 4 Share capital consists of ordinary shares and redeemable shares.
- 5 In liquidation.

Joint venture

Spectris shares joint control of the EMS Brüel & Kjaer joint venture with Macquarie Capital under a shareholders' agreement. Voting interests in EMS Brüel & Kjaer Holdings Pty Ltd ('EMS') are shared equally between Spectris and Macquarie Capital, and each of Spectris and Macquarie Capital has equal board representation. Spectris and Macquarie Capital each holds 45% of the ordinary share capital of EMS with the remaining 10% held by third parties. The 10% ordinary share capital held by third parties does not have any voting rights or board representation, however it does entitle the holder to receive dividends or other distributions. Following an announcement made on 17 January 2020 and subject to the completion of a number of conditions, Spectris plc announced that the EMS Brüel & Kjaer joint venture will be sold in its entirety to Envirosuite, an environmental management technology company, listed on the Australian Securities Exchange.

Name	Registered address	Country of incorporation
EMS Brüel & Kjaer Holdings Pty Ltd	Levels 11 & 12, 432 St Kilda Road, Melbourne, Victoria 3004	Australia

UK registered subsidiaries exempt from audit

UK incorporated subsidiaries which have taken exemption from audit per Section 479A of the Companies Act 2006 for the year ended 31 December 2019 are listed below.

Spectris plc will guarantee the debts and liabilities of the companies claiming the statutory audit exemption at the balance sheet date of £12.6m in accordance with Section 479C of the Companies Act 2006. The Company has assessed the probability of loss under the guarantee as remote.

Name	Registered number
Agenda 1 Analytical Limited	5903736
Aquila Biomedical Limited	SC393914
Brüel & Kjaer UK Limited	4066051
Brüel & Kjaer VTS Limited	1539186
Burnfield Limited	1522736
Concept Life Sciences (Discovery) Limited	9046575
Concept Life Sciences (Environmental Consulting Limited	9046580
Concept Life Sciences (Holdings) Limited	9046553
Concept Life Sciences (Laboratories) Limited	9046586
Concept Life Sciences (Midco) Limited	9046568
CXR Biosciences Limited	SC211745
HBM United Kingdom Limited	1589921
Millbrook European Holdings Limited	9657741
Nanosight Limited	4599525
NDC Technologies Limited	630998
Novisim Limited	5269664
Omega Engineering Limited	2564017
Omega Technologies Limited	2775272
Spectris UK Holdings Limited	4451903
Spectris US Holdings Limited	4451883
VI-grade Limited	8245242

Shareholder information

Shareholder Information

Financial calendar

Trading update	22 May 2020
Annual General Meeting	22 May 2020
Record date for 2019 final and special dividends	22 May 2020
Record date for participation in the Dividend Reinvestment Plan for the final and special dividends	22 May 2020
Ex-dividend date for final and special dividends	26 May 2020
2019 final and special dividends payable	22 June 2020
2020 half-year results	4 August 2020
Trading update	21 November 2020
2020 full-year results	February 2021

Company Secretary

Mark Serföző
Email: cosec@spectris.com

Head of Corporate Affairs

Siobhán Andrews
Email: investor.relations@spectris.com

Registered office

Spectris plc
Heritage House
Church Road
Egham
Surrey
TW20 9QD
England
Tel: +44 (0)1784 470470
Email: info@spectris.com
Company registered in England, No. 2025003

Auditor

Deloitte LLP

Bankers

Royal Bank of Scotland Plc

Solicitor

Slaughter and May

Brokers

Jefferies Hoare Govett
J P Morgan Cazenove

Financial PR adviser

FTI Consulting

Registrar

Equiniti Limited
Aspect House
Spencer Road
Lancing
West Sussex
BN99 6DA

The registrars provide a range of shareholder services online at www.shareview.co.uk

Share price information

The Company's ordinary shares are listed on the London Stock Exchange. The latest share price is available via the Company's website at www.spectris.com

Major shareholders

	Shareholding in Spectris shares	Percentage of issued share capital at 31 December 2019
MFS Investment Management	14,058,957	12.12
Fidelity Management & Research	8,682,229	7.49
BlackRock	5,795,242	5.00
Marathon Asset Management	5,708,763	4.92
Liontrust Asset Management	5,407,507	4.66
Vanguard Group	5,204,584	4.49
Sprucegrove Investment Management	4,871,887	4.20
UBS Asset Management	4,336,261	3.74
Royal London Asset Management	3,556,286	3.07

Email news service

To receive details of press releases and other announcements as they are issued, register with the mail alert service on the Company's website at www.spectris.com.

Cautionary statement

This Annual Report may contain forward-looking statements. These statements can be identified by the fact that they do not relate only to historical or current facts. Without limitation, forward-looking statements often use words such as anticipate, target, expect, estimate, intend, plan, goal, believe, will, may, should, would, could or other words of similar meaning. These statements may (without limitation) relate to the Company's financial position, business strategy, plans for future operations or market trends. No assurance can be given that any particular expectation will be met or proved accurate and shareholders are cautioned not to place undue reliance on such statements because, by their very nature, they may be affected by a number of known and unknown risks, uncertainties and other important factors which could cause actual results to differ materially from those currently anticipated. Any forward-looking statement is made on the basis of information available to Spectris plc as of the date of the preparation of this Annual Report. All forward-looking statements contained in this Annual Report are qualified by the cautionary statements contained in this section. Other than in accordance with its legal and regulatory obligations, Spectris plc disclaims any obligation to update or revise any forward-looking statement contained in this Annual Report to reflect any change in circumstances or its expectations.



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CONRAN
DESIGN GROUP



Spectris plc
Heritage House,
Church Road, Egham,
Surrey TW20 9QD
England

www.spectris.com