



Mettler  
Toledo

spectris

ANNUAL REPORT  
AND ACCOUNTS 2018

# About us

Spectris is a leading supplier of productivity-enhancing instrumentation and controls. Our businesses are leaders in the markets they serve, with recognised brands and award-winning products.

We provide solutions combining hardware, software and related services for some of the most technically-demanding industrial applications. Our innovative solutions are designed to enhance customers' productivity, yielding clear benefits by helping them to work better, faster and more efficiently.

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# 2018 highlights

Sales **+5%**  
**£1,604.2m** LFL **+5%**  
 (2017: £1,525.6m)

Dividend per share **+8%**  
**61.0p**  
 (2017: 56.5p)

Adjusted operating profit<sup>1</sup> **+4%**  
**£248.3m** LFL **+7%**  
 (2017: £239.3m)

Statutory operating profit **-3%**  
**£176.4m**  
 (2017: £182.4m)

Adjusted operating margin<sup>1</sup> **-0.2pp**  
**15.5%** LFL **+0.3pp**  
 (2017: 15.7%)

Statutory operating margin **-1.0pp**  
**11.0%**  
 (2017: 12.0%)

Adjusted earnings per share<sup>1</sup> **+7%**  
**164.9p**  
 (2017: 154.6p)

Statutory earnings per share **-20%**  
**157.6p**  
 (2017: 197.0p)

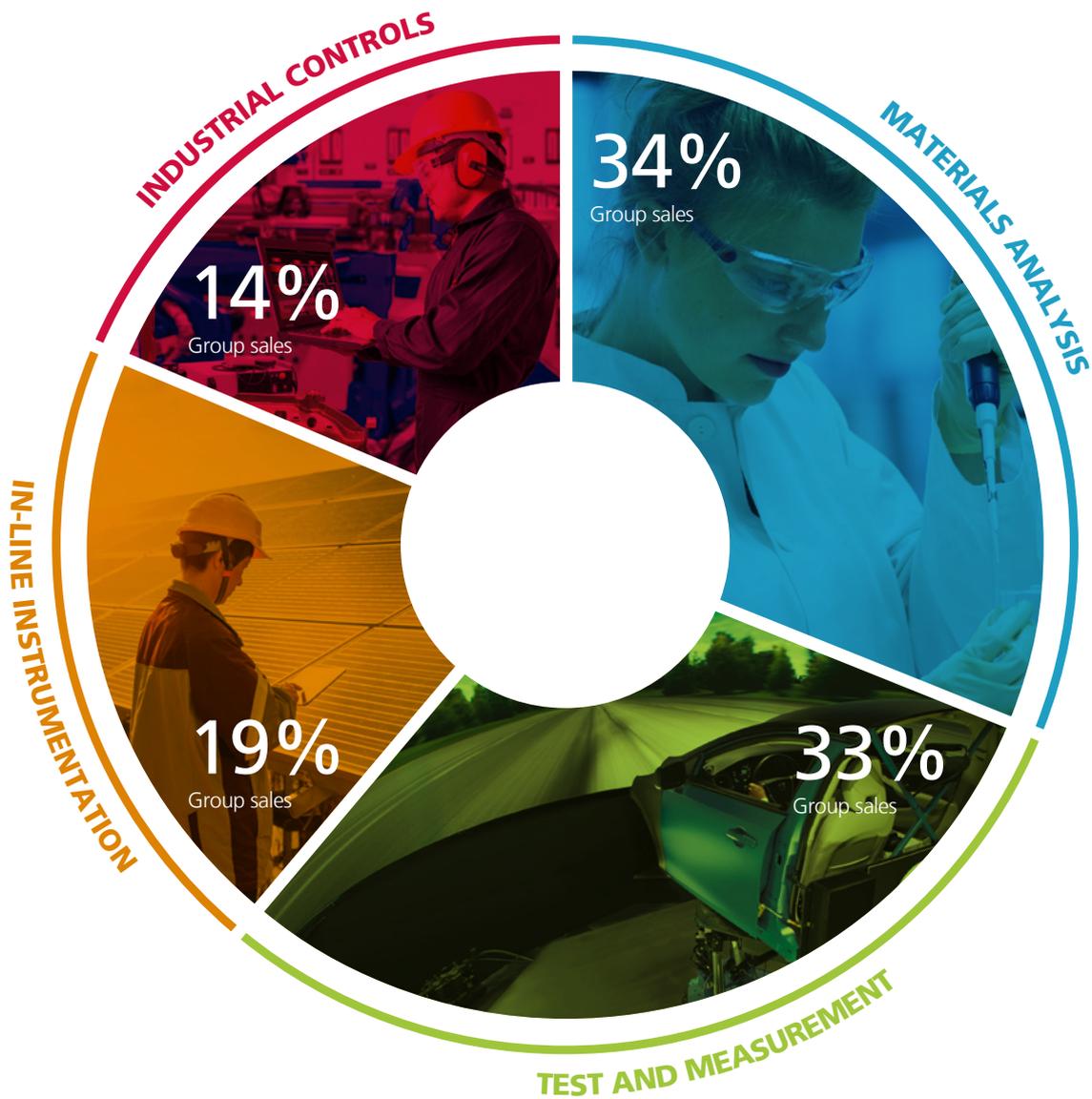
Adjusted operating cash flow conversion<sup>1</sup> **-18pp**  
**59%**  
 (2017: 77%)

- › Sales of £1,604.2 million, reflecting a 5% like-for-like sales increase, building on the progress made in 2017
- › Adjusted operating profit of £248.3 million, adjusted operating margin up 0.3pp on a like-for-like basis
- › Adjusted earnings per share up 7%, dividend per share increase of 8%
- › New profit improvement programme anticipated to deliver annualised benefits of more than £30 million, of which £15-20 million is expected to be realised during 2019
- › Strategic review initial conclusions presented:
  - › Group would benefit from becoming a more focused and simplified business
  - › Assessing which operating companies can drive the greater shareholder value:
    - › Scalable, in attractive high-growth markets, with strongest capabilities and greatest performance potential
    - › Identified three platform businesses so far – Malvern Panalytical, HBK, Omega – equating to more than 60% of Group sales and adjusted operating profit

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.

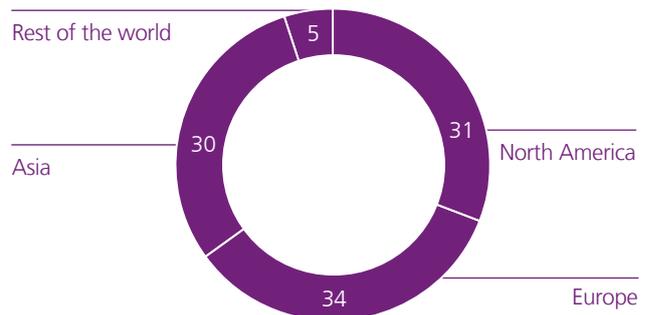
# A GLOBAL BUSINESS

in attractive markets



Spectris comprises four business segments which reflect the applications and end-user industries we serve. Our businesses are united by the same values and corporate strategy. They all work according to a strong common framework of controls, management key performance indicators, financial discipline and rigorous operating principles, but each business is focused on its own markets, customers and technologies.

Sales by destination (%)

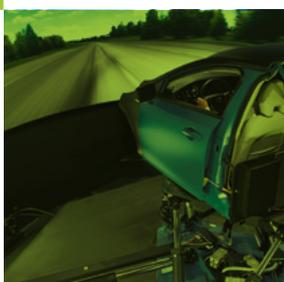




### Materials Analysis

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.

Sales	Adjusted operating profit	Statutory operating profit
<b>£541.1m</b>	<b>£95.4m</b>	<b>£72.1m</b>
LFL sales	Adjusted operating margin	Statutory operating margin
<b>+8%</b>	<b>17.6%</b>	<b>13.3%</b>
<b>Operating companies</b>		<b>Industries</b>
<ul style="list-style-type: none"> <li>› Malvern Panalytical</li> <li>› Particle Measuring Systems</li> <li>› Concept Life Sciences<sup>1</sup></li> </ul>		<ul style="list-style-type: none"> <li>› Pharmaceuticals &amp; fine chemicals</li> <li>› Metals, minerals &amp; mining</li> <li>› Academic research</li> <li>› Semiconductors</li> </ul>



### Test and Measurement

supplies test, measurement and analysis equipment, software and services for product design optimisation and validation, manufacturing control, microseismic monitoring and environmental noise monitoring.

Sales	Adjusted operating profit	Statutory operating profit
<b>£522.6m</b>	<b>£67.2m</b>	<b>£42.8m</b>
LFL sales	Adjusted operating margin	Statutory operating margin
<b>+6%</b>	<b>12.9%</b>	<b>8.2%</b>
<b>Operating companies</b>		<b>Industries</b>
<ul style="list-style-type: none"> <li>› Brüel &amp; Kjær Sound &amp; Vibration<sup>2</sup></li> <li>› ESG Solutions</li> <li>› HBM<sup>2</sup></li> <li>› Millbrook</li> <li>› VI-grade<sup>3</sup></li> </ul>		<ul style="list-style-type: none"> <li>› Automotive</li> <li>› Aerospace</li> <li>› Electronics</li> <li>› Energy</li> <li>› Academic research</li> </ul>



### In-line Instrumentation

provides process analytical measurement, asset monitoring and online controls, as well as associated consumables and services for both primary processing and the converting industries.

Sales	Adjusted operating profit	Statutory operating profit
<b>£312.2m</b>	<b>£42.6m</b>	<b>£32.2m</b>
LFL sales	Adjusted operating margin	Statutory operating margin
<b>+1%</b>	<b>13.6%</b>	<b>10.3%</b>
<b>Operating companies</b>		<b>Industries</b>
<ul style="list-style-type: none"> <li>› Brüel &amp; Kjær Vibro</li> <li>› BTG</li> <li>› NDC Technologies</li> <li>› Servomex</li> </ul>		<ul style="list-style-type: none"> <li>› Process industries</li> <li>› Pulp, paper &amp; tissue</li> <li>› Energy &amp; utilities</li> <li>› Film extrusion &amp; converting</li> </ul>



### Industrial Controls

provides products and solutions that measure, monitor, control and connect during the production process.

Sales	Adjusted operating profit	Statutory operating profit
<b>£228.3m</b>	<b>£43.1m</b>	<b>£29.3m</b>
LFL sales	Adjusted operating margin	Statutory operating margin
<b>+3%</b>	<b>18.9%</b>	<b>12.8%</b>
<b>Operating companies</b>		<b>Industries</b>
<ul style="list-style-type: none"> <li>› Omega Engineering</li> <li>› Red Lion Controls</li> </ul>		<ul style="list-style-type: none"> <li>› Manufacturing</li> <li>› Process industries</li> <li>› Energy</li> <li>› Electronics</li> </ul>

Notes:

Segmental data relates to 2018.

1. Acquired January 2018

2. Merging from January 2019 to form HBK (Hottinger, Brüel & Kjær)

3. Acquired August 2018

# CREATING

## long-term sustainable value

### Results overview

In 2018, the Group delivered a 5% increase in like-for-like ('LFL') sales, driving a 7% LFL increase in adjusted operating profit to £248.3 million. Sales increased 5% to £1,604.2 million and statutory operating profit was £176.4 million, resulting in operating margins of 11.0%, 15.5% on an adjusted basis. Our operating cash flow conversion rate was 59%, down on the previous year as we continued with material capex to support the growth of Millbrook. Adjusted earnings per share ('EPS') increased by 7% to 164.9 pence with statutory basic EPS at 157.6 pence.

During the year, the Group made three acquisitions, the largest being Concept Life Sciences, which provides integrated drug discovery, development, analytical testing and environmental consultancy services, and we completed a £100 million share buyback. We maintain a healthy balance sheet, with year-end net debt of £297.1 million, towards the bottom end of our leverage guidance.

The Board is proposing to pay a final dividend of 40.5 pence per share which, when combined with the interim dividend of 20.5 pence, gives a total of 61.0 pence per share for the year, an increase of 8%. This is consistent with our policy of making progressive dividend payments based upon affordability and sustainability. This is the 29th consecutive year that we have increased our dividend since becoming a publicly quoted company in 1988, at a compound annual growth rate of just over 10%. The dividend will be paid on 28 June 2019 to shareholders on the register at the close of business on 24 May 2019. The ex-dividend date is 23 May 2019.

### Strategic review underway

Spectris has a diverse portfolio of businesses with strong brands, supported by leading technologies and talented people. The last two years has seen the Group return to delivering organic growth, but the sales growth has not yet converted into improved operating margins. Gross margins remain impressively high, but operating leverage has been disappointing. However, we are convinced that there are significant opportunities to improve operational performance by taking a more focused approach, reducing complexity and targeting higher growth markets where we have a competitive advantage.

In November, we launched a strategic review with the explicit objective to develop and execute our strategy for sustainable, profitable growth, as the basis for delivering a significant and sustainable increase in shareholder value. At the heart of our offering are our highly-specialised measuring instruments. We have been adding software and services to provide further monitoring, testing and analytical capabilities, to deliver greater insights and solutions focused on our customers' specific needs. Providing that combination of hardware plus associated software and services will remain key to our strategy.

The review has initially identified a number of platform businesses which are scalable, are aligned to target growth markets and which will offer the greatest value creation potential to both our customers and to our shareholders. During 2019, we will complete the assessment of the portfolio composition, providing the necessary clarity on capital allocation and asset optimisation in the

process. Additionally, a new profit improvement programme has been instigated to improve efficiency and effectiveness within our operating companies, ensuring we achieve appropriate operating leverage as we grow. We expect to deliver savings in 2019 of £15-20 million and this will help to offset inflationary pressures to our cost base. We will continue to make investments in higher growth areas and operational improvements. The cost to achieve these savings will be approximately £35 million (for further information see the Chief Executive's Review on pages 8 to 11).

### Our people

Integral to the success of Spectris are the skills, experience and technical capability of our employees. I would like to thank all our employees for their hard work and dedication during the year and for their commitment to driving the business forward. As we head into 2019, there will continue to be change within the organisation as we implement our profit improvement programme and complete the strategic review. We are committed to supporting our people through this change. As part of this commitment, I am pleased that Russell King has agreed to take on the role of Workforce Engagement Director to provide the Board with a mechanism for receiving and responding to the views of employees (see page 50).

Absolute integrity is at the heart of Spectris' values, guiding our decision-making and ensuring that we always operate to the highest standards. In 2018, the Board undertook a comprehensive review of the Group ethics and compliance programme. We were pleased to see the strong commitment to this across the Group. To keep the programme fresh, further enhancements will be implemented in 2019 across the Group to improve our ethics, anti-bribery and corruption and export controls compliance programmes. We are also improving our processes in relation to environmental factors, for example in monitoring GHG emissions and collecting data on waste. We have also standardised how we record health and safety data. These improvements will help us better assess and therefore meet our sustainability objectives (for further information see the Sustainability Report on pages 38 to 43).

### Board update

There have been some important changes to the Board in 2018. John O'Higgins retired from the Board in September, having had a very successful 12 years as Chief Executive of Spectris. We were delighted to recruit Andrew Heath as his successor. Andrew previously served as CEO of Imagination Technologies Group plc and CEO of Alent plc and prior to that had a 30-year career with Rolls-Royce plc where he held several international and senior management roles. Since joining, he has extensively visited the Group's operations and has been working closely with the Board on initiating the strategic review and new profit improvement programme.

After 12 years as Group Finance Director, Clive Watson has also decided to retire and will step down from the Board. We are very pleased that Derek Harding will be joining the Board to succeed Clive, as Chief Financial Officer Designate, on 1 March 2019, before formally becoming Chief Financial Officer following a month's handover. Derek brings a wide range of financial leadership and industrial expertise to Spectris, having been most recently group

**// We delivered good organic growth in 2018, building on the progress made in 2017. With a new management team in place and with a tighter strategic focus and emphasis on cost effectiveness, the Board is confident that the Group is well placed for the future. //**

finance director at Shop Direct and previously Senior plc, following 11 years in various finance and strategy roles at Wolseley plc.

Jo Hallas, Business Group Director, left the Company in February 2019 to become chief executive officer at Tyman plc. To replace her, Mark Fleiner joined in January 2019. Mark has nearly 30 years' experience in the energy, chemical and metals industries.

On behalf of the Board, I would like to thank John, Clive and Jo for their material contribution to developing the Group and driving its success during their tenures and express our best wishes for their futures.

### Summary

We delivered good organic growth in 2018, building on the progress made in 2017. Our aim is to continue to grow, however, we must focus on our core strengths and become more efficient, so that we grow more profitably, all while maintaining a robust financial position. With a new management team in place and with a tighter strategic focus and emphasis on cost effectiveness, the Board is confident that the Group is well placed for the future.

**Mark Williamson**  
Chairman  
19 February 2019

Sales

**+5%**

in 2018

Adjusted EPS

**+7%**

in 2018

Dividend per share

**+8%**

in 2018

# CREATING VALUE

## for stakeholders



We provide hardware, software and services for some of the most technically-demanding industrial applications.



We provide value-enhancing solutions for our customers which enable them to shorten development cycles, increase yield and streamline processes.



We employ highly-skilled people with deep application expertise, who play an essential role in the development of new products and services.



We invest around 6–7% of sales each year in R&D to maintain our market positions.



We build long-term relationships with our customers and seek to develop a deep understanding of their business and processes.



We offer a broad range of aftermarket services and support, including training, technical support, spare parts, calibration and maintenance.



R&D expenditure

**6%**

of sales in 2018



Number of acquisitions

**40**

since 2008



Dividend growth

**+10%**

CAGR since 1988



## How we do it

### Operating model

- › Our sales model is based predominantly on direct routes to market through a worldwide network of sales, marketing and support offices, so that we are close to our customers wherever they are located.
- › We are structured in a way that enables our businesses to respond quickly to any change in the trading environment.
- › Our businesses are predominantly asset-light, focusing on the investment where we can build market-leading expertise and competitive advantage, such as R&D.
- › Strong customer relationships, combined with our innovative products, services and significant sales footprint, help sustain high barriers to entry, which, in turn, lead to pricing power, retention of market share and high gross margins.

### High-quality businesses

- › We have a portfolio of businesses with high-quality technologies and strong market positions.

### Acquisitions

- › Organic growth is supplemented by selective acquisitions to access new or complementary products and technologies, and exploit disruptive growth themes.

### Culture

- › Our businesses are united by the same values and corporate strategy, which shape our culture across the Group.

### People

- › Our people play an essential role in our success and we seek to attract and retain the best talent. Many of our employees are highly qualified and have in-depth product, application and industry expertise.



## Key drivers for growth

### Improving productivity

- › In an increasingly competitive marketplace, customers are continually seeking to bring new products to market more quickly and cost-effectively.
- › Increasing regulation in markets such as pharmaceuticals/life sciences, automotive and process industries brings greater emphasis on compliance, quality control and data integrity.
- › Customers are increasingly seeking greater insights into their processes, increasing the requirements and sophistication for test and measurement equipment and associated software and services.

### Increasing connectivity

- › Customers are increasingly looking to access and exploit valuable manufacturing data to drive productivity and operational efficiencies.

### Focus on attractive markets

- › The fundamentals of our core addressable markets are attractive, with many displaying GDP+ growth characteristics, in particular, the pharmaceutical, automotive, electronics/ semiconductor, metals/ minerals/mining and technology-led industrial markets. Each of these end markets is witnessing significant trends that are favourable for our businesses.



## Creating value for stakeholders

### Shareholders

- › Our asset-light manufacturing model ensures high gross margins and low capital requirements.
- › Balance sheet strength enables a progressive dividend policy – 10% CAGR since flotation in 1988.
- › Strong cash conversion and balance sheet ensure flexibility to fund acquisitions.
- › Our strategy for profitable growth is aimed at improving our operating margins through asset optimisation and capital allocation, providing dependable dividend income.

### Customers

- › Long-term relationships with our customers bring high levels of repeat business; around 80% of sales are from customers who have purchased from us in the preceding two years.

- › Around 40% of sales come from customer operating expenditure budgets or aftermarket, providing more resilience to revenues.

### People

- › We work hard to build a creative working environment for our people, with scope for individual responsibility and personal achievement. Our training programmes help our employees to develop both personally and professionally to reach their full potential.
- › We believe that maintaining a strong and consistent corporate culture supports long-term performance and that running our business in an ethical way makes us successful.

### Suppliers

- › We work with our supply chain and endeavour to build a collaborative working environment with a strong emphasis on team work.



LFL sales growth  
**+5%**  
in 2018

LFL adjusted operating profit  
**+7%**  
in 2018

LFL adjusted operating margin  
**+0.3pp**  
in 2018

/// We were able to build on the increased momentum across our end markets and delivered good like-for-like sales growth. We expect sales growth to moderate in 2019. Consequently, we are focusing on what we can control; increasing productivity and operational efficiency, while driving sales. ///

# Focusing on PROFITABLE GROWTH

## 2018 results overview

In 2018, we delivered good organic sales growth, building on the progress made in 2017. Sales for the year increased by 5% to £1,604.2 million (2017: £1,525.6 million), reflecting a 5% increase on an organic, constant currency (like-for-like, 'LFL') basis, helped by a supportive macroeconomic environment in a number of geographies and a strong demand backdrop in many of our key end markets. Acquisitions, net of disposals, contributed 2% to sales growth, which was offset by a 2% negative impact from foreign currency exchange movements.

Adjusted operating profit increased by 4% to £248.3 million (2017: £239.3 million), which reflected a LFL increase of 7%. Adjusted operating margin improved 0.3pp on a LFL basis to 15.5% as overheads received greater focus in the second half.

Sales by segment	LFL sales change		
	H1	H2	FY
Materials Analysis	11%	6%	8%
Test and Measurement	6%	6%	6%
In-line Instrumentation	(3%)	5%	1%
Industrial Controls	4%	1%	3%
<b>Group</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>

Sales by destination	LFL sales change		
	H1	H2	FY
North America	5%	2%	4%
Europe	6%	1%	3%
Asia	6%	14%	10%
Rest of the world	1%	1%	1%
<b>Group</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>

The LFL sales growth was achieved in all geographic regions, with particularly good growth in Asia, led by strong demand in China. In North America, the pharmaceutical and academic research end markets saw good growth while Europe was helped by a strong contribution from the UK, particularly in the first half of the year. Good demand was seen in many of our end markets, and there was notable LFL sales growth across the pharmaceutical, automotive, semiconductor, electronics and academic research sectors.

Materials Analysis and Test and Measurement both reported strong LFL growth of 8% and 6%, respectively. Materials Analysis saw strong demand in the semiconductor and pharmaceutical industries, with a rebound in academic research activity also underpinning the performance. In Test and Measurement, the automotive sector was the key driver behind the growth. In-line Instrumentation achieved a 1% increase in LFL sales, despite a weaker performance year-on-year in the converting and film extrusion industries, and a tough comparator in the wind energy sector which had large one-off sales in 2017. Industrial Controls achieved 3% LFL growth, benefiting from improved North American industrial spending, although growth was constrained given a product refresh underway at Omega.

Statutory operating profit was £176.4 million, compared with £182.4 million recorded in 2017. A 4% improvement in adjusted operating profit was more than offset by higher acquisition-related

costs and other adjusting items, which were up £15.0 million. Statutory operating margins of 11.0% were 1.0pp lower than the prior year. Adjusted operating profit, after costs of £10.8 million in relation to Project Uplift, was £237.5 million (2017: £223.5 million). The Group also recorded restructuring costs of £4.8 million in relation to its new profit improvement programme, which have been excluded from the adjusted measures.

The Group's adjusted operating cash conversion rate was 59%. This was below the 77% recorded in 2017, a similar level to which we expect to return to in 2019. The year-on-year reduction resulted from higher working capital, due to higher receivables, driven by sales growth and recent acquisitions, together with increased project completion inventory, and an increase in capital expenditure. Average trade working capital, expressed as a percentage of sales, decreased by 0.5pp to 11.4%. Capital expenditure, net of grants, during the year totalled £94.1 million (2017: £73.1 million), of which £43.1 million related to spend by Millbrook, principally on capacity expansion, as the business invested to access high-growth opportunities in support of customer project demand. In addition, there was spend of £207.2 million (2017: £39.3 million) in relation to acquisitions and the Group completed a £100 million share buyback programme during the year. After allowing for a net cash inflow of £41.8 million from the divestment of EMS Brüel & Kjær into a joint venture, net debt stood at £297.1 million (2017: £50.5 million) at the year end, 1.0 times the full-year adjusted EBITDA.

## Positioning Spectris to deliver profitable growth

Spectris serves a diverse set of end markets with a number of high-quality businesses, which have strongly recognised brands in the target markets they serve.

As set out in our November 2018 trading statement, we believe there are significant opportunities to improve the operational performance of the Group and to drive shareholder value creation through increasing our operating margin and by taking a more focused approach to portfolio composition, asset optimisation and capital allocation.

In November, we announced a profit improvement programme and a strategic review of our operations. We have progressed this work with vigour – we are in the process of focusing the business on its highest growth areas and where we are or can be competitive, in conjunction with reducing cost to deliver profitable growth. While there has already been a significant amount of work undertaken, we still have further work to do to complete our assessment. Accordingly, we plan to provide a comprehensive update on the outcomes of the strategic review and on our strategy to maximise long-term shareholder value at a Capital Markets Day in June 2019.

## Profit improvement programme

The implementation of Phase 1 of Project Uplift continued as planned, with savings derived predominantly from improvements in procurement (both direct and indirect), as well as benefits from simplifying our property portfolio. In 2018, the gross recurring benefit achieved from Project Uplift was £17.3 million (2017: £2.8 million) and the one-off costs incurred were £10.8 million (2017: £15.8 million). We remain confident in

our objective of Project Uplift delivering £25 million of annualised gross recurring savings by the end of 2019, with a total cost to achieve of £35 million.

Alongside the decision taken last November not to proceed with the global shared services centre model, we initiated a new, comprehensive programme focused on achieving profit improvement through further cost reductions and targeted growth initiatives across the Group.

To date, this programme has identified more than £30 million of annualised benefits, of which £15-20 million are planned to be realised during 2019, with the full benefit to be delivered in 2020 and will help to offset inflationary pressures to our cost base. At the same time, we continue to make investments in higher growth areas and operational improvements. Delivering these ongoing savings will result in one-off restructuring costs during 2019 of around £35 million. Benefits and savings are arising from improving the sales mix, product profitability, site rationalisation, improving organisational effectiveness and driving Lean through our operations. The merger of Brüel & Kjær Sound & Vibration with HBM has also been initiated. In addition, the size of the centre is being reduced and it will be focused on Group-level governance, managing financial performance and capital allocation across the Group, driving strategy execution, Lean and organisation and talent development.

Spectris has strong gross margin businesses, but our operating margin performance has been below our historic highs and operational gearing has disappointed over the past few years. Our initiatives, which are focused on improving gross margin and constraining overheads to drive future operating margin expansion as we grow, will continue throughout 2019. Our aim is to return our operating margin to at least our previous highs.

### Strategic review

Spectris has a portfolio of businesses with high-quality technologies, strong market positions and talented people. The fundamentals of Spectris' core addressable markets are attractive, with many displaying GDP+ growth characteristics, in particular, the pharmaceutical, automotive, electronics/semiconductor, metals/minerals/mining and technology-led industrial markets. Each of these end markets is witnessing significant trends that are favourable for Spectris' businesses:

- › *Pharmaceutical:* Drug discovery and development is facing a number of complex challenges. More stringent expectations around efficacy improvements, complex disease pathways requiring more sophisticated therapies, personalised medicine and a desire to shorten development timelines are increasing requirements for more precise testing to better predict success, ensure safety and reduce time to market;
- › *Automotive:* The growing proliferation of car platforms, the shortening of platform lifecycles 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;
- › *Electronics and semiconductors:* 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);
- › *Metals/minerals/mining:* Alongside an increasing 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 which are fundamental to the manufacturing industry; and

- › *Technology-led industrials:* The increased focus on optimising production processes in real time, enabled by embedding more sensors on the production line to underpin IIoT and drive further improvements to operational efficiency, is increasing demand for smart sensors, testing hardware, control systems and software solutions.

Technology-led differentiation of instrumentation hardware continues to progress, particularly within offline applications. There remains significant room for differentiation on various hardware dimensions, to provide greater precision and reliability of high-quality data. Equally, opportunities exist for many of our operating companies to expand across the technology stack, including software and application intelligence, to provide greater value-adding solutions for customers. Consequently, the provision of technology-enabled solutions, based on our high-quality instruments, deep application capability, domain expertise and associated software and service offerings, remains at the core of our strategy.

To deliver the full potential of the Group, it is clear that Spectris would benefit from becoming a more focused and simplified business. As such, work is ongoing to identify a group of operating companies which can deliver greater shareholder value creation, with sales growth, margin expansion and working capital efficiency as the key goals, underpinning growth in operating cashflow. These principal operating businesses will include a number of platform businesses which are scalable, aligned to attractive high-growth markets, with the strongest capabilities and greatest performance potential. Future capital investment, and, in particular, acquisition-led growth, will be focused on these platform businesses.

So far, the strategic review process has identified Malvern Panalytical, HBK and Omega, which together account for more than 60% of Group sales and adjusted operating profit, as businesses that have this platform potential.

The remaining portfolio is made up of a number of high-quality operating companies. Work is underway to determine which of these businesses will remain key to the Group and those where Spectris will not be the best future owner. Operating companies with strong market positions, good growth prospects and margins will receive targeted investment where we are confident that such investment will yield a strong return. Potentially, these businesses may become platforms in their own right. They will be managed to deliver at least market growth with leading margins within their segments. The remaining businesses will be managed to optimise their performance under the Group's ownership and for value. These businesses may be divested over time and the proceeds either re-invested in the development of the Group's platform operations or, if attractive re-investment opportunities are not identified, returned to shareholders.

As well as reviewing the Group's operating company portfolio, the strategic review has also focused on capital allocation and returns. The existing capital expenditure plans of the Group have been reviewed to ensure capital is being invested efficiently and effectively to create profitable growth and value.

Going forward, the Group will adopt an even more rigorous capital allocation approach and is in the process of establishing a new investment framework to ensure that future spend drives stronger economic profit growth and value creation.

## Corporate development

During 2018, we made three acquisitions of businesses which added further services and software capability to our portfolio. Concept Life Sciences ('CLS'), which was acquired in January, provides integrated drug discovery, development, analytical testing and environmental consultancy services, mainly in the pharmaceutical, biotechnology, agrochemical and environmental sectors, which complement the activities of Malvern Panalytical. Additionally, it carries out development and analytical services for the food, consumer and environmental industries. Although performance has been below expectations due to both internal and external factors, the outlook for outsourcing of R&D remains robust. To further leverage the collaboration already started between Malvern Panalytical and CLS, and to further drive growth and profit improvement, CLS will become part of the Malvern Panalytical platform.

Since the merger of Malvern Instruments and Panalytical, sales of the joint company have continued to benefit from the re-organised sales and marketing functions and the cross-selling of Malvern- and Panalytical-branded product lines. A number of new products have been launched this year which provide our customers with significant improvements in the quality and speed of the characterisation of materials, provide greater understanding of material properties or help increase productivity in their investigations, ultimately saving them development time and cost.

Following the success of the merger which formed Malvern Panalytical, in 2018 we decided to merge Brüel & Kjær Sound & Vibration and HBM in our Test and Measurement segment in 2019. This merger will bring together two leaders in precision measurement, creating a broader offering of high-quality instruments and simulation and modelling software to better deliver more integrated solutions to align with customers' requirements. As our customers undergo a digital transformation of their industries, we can deliver greater value to them and help them get their products to market faster. The new joint business has been renamed HBK (Hottinger, Brüel & Kjær). An integrated go-to-market model for the joint sales organisation has been established and the development of joint HBK products and solutions has commenced.

In Test and Measurement, our offering to automotive customers has been broadened by the acquisition of Revolutionary Engineering, Inc in the USA, which complements the existing test capabilities of Millbrook and extends its reach into North America. Millbrook has also added further capacity and test capability at its existing UK and Finnish sites.

We also acquired VI-grade Group ('VI-grade'), a leading global provider of vehicle simulation software, systems and services, primarily to automotive customers, which complements HBK's automotive offering and as such it will become part of the HBK platform.

At Omega, there has been a focus on introducing newer, faster-growing products to supplement its traditional thermocouple business. In addition, to strengthen market presence and increase growth prospects, a new e-commerce platform is being introduced to enhance the digital experience for customers. This was initially launched in North America and will be progressively rolled out globally during 2019. Omega is well-positioned to take advantage of the continuing trend by process engineers to change the buying processes to online purchasing. Together with Omega's existing strong application knowledge and technical support, the new website will deliver precisely-targeted digital marketing campaigns and enhanced search engine optimisation performance, that we fully expect will see a higher conversion of website traffic to sales.

## Our people deliver the strategy

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 last year, I have continued to be impressed by the breadth and depth of capability and talent we have across the business. The openness, passion and enthusiasm are evident in the way I have seen our people go about their work. We will retain and promote these attributes that have driven our success, preserving the entrepreneurial and dynamic nature of the Group, as well as continuing to uphold our strong ethical culture and values.

Following new leadership appointments in Lean, supply chain, software and digital, we are better able to drive further performance enhancement across the Group, consistent with our renewed focus on profitable growth. This will be further supported via our talent management and organisational capability programmes, which in 2018 have focused on senior succession as well as the development of high potential employees.

After 12 years as Group Finance Director, Clive Watson has decided to retire and will step down from the Board. We are very pleased that Derek Harding will be joining the Board to succeed Clive, as Chief Financial Officer Designate, on 1 March, before formally becoming Chief Financial Officer following a month's handover. Derek brings a wide range of financial leadership and industrial expertise to Spectris, having been most recently group finance director at Shop Direct and previously Senior plc, following 11 years in various finance and strategy roles at Wolsley plc.

I would like to thank Clive for his material contribution to developing the Group and driving its success during his tenure and personally express my gratitude for the support he has provided since I started, as well as wish him the best for the future.

## Summary and outlook

I am pleased that our performance in 2018 was slightly ahead of expectations, reflecting the quality of our businesses. We were able to build on the increased momentum across our end markets and delivered good LFL sales growth. We expect sales growth to moderate in 2019, given the more cautious macroeconomic outlook. Consequently, we are focusing on what we can control; increasing productivity and operational efficiency, while driving sales. Our profit improvement programme is expected to deliver benefits of £15-20 million during 2019, helping drive margin expansion. With this focus on improving profitability, we anticipate operating profit to grow ahead of sales, growing our margin in the process.

Since I joined the Group last autumn, we have taken decisive action to improve Spectris' performance. This will continue through 2019 as we complete the strategic review and execute our strategy for profitable growth, as the basis for delivering a significant and sustainable increase in shareholder value.

I am convinced that there is significant value creation opportunity here for our customers, shareholders and people. I look forward to setting out in more detail the results of the review and our vision for the Group at our Capital Markets Day in June 2019.

**Andrew Heath**  
Chief Executive  
19 February 2019

# Understanding our MARKETS

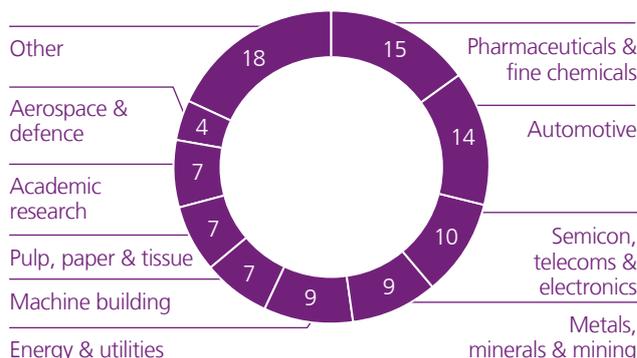
We serve a broad spectrum of blue-chip customers across key manufacturing industries around the world. We are seeing a number of specific demand drivers and growth themes across these industries, which are summarised below.

End-user market	2018 LFL sales trend vs 2017	Demand drivers	2018 developments
 <p><b>Pharmaceuticals &amp; fine chemicals</b></p>	<b>+7%</b>	<ul style="list-style-type: none"> <li>› R&amp;D investment, particularly in biopharmas; with increasing drug complexity, more sophisticated therapies and personalised medicine.</li> <li>› Rising demand for healthcare and drive to enhance quality as well as availability of latest drugs in emerging markets.</li> <li>› Increasing demands for regulatory compliance and sterility assurance.</li> <li>› Desire to reduce development time and cost.</li> <li>› Desire to derisk drug development by outsourcing discovery and development services.</li> <li>› Innovation in materials and technology together with advanced data analytics.</li> </ul>	<ul style="list-style-type: none"> <li>› Continued rise in spending on global pharmaceutical R&amp;D.</li> <li>› New regulations (e.g. China FDA guidance on generics) to ensure product integrity.</li> <li>› New environmental/contamination monitoring regulations in force.</li> </ul>
 <p><b>Automotive</b></p>	<b>+11%</b>	<ul style="list-style-type: none"> <li>› New product development, particularly hybrid, electric and connected and autonomous vehicles.</li> <li>› Increasing demand for noise/vibration/harshness analysis and associated simulation and software.</li> <li>› Increasing regulatory compliance, especially in relation to environmental, emissions and safety.</li> <li>› Desire to reduce new model time to market.</li> </ul>	<ul style="list-style-type: none"> <li>› Increased investment in hybrid/EV development; a rise in the number of EV/hybrid models and EV start-up companies.</li> <li>› New regulations, e.g. compulsory EV targets in China, WLTP (emissions testing) rules in the EU.</li> <li>› Downturn in global new vehicle sales but rapid growth in EV/HEV platforms, especially China.</li> </ul>
 <p><b>Semicon, telecoms &amp; electronics</b></p>	<b>+7%</b>	<ul style="list-style-type: none"> <li>› Continued advances in semiconductor manufacturing and testing technology; smaller chips with more powerful performance.</li> <li>› Semiconductor investment growth driven by rising presence of electronic components across multiple products/applications, e.g. AI, autonomous vehicles, digital consumer electronics, IIoT devices and infrastructure.</li> <li>› Rise of global middle class creating demand for personal telecoms/electronics products.</li> </ul>	<ul style="list-style-type: none"> <li>› Record semiconductor spending on both greenfield construction and equipment.</li> <li>› Continued demand for faster, smaller and higher-functioning devices.</li> <li>› Fewer new telecoms product launches versus 2017 by major market participants.</li> <li>› Developments in new lithium-ion battery production.</li> <li>› ADAS subsystems becoming standard in cars.</li> </ul>
 <p><b>Metals, minerals &amp; mining</b></p>	<b>+2%</b>	<ul style="list-style-type: none"> <li>› Commodity exploration and production; brownfield and greenfield capex projects.</li> <li>› Increasing analysis of materials for more efficient conversion of materials.</li> <li>› Focus on safety and productivity enhancements.</li> <li>› Increased environmental regulatory requirements.</li> </ul>	<ul style="list-style-type: none"> <li>› Higher commodity prices versus 2017 supported an expansion in capex budgets.</li> <li>› Lower demand from China for metals.</li> <li>› Increased demand for rare earths and precious minerals, e.g. for battery production.</li> </ul>

Our principal aim is to enhance our customers' productivity, whether by shortening development cycles, increasing yield, improving quality and consistency or streamlining processes.

Further commentary on our end markets can be found within the Operating Review on pages 18 to 25.

Sales by end-user industry (%)



End-user market	2018 LFL sales trend vs 2017	Demand drivers	2018 developments
 <b>Energy &amp; utilities</b>	<b>+6%</b>	<ul style="list-style-type: none"> <li>Commodity exploration and production; brownfield and greenfield capex projects.</li> <li>Focus on safety, productivity and environmental issues.</li> <li>Investment in unconventional/renewables.</li> <li>Life cycle enhancements in rotating machinery drive demand for predictive maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>Higher oil price versus 2017 supported an expansion in capex budgets.</li> <li>US oil production at record levels.</li> <li>Climate change reduction initiatives led to rise in investment in renewable technologies.</li> </ul>
 <b>Pulp, paper &amp; tissue</b>	<b>+3%</b>	<ul style="list-style-type: none"> <li>Shift to digital media impacting demand for coated (graphic) paper.</li> <li>Growth in consumption of tissue and other hygiene products.</li> <li>Expansion in online shopping driving packaging demand.</li> </ul>	<ul style="list-style-type: none"> <li>Overall growing global market for pulp.</li> <li>Increased demand for process solutions for automation and real-time process monitoring.</li> <li>Changing mix in our portfolio from graphic paper to tissue, pulp, packaging.</li> </ul>
 <b>Academic research</b>	<b>+13%</b>	<ul style="list-style-type: none"> <li>Government funding.</li> <li>Policies to promote technology and innovation.</li> <li>Balance of R&amp;D undertaken in-house versus outsourced to universities/research centres.</li> </ul>	<ul style="list-style-type: none"> <li>Better funding backdrop.</li> <li>New government initiatives, e.g. in China to develop technology and pharmaceutical industries, in Japan increased spending on science and technology.</li> <li>Increased focus on research in higher education, e.g. China.</li> </ul>
 <b>Aerospace &amp; defence</b>	<b>-5%</b>	<ul style="list-style-type: none"> <li>New product development.</li> <li>Increased demand for engineering software.</li> <li>Regulation, safety, environmental issues.</li> <li>High-value asset monitoring.</li> <li>Desire to reduce time to market and cost.</li> </ul>	<ul style="list-style-type: none"> <li>Lower investment and fewer new products/large projects than in prior years.</li> <li>Commercial aerospace industry growth in Asia.</li> </ul>

# Our evolving STRATEGY

## Our strategy

Our strategy has continued to evolve from being a supplier of hardware products towards the provision of solutions to our customers – a combination of our high-quality instruments alongside associated software and/or services.



In November, a strategic review was initiated by our new Chief Executive to explore the potential to reduce complexity and establish a more focused organisation. The initial findings of that review are set out in the Chief Executive’s Review on pages 8 to 11 and further appraisal work will continue during 2019. We will report our progress on this at our Capital Markets Day in June and in the 2019 Annual Report and Accounts.

For 2018, we have continued to report our progress and our key performance indicators (‘KPIs’) against the strategic priorities detailed opposite as they are the ones relevant to our performance in the year.

## Strategic priorities

## Description

### Focus on innovative customer solutions



As customer requirements evolve, so too does the offering that Spectris provides to them. Our long-term customer relationships and technical know-how mean we can enhance our offering to them, whether that involves the supply of improved equipment or a packaged solution combining hardware, software and/or services.

### Increase presence in key strategic markets



We build leadership positions in attractive markets where we believe there are opportunities for technology-led productivity enhancement. These markets currently include segments within the life sciences and pharmaceuticals, automotive, electronics and semiconductor, metals/minerals/mining and technology-led industrials sectors, but we also review and actively pursue opportunities in new markets.

### Expand business globally



In response to a customer base that is extending its international operations and becoming increasingly sophisticated, we seek to expand our business globally, with emphasis on markets such as Asia, particularly China.

### Accelerate operational excellence



We strive for continuous improvement in all aspects of our business operations, both to enhance customer experience and to generate efficiency and productivity gains. In addition, we seek to improve performance and profitability by driving synergistic opportunities within and between our operating companies, and across the Group as a whole.

### Deploy capital for both platform and bolt-on M&A



We acquire businesses which materially strengthen our operating companies through broadening their customer offering, reaching new customer segments or expanding their geographical presence. These are typically bolt-on in nature, i.e. integrated into one of our operating companies. In addition, we invest in new platform or stand-alone businesses in order to establish a presence in strategic markets or complementary capabilities.

### Project Uplift

Project Uplift was our productivity enhancement programme which was seeing increased collaboration and common processes being adopted across the Group to simplify the business, increase efficiency and productivity and drive continuous improvement and growth.

## Progress in 2018

- › Invested £103.4 million in R&D (6% of sales).
  - › New product launches: Malvern Panalytical's particle characterisation products – the Zetasizer Ultra/Pro systems and Morphologi static imaging systems; PMS' Quality Assurance data management system and new software products from BKSv and HBM.
  - › Merger of BKSv and HBM to better deliver integrated data solutions to our customers.
  - › Launch of our digital solutions brand,
- › Acquisition of Concept Life Sciences, which provides integrated drug discovery, development and analytical testing in the pharma and biotechnology sectors which complement the activities of Malvern Panalytical.
  - › Acquisition of Revolutionary Engineering, an automotive test system and service provider in the USA, specialising in driveline test services and solutions. Revolutionary Engineering has been integrated into
- › Delivered strong LFL sales growth in Asia (+10%), particularly in China and in India.
  - › Acquisition of Revolutionary Engineering adds US-based automotive testing and services.
- › Merger of BKSv and HBM to deliver integrated test, measurement and data solutions to our customers and improve cost efficiencies.
  - › Focus on Lean manufacturing initiatives with Kaizen events held across our businesses to improve on-time delivery, quality and operational efficiency.
- › Acquisition of Concept Life Sciences, which provides integrated drug discovery, development, analytical testing and environmental consultancy services, as well as development and analytical services for the food, consumer and environmental industries.
- › Project Uplift programme initiatives resulted in gross recurring savings of £17.3 million being realised during 2018, an annualised run-rate of £21 million and on track to at least meet the £25 million total in 2019.
  - › Group-wide direct and indirect procurement contracts signed, such as freight provision,
- Spectris Advance, showcasing our IIoT capabilities in specific end markets, combining our instrumentation, connectivity and analytics expertise to provide more cross-group solutions.
  - › Acquisition of Concept Life Sciences whose activities in integrated drug discovery, development and analytical testing complement our existing instrumentation.
- Millbrook, expanding both Millbrook's offering to customers and presence in North America, a key growth market. Millbrook also expanded its automotive testing service capacity and capability at both its Finland and UK sites.
  - › Acquisition of VI-grade, a leading global provider of vehicle simulation software, systems and services which complements the software and simulation capability of the automotive segment within HBK.
- › Launched new profit improvement programme to deliver enhanced operational gearing from 2019.
- › Acquisition of Revolutionary Engineering and VI-grade expands automotive offering with a US presence and in software simulation, respectively.
- to harmonise activities and leverage the Group scale to enhance terms.
  - › Completed study on shared service centre project for Phase 2 and took decision not to proceed, given the cost of implementation versus the speed of returns.

## Our KPIs

LFL sales growth

**+5%**

Adjusted operating margin

**15.5%**

Adjusted earnings per share growth

**+7%**

Cash conversion

**59%**

Economic profit

**£196.8m**

Energy efficiency per £m revenue

**66.5MWh**

Reportable accidents per 1,000 employees

**2.9**



See pages 16 to 17 for more information

# Measuring our PERFORMANCE

We monitor progress against the delivery of our strategic goals using five financial and two non-financial key performance indicators ('KPIs'). Each KPI measures certain elements of the strategy, as indicated by the relevant strategy icons (see page 14). An element of Executive Directors' remuneration is linked to two KPIs: adjusted earnings per share growth and economic profit.

A number of the KPIs are adjusted operating metrics as we believe these are the primary indicator of the performance of the business as they exclude foreign exchange movements and the impact of acquisitions and disposals. See Note 2 to the Financial Statements, page 105, for a reconciliation between adjusted and statutory items.

Our strategy focuses on profitable growth that is sustainable over the medium to long term and therefore we show the KPIs for the last five years. Even in years where like-for-like sales growth has been low, the Group has maintained an adjusted operating margin in the mid-teens and delivered good cash conversion of operating profit. The Group has also generated good economic profit throughout the period.

As we undergo the strategic review, we will be reassessing our KPIs to ensure they remain the best metrics to monitor our performance.

## Financial measures

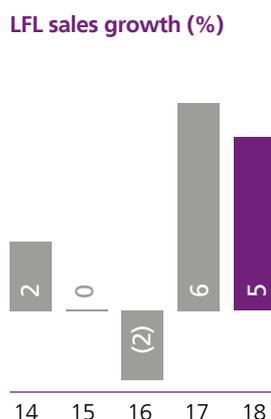
### Like-for-like sales growth



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

Sales were £1,604.2 million in 2018, a 5% increase on a LFL basis compared with 2017. LFL sales increased across all four segments, with particularly strong growth in Materials Analysis. All regions posted LFL sales growth, with a notably strong performance in Asia.



#### Objective

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

See pages 26–30 for more information

### Adjusted operating margin

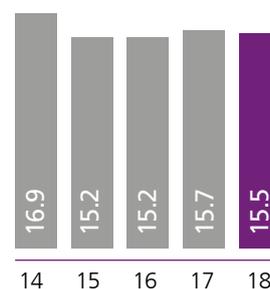


Adjusted operating margin is a measure of improving profitability in our business and is defined as adjusted operating profit as a percentage of sales. Adjusted operating profit excludes certain items.

#### Performance

Adjusted operating margin was 15.5%, a decrease of 0.2pp over the prior year. On a LFL basis, adjusted operating margins improved by 0.3pp, reflecting a 0.1pp LFL gross margin increase combined with a 0.2pp decrease in LFL overhead costs as a percentage of sales.

#### Adjusted operating margin (%)



#### Objective

Our aim is to achieve a mid-teens adjusted operating margin, as a minimum, on average throughout the cycle.

See pages 26–30 for more information

### 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.

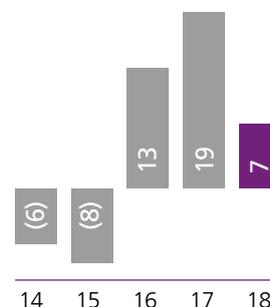
#### Performance

Adjusted EPS increased 7% to 164.9p, reflecting a 3% rise in adjusted profit before tax, a lower effective tax rate and a decrease in the weighted average number of shares following the share buyback programme.

#### Link to remuneration

EPS performance is one of the criteria for the Performance Share Plan award. See page 75 for more information.

#### Growth in adjusted EPS (%)



#### Objective

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

See pages 26–30 for more information

Strategic priorities:

Innovative solutions

Market presence

Expanding globally

Operational excellence

Capital deployment

Non-financial measures

Cash conversion

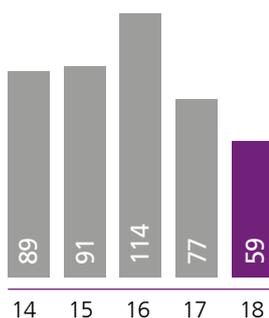


We use cash conversion as a KPI as we believe cash represents an effective measure of the quality of our earnings. Cash conversion is defined as adjusted operating cash flow as a percentage of adjusted operating profit.

Performance

Cash conversion was 59%, down from 77% in 2017. This was due to an increase in growth capital expenditure and higher working capital outflows.

Cash conversion (%)



Objective

Our aim is to deliver high cash conversion of operating profit in each financial year.

See pages 26–30 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 66.5 in 2018. This represents an improvement of 1% compared with the prior year.

Objective

We monitor our use of key sources of energy (electricity, gas, oil and steam) with the

MWh per £m revenue



aim of reducing our carbon emissions and improving energy efficiency.

See page 42 for more information

Economic profit

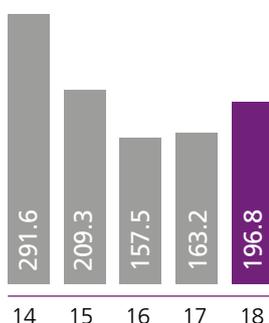


Economic profit is the annual result derived from deducting a capital charge (applied to average capital employed) from adjusted operating profit, after Project Uplift costs, aggregated over a three-year period.

Performance

Three-year aggregated economic profit was £196.8 million, representing an increase on the prior year.

Three-year aggregate economic profit (£m)



Objective

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

See page 75 for more information

Accident incidence rate

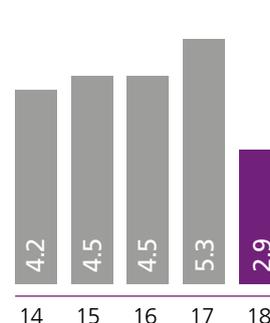


We are committed to ensuring the health, safety and wellbeing of our people and monitor how we are performing by measuring work-related accidents or ill health resulting in lost time in excess of one day (years prior to 2017, three days).

Performance

There were 2.9 reportable accidents per 1,000 employees in 2018. This is a significant improvement over prior years, following an increased focus on health and safety across the Group.

Reportable accidents per 1,000 employees



Objective

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

See page 42 for more information

# MATERIALS

## Analysis

Sales increased 16%, reflecting an 8% increase in LFL sales, a 10% contribution from acquisitions and a 2% negative impact from foreign currency exchange movements. Sales growth for the year was driven by strong demand in Asia, particularly in China, South Korea and India, with a notably stronger performance in the second half. In North America and Europe, LFL sales were also up, with particularly strong first half performances in both regions.

On a LFL basis, adjusted operating profit increased 11% and adjusted operating margins increased by 0.4pp, reflecting the higher LFL sales, some mix effects and good overhead cost control. The 1.2pp decline in adjusted operating margin reflected the dilutive impact of the acquisition of Concept Life Sciences in the year. Statutory operating profit increased 5% to £72.1 million.

Sales at **Malvern Panalytical** have continued to benefit from the re-organised sales and marketing functions following the merger and are being aligned with three market sectors: advanced materials, pharma and food, and raw and bulk materials. Alongside a key account structure, these are focused on value-based selling in order to benefit our customers and create differentiation from the competition. We have continued to generate orders from cross-selling the Malvern- and Panalytical-branded product lines, with incremental sales into various universities and industrial customers recognising the benefits of the combined businesses.

Several new products were launched by Malvern Panalytical in the year. These included the Epsilon 4 XRF spectrometer, a new high-performance benchtop analytical tool for determining the chemical composition of different materials. It is applicable to industries such as mining, pharmaceuticals and oils/fuels which need to comply with international regulations and test methods. A third generation Empyrean X-ray diffractometer with the newly-developed MultiCore Optics was introduced. It aims at increasing productivity in around-the-clock investigations and offers unprecedented traceability of experiments in regulated environments. For example, leading electronics companies have been selecting Empyrean for optimising the performance of lithium-ion batteries.

Also launched were the Zetasizer Ultra and Pro systems, which deliver significant improvements in the quality and speed of the characterisation of nanomaterials and proteins. New capabilities, including the use of machine learning techniques, significantly shorten sample preparation and measurement times, whilst providing more stable and reliable results.

And lastly, the new Morphologi range of automated static imaging systems for particle characterisation is designed to provide deeper understanding of process and/or material properties, for example in pharmaceuticals and battery materials. The system's capability in delivering precise particle characterisation data enables complex generic drug manufacturers to gain faster regulatory approval using lab-based assessments instead of relying on complex clinical studies.

**Particle Measuring Systems** ('PMS') benefited from growth in the semiconductor industry as well as continued good demand for both its contamination monitoring hardware and high-level consulting services into the pharma industry. Demand for these services is motivated by regulatory compliance, which is becoming more stringent, and PMS is well positioned in a growing market for aseptic processing and sterility assurance. In this context, PMS

released the next generation of FacilityPro products which deliver enhanced flexibility to meet the latest environmental monitoring needs whilst ensuring data security and reliability. Following the establishment of a global partnership with Novatek International in 2017 to provide a fully-integrated software and hardware solution for environmental monitoring, PMS launched the first fully-integrated Quality Assurance data management system for pharmaceutical manufacturers, Pharmaintegrity, to securely meet regulatory requirements and ensure product integrity. This uniquely offers our customers a complete solution package, with advisory services, particle and microbial monitors, cleanroom monitoring systems, training and education, and data management.

Performance at **Concept Life Sciences** ('CLS') was below expectations due to a range of factors including a reduction in project work from two major clients, delays in gaining new laboratory and manufacturing accreditations (GLP and GMP), as well as a period of sub-optimal performance at one of its analytical laboratories. These internal issues largely reflected the state of the business on acquisition, which was in the process of integrating previous acquisitions into two divisions, as well as distraction and disruption caused to the commercial organisation triggered by the acquisition. Remedial action to improve operational effectiveness is already having an impact; the preparatory work for the manufacturing accreditations has progressed well and the funnel of opportunities across the business has developed strongly. Management believes that the end markets for CLS are still very strong as customers continue to look to outsource analytical services and pharmaceutical development work. With a similar end-market focus to Malvern Panalytical, the two companies have been marketing collaboratively and, for example, a recent significant project was awarded to CLS as it could access Malvern Panalytical's Morphologi 4-ID particle characterisation system and offer a unique solution to a key client.

Sales to the **pharmaceuticals and fine chemicals** industries rose notably on a LFL basis, with North America seeing particularly strong growth. LFL sales also increased in Europe and Asia, with growth in the latter driven by strong demand in China and India as rising disposable incomes in these countries bring increased

### Bringing new products to market faster

Sprint Bioscience, a Swedish pharmaceutical company, is performing ground-breaking work in immuno-oncology, the study and development of treatments for cancer that take advantage of the body's own immune system. Two of Malvern Panalytical's MicroCal biophysical characterisation systems have played direct roles in Sprint Bioscience's development of new drugs to target a specific enzyme involved in the growth and progression of human cancers. The instruments were used to confirm that the therapeutic molecules were stable and soluble and that they bound to their target correctly.

Rapid delivery of reliable data has accelerated the programme, which is currently in toxicology studies prior to selection of a clinical candidate and has demonstrated efficacy in several different cancer models.

demand for effective healthcare. This has led to greater investment in generic pharmaceutical development and manufacturing in both regions. Significant cross-selling opportunities have been realised within the value chain for traditional oral solid dose products, where Malvern Panalytical's morphology and structural analysis solutions provide insight into drug product bioavailability and stability.

The **metals, minerals and mining** sector saw an increase in LFL sales, with North America and Europe broadly flat and growth in other regions. The improved investment climate has seen an increase in market activity as well as a focus on safety and productivity. The sector has focused on delivering improved yields, productivity, product quality and cost minimisation in the extraction and processing of raw materials fundamental to the manufacturing industry, and Malvern Panalytical instruments are critical in delivering these improvements.

After a notably weak 2017, sales to **academic research** customers were much improved in 2018, with good LFL growth across all key regions. The year started slowly but improved notably in the second half with a significant pick-up in demand in North America and Asia as improving economic conditions and increased government funding led to greater market activity. In China, for example, the government has a number of initiatives and investments underway to help develop the country's technology and pharmaceutical industries and establish world-class universities. In North America, LFL sales benefited from an increase in universities' internal funding and our improving win-rate.

Sales to the **semiconductor and electronics** industries recorded another year of good LFL growth in 2018, particularly in Asia where we have seen strong demand from battery and electronics customers in China, Taiwan and Korea as Asian demand for consumer electronics and IIoT applications has increased. Semiconductor capital spending continues to rise as new fabrication plants ('fabs') are developed, although we have seen a slower pace of growth in 2018. Notable customer wins in this area include a well-known semiconductor manufacturer and world-leading memory supplier, who have installed multiple UDI-20 units, an extremely sensitive liquid particle counter, in their new fabs. In addition, one of the world's most advanced foundries has just built a leading-edge chip facility in which PMS particle counters have been installed.

### Segment outlook

In the **pharmaceutical** sector, the global growth in disposable incomes and consequent demand for effective healthcare has resulted in sustained investment in R&D and we expect this trend to continue. Alongside this, an increasing awareness of total lifecycle cost is pushing customers to reduce both development costs and time to market for new products, underpinning an increased need for new solutions and services. Increasing regulatory compliance and sterility assurance for drug manufacturing processes will also continue to drive growth of our hardware and services.

We expect the steady growth in the **mining and materials** sector to continue, where our focus is on customers involved in the research, development and manufacturing of novel materials and complex systems and devices.

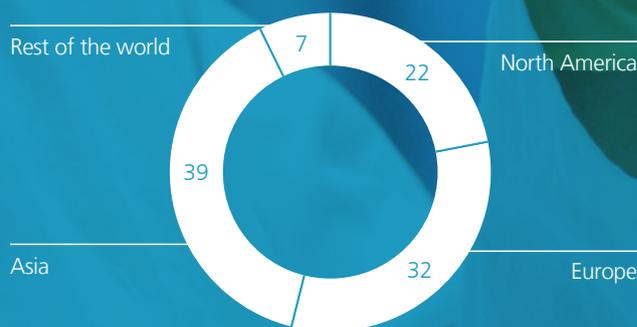
With its dependence on government funding, we expect growth in the **academic research** market to be variable, although demand in Asia is benefiting from a number of government initiatives.

Within the **semiconductor industry**, after another year of strong demand, we expect the pace of semiconductor investment to be at more muted rates than in 2018.

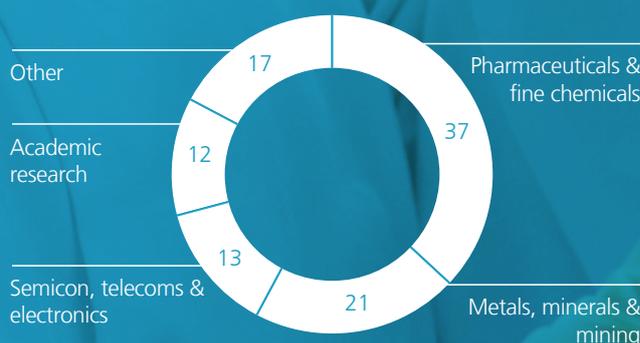
### Segment performance



### Sales by destination (%)



### Sales by end-user market (%)



# Test and MEASUREMENT

Sales increased 7%, including a 2% contribution from acquisitions, net of disposals, and a 1% negative impact from foreign currency exchange movements. LFL sales increased by 6%. By region, North America, Europe and Asia all delivered similar levels of LFL sales growth, with the UK, China and Japan being the key countries posting higher growth.

Adjusted operating profit decreased 9% on a LFL basis and LFL operating margins decreased by 2.0pp. This reflected the higher LFL sales volumes, in particular at ESG and Millbrook which are lower gross margin businesses, plus higher overheads. The overheads increase resulted from HBK-related merger costs, higher employee costs (reflecting an increase in headcount and higher than expected wage inflation), as well as higher depreciation at Millbrook. Statutory operating profit decreased to £42.8 million from the £55.6 million recorded in 2017. At the end of May, we completed the disposal of the EMS Brüel & Kjær environmental monitoring business into a joint venture with Macquarie Capital.

During 2018, preparatory work continued ahead of the merger of **Brüel & Kjær Sound & Vibration** ('BKS<sub>V</sub>') and **HBM**, the two largest operating companies within this segment. The businesses are being combined in order to leverage the strengths and complementary expertise across the measurement chain to enhance our customer proposition and the joint company is being renamed HBK (Hottinger, Brüel & Kjær). An integrated go-to-market model for the joint sales organisation has been established and the development of joint HBK products and solutions has commenced. During 2018, both companies launched new software products which aim to streamline and simplify data acquisition and monitoring: HBM has launched EVIDAS, its next-generation data acquisition and analysis software with cloud integration, and BKS<sub>V</sub> released BK Connect, a highly innovative sound and vibration software analytics platform which has already received strong customer feedback and generated a robust funnel of opportunities. These platforms help integrate seamless data acquisition, monitoring, multiple analysis, data viewing and reporting in the same system. HBM also launched ClipX, a novel miniaturised data acquisition product for industrial applications.

Overall sales growth has been held back in 2018 by supply shortages and constraints at HBM, by internal staffing issues at BKS<sub>V</sub> which have now been resolved, and by some interruption from pre-merger related activity. However, orders for their traditional hardware products have remained strong, particularly for BKS<sub>V</sub>'s shaker business and for HBM's core torque, load sensor/cell and strain applications and data acquisition products. For example, OEM sensors have seen significant growth, both with existing and new customers, in applications like agriculture, medical devices, textile machines and spectrometry devices. HBM's DAQ instrument business has grown significantly, a notable order being from ITER for their experimental fusion reactor project. Going forward, we see a solid pipeline of opportunities for ground vehicles and aircraft.

At **Millbrook**, we continued to expand our testing capacity and capability. We increased our capacity for testing advanced driver assistance systems and connected and autonomous vehicle ('CAV') technologies via modifications to existing track infrastructure plus investment in high-precision instrumentation and soft targets that allow contact without damage. A new battery test facility started up in January 2019 and all 12 chambers will become operational

throughout the first half of 2019. The refurbishment of the full-scale crash laboratory has increased efficiency and enabled additional tests to be offered. At Test World in Finland, additional indoor tyre testing capacity has come into commercial use successively through the year. The acquisition of Revolutionary Engineering, Inc (now Millbrook RE) in Detroit, USA, in April extended our position into a new region, market and services offering and we have seen good demand for its services since acquisition.

In August, we acquired **VI-grade**, a leading global provider of vehicle simulation software, systems and services, primarily to automotive customers, which complements our existing hardware and services offering into this sector. VI-grade helps clients shorten development cycles, enhance innovation and decrease risk by providing real-time virtual prototype simulation capabilities. Performance since acquisition has been in line with expectations and VI-grade will be collaborating with other operating companies to expand our solutions for our automotive customers.

Within the **automotive** sector, LFL sales grew strongly during the year with the UK, China and Japan being the main contributors to the growth. Growth reflects robust demand for electric and hybrid vehicles globally and policy changes in certain markets such as China (compulsory EV targets for vehicle manufacturers) and Europe (emissions testing for new cars). We also had another year of strong growth in our eDrive applications.

In **machine manufacturing**, a significant portion of which represents sales into the automotive supply chain, LFL sales rose year-on-year in the two key regions, Europe and Asia. The two main markets, Germany and China, both saw good growth with a continued increase in exports from Germany. Sales of our weighing sensors benefited from strong machine maker demand globally and customer wins.

In the **aerospace and defence** sector, LFL sales declined in all regions, though this is typically a project business and sales can be lumpy. In addition, 2017 was a tough comparator due to a sizeable one-off order and we have seen some projects being delayed by customers into 2019. However, we continue to see good R&D

## Improving quality and safety

Volvo Car Corporation invests a significant amount of time and cost improving the driving experience of its cars. The company has installed VI-grade's dynamic driving simulator, DiM150, to fine tune the next generation of vehicles right from the start of the development process. The DiM platform enables Volvo to undertake simulation models using human test drivers to test and optimise the handling and ride behaviour of new vehicles in a realistic environment, as well as to test new algorithms for active safety systems.

The simulator is used in conjunction with Brüel & Kjær Sound & Vibration's SimSound software, which enables highly authentic and dynamic vehicle sound simulation to be generated. Using the simulator early in the new vehicle development process has helped Volvo improve the performance of new cars and reduced development time and cost.

investment in the industry and have been building our pipeline of opportunities, for example within hull vibration monitoring systems for naval applications. Our key account programme has delivered new sales opportunities with a number of notable contracts signed. For example, we have been working with Mitsubishi Regional Jet on Japan's first commercial jet aircraft during its certification phase to ensure exterior take-off and landing noise meets requirements. BKS's array acoustic products were utilised to perform noise source identification to help identify areas of the aircraft that need continued analysis or further design enhancements. In addition, HBM has secured various projects for tests of electric aircraft.

LFL sales to our **consumer electronics and telecoms** customers were slightly higher in 2018, with growth this year lower than in prior years, primarily reflecting fewer new product launches by customers. Sales of our high-frequency head and torso simulator, which was launched in 2017 and is designed for in-situ electro-acoustics tests on smartphones, headsets and microphones, have been above expectations, particularly into consumer electronics companies, and we have a strong pipeline. Underlying demand for our electro-acoustics products is still good as manufacturers strive to deliver the higher sound quality that customers now demand from their mobile devices and speakers.

LFL sales into **academic research** institutes were flat year-on-year, with lower sales in Europe and North America. LFL sales were strong in Asia driven by very good growth in China, reflecting the increased government funding and continuing investment to move China towards being a technology- rather than manufacturing-driven economy.

Improved conditions in **oil and gas and mining** markets continued into 2018 and LFL sales growth was again strong, particularly in North America. A rising rig count and the launch of new oil and gas and mining projects saw demand for ESG's microseismic monitoring solutions increase notably. In particular, we saw a higher level of activity for our downhole hydraulic fracture mapping and monitoring activities. Sales of our new microseismic data acquisition, processing and analysis product, FRACMAP Clarity, which was launched during the year, have been very good as it brings greater insight for our oil and gas customers on the productive fracture network resulting from well completion operations. This enables more strategic well planning, better stage placement and reservoir coverage and an improved estimate of recoverable resource.

### Segment outlook

As the development of electric and hybrid vehicles continues to grow rapidly, and stricter emissions testing, battery development and the growth of CAV continue apace, we expect the demand in the **automotive** sector to continue to grow, especially driven by the associated R&D. New capacity coming onstream at Millbrook will also enable us to better access these high-growth sectors.

In **aerospace**, overall demand will be driven by new development programmes and while our pipeline remains strong, the ability to convert these into orders will be key.

The underlying trends in the **consumer electronics and telecoms** market remain healthy in our view, with continued consumer demand for smartphones with high-quality audio and innovative features. The prevalence of new product launches will help drive demand for our applications.

Market conditions in the **oil and gas** industry are harder to predict, with continued volatility in oil and gas prices. However, our new product offerings continue to position us strongly with increased instrument capability and analytic solutions in the micro-seismic segment.

### Segment performance

Sales

£522.6m

(2017: £487.3m)

Adjusted operating profit

£67.2m

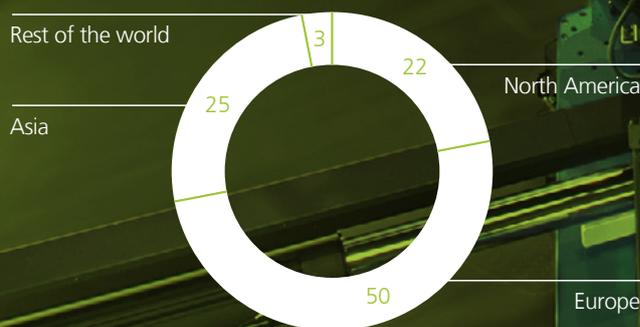
(2017: £74.2m)

Statutory operating profit

£42.8m

(2017: £55.6m)

### Sales by destination (%)



### Sales by end-user market (%)



# In-line INSTRUMENTATION

Sales were broadly flat year-on-year, with a LFL sales increase of 1%. Servomex and BTG performed well, with sales at NDC Technologies ('NDCT') contracting and Brüel & Kjær Vibro having a tough comparison against high one-off sales in 2017. A 1% negative impact from foreign currency exchange movements was compensated by a 1% contribution from acquisitions. On a regional basis, LFL sales rose strongly in Asia, particularly in China, but this was mostly offset by the lower LFL sales recorded in North America and Europe.

LFL adjusted operating profit increased 17% and LFL adjusted operating margins increased 1.8pp year-on-year. This resulted from higher gross margins at BTG and Servomex, the segment's larger two operating companies, plus lower overheads year-on-year, with the 2017 results reflecting certain one-off restructuring costs which were not repeated this year. There was also a rise in statutory operating profit, from £29.5 million to £32.2 million.

In the **pulp and paper** markets, LFL sales increased compared with 2017, with similar growth in all the key regions and notably strong growth in China driven by robust capital project activity. **BTG's** Process Solutions business unit, established in 2017, has continued to gather momentum with several customers placing orders for integrated solutions. Orders were placed in the Americas and Europe for pulping solutions, including instrumentation and MACS advanced process control content. These solutions are designed to deliver sustainable gains in business performance for our customers, including cost savings and productivity enhancements. Solutions tailored to drive gains in efficiency continue to be aligned with many of the projects that the pulp and paper industry is seeking, including a more widespread use of automation and real-time monitoring of process conditions.

The Capstone dataPARC analytics offering also continues to be deployed in several process industries, including power generation, chemical, wastewater and ethanol. As an example, a leading Korean utility company is replacing their existing data historian with dataPARC across all their generation sites, as described in the case study below.

In the **energy and utilities** market, LFL sales rose, with notably strong growth in Asia more than offsetting lower LFL sales in North America and Europe, with the higher year-on-year oil price supporting steady project investment in both upstream and downstream projects. In addition, waste-to-energy projects in the Americas and combustion control in power plants in Asia continued to drive opportunities.

With our strengthened sales and marketing organisation at **Servomex**, we have continued to capitalise on this improved backdrop in the industrial gas and hydrocarbon processing sectors and benefited from sales of new products launched in recent years, where we have seen substantial growth in orders. For example, we have had notable sales of our Laser 3 Plus, particularly to the Asian power sector as well as for hydrocarbon processing in both Europe and the Americas. Since their launch last year, the new MonoExact and MultiExact gas analysers have been experiencing significant growth, with sales to major industrial gas companies globally, and sales of the newly-launched 4900 Multigas are already notably

above target. These products measure multiple gases, which further optimises processes, improves product yields, ensures high product quality and helps meet regulatory and safety requirements for our customers. Gas monitoring applications are equally in demand in other industries outside of energy, for example, sales of our analysers into the semiconductor market, to ensure gas purity during the manufacturing process, have been buoyant as activity here remains strong. We had a notable order in the year from a major player in advanced semiconductor technology to deliver 135 analysers for their new semiconductor fabrication facility in South Korea.

In the **wind energy** sector, although the market continues to see growth, we have seen lower LFL sales at **Brüel & Kjær Vibro** due to a tough comparator in 2017 when we had exceptionally high sales to wind turbine manufacturer Vestas. During the year, we delivered our 20,000th wind turbine condition monitoring system and have further expanded the number of wind farm owners and operators to whom we provide remote turbine monitoring and diagnostic services. During the year, we launched our new state-of-the-art condition monitoring unit, DDAU3, that is set to provide further opportunities in 2019 and beyond. Early sales included the selection as a preferred condition monitoring system supplier with a large wind turbine manufacturer based in China for both the DDAU3 hardware as well as our remote monitoring services for one of their LatAm wind farms for a multi-year period. New and existing customers are also showing keen interest in our new third-generation product.

At **NDCT**, LFL sales to **web and converting industries** were down notably across all key regions. In the film extrusion and converting segment, we have seen demand softness in all regions, in particular in the Americas where we have seen fewer upgrades compared with last year, driven by industry consolidation and customers delaying projects to focus on consolidating production lines.

An important development and opportunity has been our work on lithium-ion batteries and NDCT continues to progress activities to further penetrate this market. It has developed a new generation of sensor products for the continuous measurement and inspection of the lithium-ion battery electrode manufacturing process. Its new Photon Sensor provides a new level of performance in coat weight

## Improving operational efficiency

A leading Korean utility company is using BTG's dataPARC software across all their generation sites, creating a central monitoring and prognosis centre at their head office and a common visualisation platform at their sites. The real-time data and information gathered through dataPARC is also integrated with the customer's predictive modelling infrastructure.

The customer now has the ability to monitor their operations centrally, contributing to greater efficiency.

measurement accuracy and fine detail of the coating flatness and its new micro-caliper thickness sensor enables manufacturers to get a true picture of product quality, enabling them to make improvements to their production processes. We had a notable order with a battery manufacturer in Taiwan and are currently working on projects with American, Chinese, Japanese and Thai battery manufacturers. In the **food and bulk materials** segment, manufacturers continued to seek higher performing measurement solutions to meet more stringent food safety and consumer requirements. For example, in 2018, NDCT's Infralab product introduced a degree of roast measurement that allows coffee manufacturers to perform moisture and degree of roast measurements at a single station.

**Segment outlook**

We continue to drive the mix shift in our **pulp and paper** business to be less dependent on graphic paper, a long-term declining market, into the higher growth areas of tissue, packaging and pulp markets. Tissue growth is driven by increasing consumer penetration in emerging markets and packaging from the rise in online shopping. We also expect to continue to capture new opportunities with our Process Solutions business, including reliability services.

The market environment in global **oil and gas** markets is difficult to predict, given current contrary macroeconomic signals. However, in the **wind energy** sector, investment is expected to continue to grow and we continue to look at expanding our offering into new wind farm owners and operators as well as OEMs. In the medium term, there remains the potential for additional capabilities beyond vibration to encompass other condition monitoring technologies in order to provide more predictive analysis and a more holistic monitoring solution.

The demand softness we have seen in the **film extrusion and converting** segment is likely to persist into 2019 and we will continue to look at cost containment measures to offset this, as well as focus on key areas of growth such as the lithium-ion battery market. In the **food and bulk materials** market, activity is expected to remain robust. Over the medium term, we believe opportunities across these markets are expected to increase as customers develop new products which require advanced in-line measurement solutions.

**Segment performance**



**Sales by destination (%)**



**Sales by end-user market (%)**



# INDUSTRIAL

## Controls

LFL sales increased by 3%, there was a negative impact of 3% from foreign currency exchange movements and 13% from the disposal of Microscan, resulting in sales being 13% lower year-on-year. This segment has a high exposure to North America (74%), where we recorded solid sales growth. Asia recorded good growth in LFL sales, particularly at Omega. In Europe, overall segment sales were lower on a LFL basis due to a tough comparative from good project sales in 2017.

Adjusted operating profit (LFL) increased by 19% and LFL operating margins improved by 2.6pp, following the continued improvement in gross margin at Omega, from both efficiency improvements and pricing, and at Red Lion Controls ('Red Lion'). The results reflect reorganisation costs of £0.7 million at Omega (2017: £2.1 million). Statutory operating profit increased to £29.3 million, from £28.7 million.

LFL sales growth was good in Asia, driven in particular by demand from the Chinese market. In Europe, LFL sales for both companies were lower, with Omega reflecting a tough comparator given the strong project work in 2017. The better year-on-year results reflect the impact of higher LFL sales and the continuing operational improvements at Omega and, likewise, improvement at Red Lion was primarily driven by operational improvements, coupled with solid growth in its main market of North America.

Operational performance improved at **Omega**, with both higher gross margins and operating margins. This has been achieved by a continued focus on Lean operations, tighter inventory management plus footprint rationalisation by consolidating its global distribution centres. During 2018, Omega has experienced some product availability and lead time issues, impacted primarily by the tight US labour market as well as raw material availability. Omega's focused operational improvement initiatives should help further on this front going into 2019.

In addition, Omega has been focusing on introducing newer, faster-growing products to offset the lower growth of its traditional thermocouple business. As an example, during the year, Omega launched the ZW-Series wireless sensor system for web-based monitoring of temperature, humidity, barometric pressure and a wide range of process-related devices in diverse industrial, laboratory, commercial and agricultural applications. The ZW-Series is supported by the Omega Enterprise Gateway, which provides a set of web-based data visualisation, monitoring, alarming, data historian and email services. Omega's first cloud-capable Bluetooth wireless thermometers were also released. With their seamless connectivity, they allow the user to collect, transmit and store accurate temperature data for analysis or compliance reporting without any additional or third-party software. Omega has also created differentiation in its new series of custom pressure transducers for industrial applications that can be quickly and easily configured online and shipped to the customer within 48 hours, beating the competition's delivery of similar custom products by weeks.

In December, to strengthen market presence and increase growth prospects, a new e-commerce platform was introduced to enhance the digital experience for customers. This was initially launched in Canada and the platform will be progressively rolled out globally during 2019. Omega has supplemented this with more precisely-targeted digital marketing campaigns as well as enhanced organic search engine optimisation performance and, together, these are expected to translate into higher conversion of website traffic to sales.

The increasing emphasis on industrial connectivity and IIoT from our customers is generating opportunities for both Red Lion and Omega. **Red Lion** added cloud connectivity to its Crimson software platform, allowing the data collected from industrial devices to be pushed to platforms that include Amazon AWS or Microsoft Azure. This further broadens the appeal of Red Lion's equipment beyond their traditional core factory automation market, and has enabled new wins in several key verticals, including energy exploration and alternative energy. The company also added OPC UA functionality, a machine-to-machine communication protocol for industrial automation, allowing access to data via a standard that is becoming the common language of the industrial controls world.

The connectivity capability of Omega's portfolio was similarly expanded with the launch of four product platforms with wireless, ethernet and/or remote connectivity, while also extending the ability of existing platforms to utilise new types of measurement inputs and send data through wireless connections. Omega and Red Lion have begun collaborating to find ways to leverage their digital infrastructure to enhance their product offering to customers.

### Protecting high-value assets

Cardinal Glass, a leading US glass manufacturer, produces around 8 million square feet of high-value speciality glass each month, half of which is stored for upcoming orders. However, if the stored glass is exposed to humidity swings for too long, the coating will begin to oxidise, causing catastrophic damage and considerable financial cost. To monitor the temperature and relative humidity of the storage environment, Cardinal has installed six Omega temperature and humidity monitors across two buildings. The data from these sensors is integrated into their monitoring and control systems via Omega's Enterprise Gateway for seamless integration with other plant processes. This allows Cardinal to monitor humidity levels alongside other plant measurements in real time and will help the company not only better protect their assets, but also improve their manufacturing processes and environment.

Red Lion has also been refreshing its product lines. For example, it launched the DA10D and DA30D protocol conversion and data acquisition devices, providing customers with a cost-effective way of unlocking the value of data contained in legacy equipment. Via easy-to-use software, customers can quickly configure communications links to over 300 types of industrial controllers, allowing them to cost-effectively monitor and manage machines that might otherwise have been left isolated from their data collection strategy. The company also launched a range of additional communications modules for their CR3000 series touchscreen operator panels, again allowing easier integration with a broad range of equipment. The requirement for industrial companies to drive productivity and operational efficiencies by enabling effortless and secure access to their manufacturing information is increasing demand for these types of products.

**Segment outlook**

Given the predominance of sales in the North American market, the performance of this segment will be influenced by industrial markets in that region, where growth in 2019 is likely to be more subdued than in 2018. However, our enhanced digital e-commerce platform, in combination with a refresh of our product portfolio, are expected to drive enhanced medium-term growth at Omega, and we will also benefit from improved operating leverage from the continued restructuring activities and Lean focus.

In the medium term, the demand from industrial companies wishing to drive productivity and operational efficiencies, by having effortless and secure access to their manufacturing data, is expected to increase. Our ability to provide connected devices, digital monitoring and optimisation solutions enables our customers to benefit from our deep applications knowledge, as we apply our process applications and products expertise to address their industrial optimisation requirements.

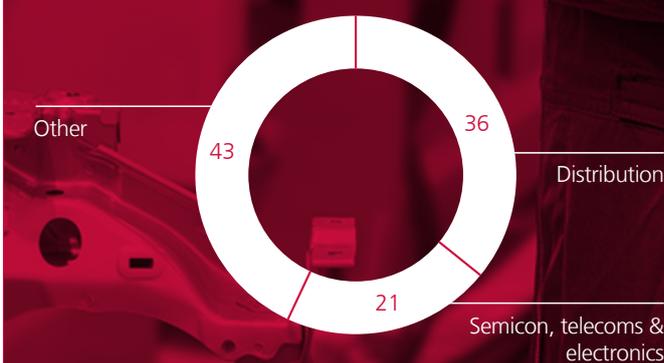
**Segment performance**



**Sales by destination (%)**



**Sales by end-user market (%)**



# IMPROVING our operational performance

## Operating performance

	2018	2017	Change	Like-for-like change <sup>1</sup>
<b>Adjusted</b>				
Sales (£m)	1,604.2	1,525.6	5%	5%
Operating profit (£m)	248.3	239.3	4%	7%
Operating margin (%)	15.5%	15.7%	(0.2pp)	0.3pp
<b>Statutory</b>				
Sales (£m)	1,604.2	1,525.6	5%	
Operating profit (£m)	176.4	182.4	(3%)	
Operating margin (%)	11.0%	12.0%	(1.0pp)	

1. At constant exchange rates, and including the impact of acquisitions and disposals on a comparable basis.

Spectris uses alternative performance measures in addition to those reported under IFRS, as management believes these measures enable them to better assess the underlying trading performance of the businesses. Alternative measures exclude certain non-operational items which management has defined in Note 2 to the Financial Statements. A reconciliation of statutory and adjusted measures is provided in Note 2 to the Financial Statements.

Adjusted measures exclude restructuring costs which include Project Uplift costs and the one-off costs of implementing the Group's profit improvement programme that was announced in November 2018.

Sales increased by 5% to £1,604.2 million (2017: £1,525.6 million). Growth from acquisitions, net of disposals, contributed £23.6 million (2%) and LFL sales increased by £77.5 million (5%). Adverse foreign exchange movements reduced sales by £22.5 million (2%).

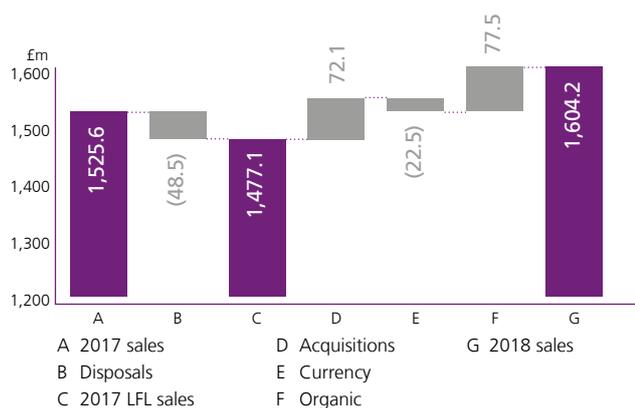
An improvement in adjusted operating profit of £9.0 million (4%) was more than offset by higher acquisition-related costs which were up £11.8 million and other adjusting items, up £3.2 million, which resulted in statutory operating profit decreasing by 3% to £176.4 million from £182.4 million in the comparable year. Statutory operating margins of 11.0% were 1.0pp lower than the prior year.

Adjusted operating profit increased by £9.0 million (4%) to £248.3 million in 2018. LFL adjusted operating profit (before restructuring costs) increased by £16.6 million (7%). Acquisitions, net of disposals, and foreign exchange movements reduced adjusted operating profit by £7.5 million and £0.1 million, respectively.

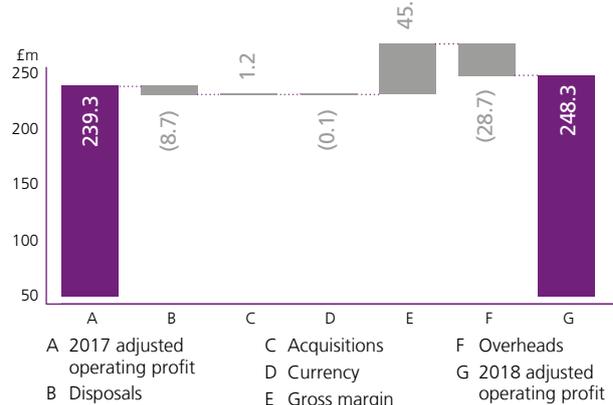
Adjusted operating margins declined by 0.2pp, whilst LFL adjusted operating margins improved by 0.3pp compared with 2017, with the difference being explained mainly by the dilutive effects of acquisitions and foreign exchange. The improvement in the LFL operating margin consists of a 0.1pp LFL gross margin increase to 57.0% in 2018 (2017: 56.9%), combined with a 0.2pp decrease in LFL overhead costs as a percentage of sales. The improvement in operating margin was driven by Industrial Controls, up 2.6pp, which benefited from positive pricing as well as positive reorganisation impacts and In-line Instrumentation, up 1.8pp, mainly due to favourable pricing and mix with overheads constrained to prior year levels. Materials Analysis operating margin was up 0.4pp, driven by higher volumes. These improvements were partly offset by the Test and Measurement segment, down 2.0pp, principally due to higher overhead costs, including those associated with the merger of BKS with HBM, and higher depreciation due to the ramp up in capital expenditure in this segment in the last three years. LFL overheads grew by 4.7% (2017: up 5.2%), reflecting annualisation of new headcount costs from the prior year as well as additional headcount in 2018, together with cost inflation, higher depreciation charges and reorganisation costs, particularly in the Test and Measurement segment.

We continued to invest in our R&D programmes, with total R&D spend (including capitalised development costs) of £103.4 million or 6.4% of sales (2017: £105.1 million or 6.9% of sales). Total R&D spend was up 1% compared with 2017 on a LFL basis.

### Sales



### Adjusted operating profit



/// Like-for-like adjusted operating margins improved by 30 basis points, reflecting a like-for-like gross margin increase to 57%, combined with a 20 basis point decrease in like-for-like overhead costs as a percentage of sales. ///

Adjusted operating margin

**15.5%**

in 2018

Average working capital as a percentage of sales

**11.4%**

in 2018

Net debt to EBITDA

**1.0x**

in 2018

Net finance costs increased by £9.0 million to £13.5 million (2017: £4.5 million), principally due to an increase of £8.5 million in translation losses on short-term US Dollar denominated inter-company loan receivables arising from Sterling's strengthening against the US Dollar. Adjusted net finance costs for the year were up £0.6 million at £5.7 million (2017: £5.1 million) as higher interest charges were driven by higher average borrowings after the share buyback. Statutory profit before tax decreased from £278.4 million in 2017 to £218.0 million in 2018. Statutory profit before tax in 2018 and 2017 benefited from profits on disposal of businesses of £56.3 million and £100.5 million, respectively. Adjusted profit before tax increased by 3% to £241.4 million.

### Restructuring costs

The Group has incurred costs of £15.6 million relating to restructuring in 2018 (2017: £15.8 million). This includes £10.8 million relating to Project Uplift (2017: £15.8 million) and £4.8 million relating to one-off costs of the profit improvement programme announced in November 2018.

One-off costs incurred under Project Uplift in 2018 of £10.8 million included £7.7 million related to Phase 1 of the programme (which focused on IT, procurement and footprint) resulting in cumulative costs for Phase 1 of £26.7 million, and £3.1 million relating to Phase 2, the shared services centre programme, where a decision was taken not to proceed. Gross recurring savings of £17.3 million were realised during 2018, an annualised run-rate of £21 million and we expect to at least meet the £25 million of cumulative benefits in 2019. Additional spend and savings from the projects started under the Project Uplift programme will be realised in 2019 and thereafter but, since the project itself has now come to a natural end, the additional savings will now be secured by the operating companies as business as usual.

The reconciliation of statutory to adjusted measures is shown in the table below.

	2018			2017		
	Statutory £m	Adjustments £m	Adjusted £m	Statutory £m	Adjustments £m	Adjusted £m
Sales	1,604.2	–	1,604.2	1,525.6	–	1,525.6
Gross profit	907.4	0.3	907.7	867.5	–	867.5
Overheads and other operating costs	(731.0)	71.6	(659.4)	(685.1)	56.9	(628.2)
Operating profit <sup>1</sup>	176.4	71.9	248.3	182.4	56.9	239.3
Share of post-tax results of joint venture	(1.2)	–	(1.2)	–	–	–
Profit on disposal of businesses	56.3	(56.3)	–	100.5	(100.5)	–
Financial income	2.5	–	2.5	1.9	(1.3)	0.6
Finance costs	(16.0)	7.8	(8.2)	(6.4)	0.7	(5.7)
Profit before tax <sup>1</sup>	218.0	23.4	241.4	278.4	(44.2)	234.2
Taxation charge	(32.8)	(14.8)	(47.6)	(43.6)	(6.3)	(49.9)
Profit after tax <sup>1</sup>	185.2	8.6	193.8	234.8	(50.5)	184.3

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. Principal adjustments to statutory operating profit are to exclude amortisation and impairment of acquisition-related intangible assets of £43.3 million (2017: £41.9 million), restructuring costs of £15.6 million (2017: £15.8 million) and net acquisition-related costs and fair value adjustments of £12.2 million (2017: £0.4 million).

The operating companies will also be securing savings under the new Group-wide profit improvement programme which commenced at the end of 2018. The programme is aimed at delivering greater operational gearing in 2019 and beyond.

The operating companies and the Group's head office have instigated a number of initiatives to create sustainable cost savings over the short to medium term; these include a number of projects such as site consolidation, headcount reductions, lower profitability product retirements and improved operational performance using Lean techniques.

### Acquisitions

The Group completed three acquisitions during the year. The total cost of acquisitions was £203.9 million (2017: £34.6 million), including £8.2 million (2017: £0.8 million) for cash acquired and £6.0 million (2017: £1.4 million) attributable to the fair value of deferred and contingent consideration which is expected to be paid in future years. A net £6.7 million (2017: £4.1 million) was paid in respect of prior year acquisitions, making the net cash outflow in the year £196.4 million (2017: £36.5 million). Furthermore, an amount of £10.8 million (2017: £2.8 million) was spent on acquisition-related costs, which makes the total acquisition-related cash outflow for the year £207.2 million (2017: £39.3 million). Acquisitions contributed £72.1 million of incremental sales and £1.2 million of incremental operating profit during the year. In 2019, these acquisitions are expected to contribute £15-20 million of incremental sales and up to £1 million of incremental adjusted operating profit.

Concept Life Sciences has not performed in line with our expectations. Therefore, management has carefully considered whether the goodwill amount of £105.5 million is impaired and have concluded that this is not the case, but recognise the

continued operational improvements required, as set out in the Materials Analysis segment performance review. Further disclosures around the sensitivities on reasonably possible changes in relation to key assumptions which would result in an impairment are set out in Note 11 to the Financial Statements.

### Disposal and formation of joint venture

On 31 May 2018, the Group completed the disposal of EMS Brüel & Kjær ('EMS B&K') into a joint venture with Macquarie Capital which resulted in a net cash inflow of £41.8 million, after paying cash taxes of £0.6 million. The post-tax profit on disposal was £55.9 million. Sales of £8.9 million and an operating loss of £0.4 million relating to EMS B&K were included in the operating results for the five-month period of ownership prior to its disposal on 31 May 2018.

### Taxation

The effective tax rate on adjusted profit before tax was 19.7% (2017: 21.3%), a decrease of 1.6pp, primarily due to reduction in US tax rates in 2018. On a statutory basis, the weighted average effective tax rate was 26.0% (2017: 28.6%), a decrease of 2.6pp, largely due to the reduction in US tax rates and the fact that the 2017 statutory results included significant profits on disposal arising in the USA. In 2019, the Group expects an increase in its effective tax rate of up to 2pp as a result of changes in tax laws. 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, [www.spectris.com/sustainability/tax-strategy](http://www.spectris.com/sustainability/tax-strategy).

### Earnings per share

Adjusted earnings per share increased by 7% from 154.6 pence to 164.9 pence, reflecting the net impact of the 3% increase in adjusted profit before tax, the reduction in the effective tax rate and the decrease in the weighted average number of shares from 119.2 million in 2017 to 117.5 million in 2018, following the share buyback.

Statutory basic earnings per share decreased from 197.0 pence to 157.6 pence, with the difference between the two measures shown in the following table.

	2018 pence	2017 pence
Statutory basic earnings per share	157.6	197.0
Net acquisition-related costs and fair value adjustments	10.4	0.3
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	0.7	0.6
Amortisation and impairment of acquisition-related intangible assets	36.8	35.1
Bargain purchase on acquisition	–	(1.6)
Restructuring costs	13.3	13.3
Profit on disposal of business	(47.9)	(84.3)
Net (gain)/loss on retranslation of short-term inter-company loan balances	6.1	(1.1)
Unwinding of discount factor on deferred and contingent consideration	0.5	0.6
Tax effect of the above and other non-recurring items	(12.6)	(5.3)
Adjusted earnings per share	164.9	154.6

### Cash flow

#### Adjusted operating cash flow

	2018 £m	2017 £m
Adjusted operating profit	248.3	239.3
Adjusted depreciation and software amortisation <sup>1</sup>	35.3	30.5
Working capital and other non-cash movements	(42.8)	(12.1)
Capital expenditure, net of grants	(94.1)	(73.1)
Adjusted operating cash flow	146.7	184.6
Adjusted operating cash flow conversion	59%	77%

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

Adjusted operating cash flow generation of £146.7 million during the year was impacted by higher than normal working capital outflows and higher capital expenditure, resulting in an adjusted operating cash flow conversion rate of 59%, compared with 77% in 2017. The higher working capital outflow was mainly attributable to higher receivables driven by sales growth and recent acquisitions, together with increased inventory mainly due to the timing of recognition of large projects and complex installations for completion in 2019 and advance purchases of limited supply components. The higher capital expenditure resulted from higher investment at Millbrook, together with capital expenditure from acquisitions during 2018, aimed at securing future growth. Capital expenditure is expected to be at a similar level in 2019.

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, decreased by 0.5pp to 11.4% (2017: 11.9%). Excluding acquisitions, disposals and foreign exchange, the LFL reduction in average trade working capital was 0.4pp, with improvements across all segments, aside from Test and Measurement which experienced lower sales. Decreases were most notable in the Industrial Controls segment, with improvements in inventory management at both Red Lion and Omega. In the Materials Analysis segment, higher sales drove the reduction and in In-line Instrumentation, Servomex and BTG contributed to the better performance. The year-end trade working capital to sales ratio increased by 0.6pp from 14.0% in 2017 to 14.6% in 2018.

Capital expenditure (net of grants) on property, plant and equipment and intangible assets during the year of £94.1 million (2017: £73.1 million) equated to 5.9% of sales (2017: 4.8%), and was 267% of adjusted depreciation and software amortisation (2017: 240%).

**Non-operating cash flow**

	2018 £m	2017 £m
Tax paid	(37.7)	(47.0)
Net interest paid	(8.8)	(4.1)
Dividends paid	(68.2)	(63.2)
Acquisition of businesses, net of cash acquired	(196.4)	(36.5)
Acquisition-related costs paid	(10.8)	(2.8)
Proceeds from disposal of businesses, net of tax paid of £0.6 million (2017: £19.0 million)	43.8	91.9
Loan to joint venture	(0.9)	–
Restructuring costs paid	(8.6)	(16.8)
Share buyback	(100.5)	–
Exercise of share options	0.7	0.5
Foreign exchange	(5.9)	(6.2)
Total non-operating cash flow	(393.3)	(84.2)
Adjusted operating cash flow	146.7	184.6
(Increase)/decrease in net debt	(246.6)	100.4

**Financing and treasury**

The Group finances its operations from both retained earnings and third-party borrowings, with a broadly even split of the year-end gross debt balance between fixed rate and floating rate borrowings.

As at 31 December 2018, the Group had £814.4 million of committed facilities denominated in different currencies, consisting of a five-year \$800 million (£625.6 million) revolving credit facility maturing in July 2023 (with two one-year extension options, subject to approval by the lenders, which, if exercised, would extend the maturity to July 2025), a seven-year €94.8 million (£84.8 million) term loan maturing in October 2020, and a seven-year €116.2 million (£104.0 million) term loan maturing in September 2022. £467.9 million of the revolving credit facility was undrawn at the year end. In addition, the Group had a year-end cash balance of £73.1 million, bank overdrafts of £5.8 million and various uncommitted facilities available.

At the year end, the Group's gross borrowings amounted to £370.2 million, 51% of which was at fixed interest rates (2017: 99%). The ageing profile at the year end showed that 6% (2017: 1%) of year-end borrowings are due to mature within one year, 23% (2017: nil) between one and two years, and 71% between two and five years (2017: 99%).

Overall, net debt increased by £246.6 million (2017: decrease of £100.4 million) from £50.5 million to £297.1 million. Net bank interest costs were covered by adjusted operating profit 37 times (2017: 56 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 2018,

approximately 59% of the estimated net Euro, US Dollar and Japanese Yen exposures for 2019 were hedged using forward exchange contracts, mainly against the Swiss Franc, Sterling, the Euro and the Danish Krone.

The largest translational exposures are to the US Dollar, Euro, Danish Krone, Japanese Yen and Swiss Franc. Translational exposures are not hedged. The tables below show the average and closing key exchange rates compared with Sterling.

	2018 (average)	2017 (average)	Change
US Dollar (USD)	1.34	1.29	4%
Euro (EUR)	1.13	1.14	(1%)
Japanese Yen (JPY)	147	145	1%
Swiss Franc (CHF)	1.31	1.27	3%

	2018 (closing)	2017 (closing)	Change
US Dollar (USD)	1.28	1.35	(5%)
Euro (EUR)	1.12	1.13	(1%)
Japanese Yen (JPY)	141	152	(7%)
Swiss Franc (CHF)	1.26	1.32	(5%)

During the year, currency translation effects resulted in operating profit being £0.1 million lower (2017: £5.9 million higher) than it would have been if calculated using prior year exchange rates. Transactional foreign exchange gains of £2.1 million (2017: £2.1 million loss) were included in administrative expenses, whilst sales include a loss of £1.4 million (2017: £1.1 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 around the world and 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 explained in the Principal Risks section on page 34. As part of this analysis, management has considered the measurement impact on the Group's balance sheet. 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 40.5 pence per share (2017: 37.5 pence) which, combined with the interim dividend of 20.5 pence per share (2017: 19.0 pence), gives a total dividend of 61.0 pence per share for the year (2017: 56.5 pence), an increase of 8%. The dividend is covered 2.7 times by adjusted earnings and is consistent with our policy of making progressive dividend payments, based upon affordability and sustainability. In determining the level of dividend in any year, the Board considers a number of factors that influence the proposed dividend, including the level of distributable reserves in the Company, future cash commitments and investment needs to sustain the long-term growth prospects of the Group and the level of dividend cover.

**Clive Watson**  
Group Finance Director  
19 February 2019

# Risk MANAGEMENT

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

## Committed to managing risk effectively

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 57.

## Risk management process

Our approach to risk management incorporates both bottom-up and top-down elements to the identification, evaluation and management of risks and all risks are evaluated with reference to the Group's achievement of its strategic objectives, as outlined on pages 14 and 15.

Our business units are required to undertake formal risk management reviews at least twice a year. This involves the use of a consistent framework for the assessment of significant risks with respect to impact, likelihood and the time frame in which the risk could materialise. Risks are assessed both before and after the effect of controls and mitigating actions have been taken into account.

Overall ownership for each risk, together with responsibility for mitigating actions, is clearly assigned and communicated. The resulting risk registers are then subject to review on an ongoing basis as part of regular operational reviews. This ensures that risk management is embedded in day-to-day management processes and decision-making as well as in our annual strategic planning cycle.

## Oversight

In addition, the Executive Committee and key functional personnel in the Group consider those risks to the Group's strategic objectives which are not addressed within the business units and develop appropriate approaches to managing and mitigating these. These Group principal risks are analysed against a 'lines of defence' framework, as illustrated below.

The overall effectiveness of the Group's risk management and mitigation processes is reviewed regularly by the Executive Committee and twice yearly by the Audit and Risk Committee.

Each principal risk is assigned to a member of the Executive Committee as its owner. The risk owner is accountable for the assessment of the risk, identification of the risk scenarios, development and monitoring of key risk indicators and planning or maintaining of respective mitigations. In assessing each principal risk, the risk owner has also considered the risk appetite, which determines the amount of risk that the Group is willing to take on as a consequence of existing business activities and new opportunities. Each principal risk is given an overall assessment, which represents the combination of profit impact and likelihood once all existing mitigations are taken into account. Both the risk appetite and overall assessment is provided for each principal risk on pages 32 to 36.

Recognising the complexity and importance of the principal risks, in 2018 the Group initiated a series of focused risk sessions to be held with either the Executive Committee, Audit and Risk Committee or Board. These sessions will continue throughout 2019.

### Overall responsibility: Audit and Risk Committee

- › Determining the Group's risk appetite
- › Oversight of the Group's internal control and risk management framework

### First line of defence: Business units

- › Day-to-day ownership of risk management

### Second line of defence: Key Group functions/programmes and Executive Committee

- › Shaping policy and control framework
- › Monitoring and oversight of risk management by business units
- › Evaluation of risks impacting the Group as a whole

### Third line of defence: Independent assurance

- › Assurance over the effectiveness of the internal control and risk management framework

# Managing our PRINCIPAL RISKS

The effective management of risk is important for delivering our strategic objectives. As such, risk management is built into our day-to-day management activities and forms an integral part of how we operate.

**Acquisitions**



**Risk appetite:** Balanced  
**Assessment:** Moderate

Integration of the operations and personnel of acquired businesses can be a complex process. Potential risks therefore exist that the planned benefits from the acquisition may not be achieved as a result of problems encountered during integration of the acquired business, incorrect assumptions made in the business case, changing market conditions, or issues which were not identified during the due diligence process. Further, the Company could be exposed to past acts or omissions of the acquired business.

**Impact**

- › Failure to successfully deliver the business plan.
- › Reduced profitability and cash flow.
- › Unforeseen liabilities.

**Mitigation**

- › Rigorous financial, commercial and legal assessment of target businesses involving external consultants and advisers as appropriate.
- › Strict authority levels which, subject to size, involve review by the Board for such transactions.
- › Comprehensive representations and warranties in purchase agreements.
- › Integration planning.
- › Regular review of the acquired businesses against the business case.
- › Post-acquisition control reviews.

**2018 update**

Our acquisition activity during 2018 has included the expansion of test service capabilities for Materials Analysis and accessing new markets via the acquisition of Concept Life Sciences. We have been careful to maintain our financial, commercial and legal due diligence and disciplines, which has meant that we have also excluded ourselves from a number of potential acquisitions. We have recently recruited an Integration Manager to strengthen our capabilities with regard to integrating new acquisitions and merging operating companies within our Materials Analysis and Test and Measurement segments.

**Strategy execution**



**Risk appetite:** Balanced  
**Assessment:** Moderate

The Group is currently undertaking a strategic review. Progress and initial conclusions from the review are set out on page 10. The Group considers that there is inherent risk associated with the successful execution and delivery of the Group’s strategic priorities, and that managing this risk is of increased importance during a period of strategic review and transition.

Some of the specific risks and mitigations associated with the Group’s strategic priorities are managed via their own principal risk, for example competitive activity, how we develop new products and how we acquire other businesses. Nevertheless, the Group recognises the importance and value of managing strategic execution risk in its own right.

**Impact**

- › Failure to realise the Group’s growth plans.
- › Failure to realise the Group’s plans for enhanced profitability.
- › Reduced capital returns and cash flow.

**Mitigation**

- › Greater focus on performance management, capital allocation and shareholder value creation.
- › Simplifying the business to focus on scalable platform businesses, strongly aligned to attractive high growth end markets with the strongest capabilities.
- › Independent support and assurance in the development of the strategy.
- › Drive profitability through the cycle via a strong focus on margin expansion:
  - › Profit improvement programme initiated.
  - › Operating leverage from organic revenue growth.
  - › Lean operating model and system.
- › Developing a clear strategy activation programme – aligning the organisation and culture with the new strategy programme.
- › Enabling the capabilities of our leaders and future leaders to drive successful execution.

**2018 update**

- › Strategic review initiated in the fourth quarter.
- › New profit improvement programme initiated in the fourth quarter.

**Key:****Link to strategy**

Innovative solutions



Market presence



Expanding globally



Operational excellence



Capital deployment

**Risk appetite**

Highly cautious

Cautious

Balanced

Opportunistic

Highly opportunistic

**Assessment**

Very low

Low

Moderate

High

Very high

**Change in risk level**

Higher



Same



Lower

**People****Risk appetite:** Cautious  
**Assessment:** Moderate

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 attract, retain or deploy talent could significantly impact the successful execution of our strategy.

**Impact**

- › Loss of knowledge/expertise.
- › Business disruption.
- › Lost investment in people.

**Mitigation**

- › Structured recruitment processes for senior and Group talent.
- › Organisational capability review processes in effect.
- › Group executive-level succession planning.
- › Staff turnover reporting.

**2018 update**

We recognise the heightened importance of managing people risk during a period of strategic review and transformation. As a consequence, we have raised our assessed risk level and the following additional mitigations were planned and introduced in 2018 with further rollout during 2019:

- › Group HR information system.
- › Enhancements to Group approval/governance process covering all senior hires.
- › Assurance over key implemented mitigations.

**Compliance with laws and regulations****Risk appetite:** Highly cautious  
**Assessment:** High

We operate in a large number of jurisdictions and, consequently, are subject to wide-ranging laws and regulations.

Any failure by the Group or its representatives to comply with relevant laws and regulations 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 for a period of time. In the event of a failure to comply with export control regulations, the Group could also be exposed to restrictions being placed upon its ability to trade.

**Impact**

- › Reduced sales, profitability and cash flow.
- › Reputational damage.
- › Diversion of management resources resulting in lost opportunities.
- › Penalties arising from breach of laws and regulations.
- › Inability to attract and retain talent.

**Mitigation**

- › Strong cultural alignment to the Spectris value of 'Absolute Integrity'.
- › Internal control framework and policies.
- › Ethics training provided to all employees.
- › Formal export controls compliance procedures in place, including strict product classification and transaction screening protocols.
- › Comprehensive insurance covers all standard categories of insurable risk.
- › Contract review and approval processes mitigate exposure to contractual liability.

**2018 update**

The compliance burden on the Group has heightened given our geographical concentration in areas that have seen an increase in regulatory risk during 2018. An ethics and compliance enhancement programme was endorsed by the Audit and Risk Committee in October 2018 and is expected to deliver further mitigation strengthening over the next 24 months. We continue to be responsive to issues raised through the Spectris hotline. For details of our ethics programme, see page 39.

### New product development



**Risk appetite:** Balanced  
**Assessment:** Moderate

The development of new technologies and products necessarily involves risk, including:

- › the product being more expensive or taking longer to develop than originally planned;
- › the product failing to reach the commercialisation phase; and
- › not meeting market requirements or market requirements changing.

#### Impact

- › Reduced profitability and cash flow.
- › Loss of market share.
- › Failure to recoup investment in innovation.

#### Mitigation

- › Regular strategic evaluations of product portfolios and the markets in which we compete.
- › Project management disciplines are in place across our product development programmes and audits provide assurance that these disciplines are applied consistently.
- › Regular monitoring of project progress and performance against plan.
- › Working closely with customers to ensure that we develop solutions tailored to their specific needs.

#### 2018 update

During 2018, the Group has enhanced its focus on value-driven product design, product portfolio management and project management. The latter has resulted in the establishment of a special interest group comprised of operating company and function representatives. The Group has already made progress in driving consistent and good practices in project management methodologies and tools.

In addition, the Group has put in place a dashboard reporting process designed to monitor key performance and risk indicators, such as return on innovation and speed of innovation.

### Political and economic risks



**Risk appetite:** Balanced  
**Assessment:** Moderate

We operate in a range of end-user markets around the world and may be affected by political, economic or regulatory developments in any of these countries. Material adverse changes in the political and economic environments in the countries in which we operate have the potential to put at risk our ability to execute our strategy.

#### Impact

- › Reduced sales, profitability and cash flow.

#### Mitigation

- › Maintain a broad spread of markets, products and customers to limit risks associated with any given territory.
- › Market monitoring so that we can respond quickly to changing trading conditions.
- › Ensure we maintain a strong balance sheet and financial position.

#### 2018 update

While the Group's balanced geographical mix, with similar exposure to North America, Europe and Asia, enables it to benefit from an improvement in trading conditions in each region, two particular risk scenarios have increased in potential impact/likelihood:

- › Uncertainty as to the outcome of Brexit and the prospect of 'no-deal'. During 2018, the Group's focus has shifted towards the 'no-deal' scenario. The Group has identified an extensive list of potential risks. Their associated mitigations are being continuously monitored to ensure the effective management of risk during this dynamic period. Mitigations include amending provisions within our commercial contracts and seeking approvals from alternative regulatory authorities to continue to operate in the EU/UK.
- › Risk associated with the escalation of tariff measures between the USA and China has also required focused monitoring and mitigation. Working with each of the Group's businesses in China, an assessment has been made as to the annualised impact of the proposed tariffs. In addition, separate assessments have been made with respect to the anticipated impact of tariffs on US imports from China. Mitigations in place include the use of alternatives for US-based businesses with China-based suppliers, as well as proactive filing for exemptions from US tariff increases on imports.

## Competitive activity



**Risk appetite:** Balanced  
**Assessment:** Moderate

The nature of the markets in which we operate means that all of our businesses are exposed to risk from competitor activity.

### Impact

- › Loss of market share.
- › Reduced financial performance.
- › Price and/or volume erosion as a result of competitor activities.

### Mitigation

- › Ongoing monitoring of competitor activity and trends in the markets in which we compete.
- › Maintain market-leading positions through strong customer relationships and significant investment in R&D.
- › We have a diversified portfolio of products and markets that limits the overall risk from any single competitor.

### 2018 update

We maintained high levels of investment in R&D (typically 6-7% of sales), with our operating companies bringing new products and solutions to market during the year to sustain and strengthen our strong customer relationships and competitive advantages. While our assessment of this risk for 2018 has slightly increased, planned enhancements to activities in new product development, specifically in product management and the management of speed and agility of innovation, will further contribute to the mitigation of this risk.

## Fluctuations in exchange rates



**Risk appetite:** Balanced  
**Assessment:** Moderate

We have operations which sell and purchase goods in foreign currencies and whose results we record in a variety of different currencies. We are therefore exposed to any significant changes in exchange rates.

### Impact

- › Unexpected variations in the Company's results.
- › Reduced profitability and cash flow.

### Mitigation

- › Natural hedging strategy, matching invoicing and purchasing currencies where practical.
- › Forward foreign exchange contracts cover up to 75% of forecast transactional exposures up to 18 months ahead.
- › Foreign currency investments hedged with borrowings in the same currency wherever possible.
- › Regular monitoring, including sensitivity analyses to understand the impact of exchange rate movements on the Group's reporting.

### 2018 update

- › Implementation of new treasury management system in 2019 will improve monitoring and compliance with the Group's transactional hedging policy.

## Supply chain dependencies and disruption



**Risk appetite:** Cautious  
**Assessment:** Low

We are exposed to the risk that some of the components we source, particularly for custom-built items or ageing products, are provided by a single supplier and are therefore vulnerable to interruption of supply.

Our businesses also manufacture components using proprietary technologies at a number of locations.

Our ability to supply products to customers could be adversely impacted by a significant disruptive event at any of these sites.

### Impact

- › Inability to fulfil customer orders, resulting in lost sales and reputational damage.
- › Increased costs reduce profitability.
- › Loss of market share.

### Mitigation

- › Strategic sourcing teams source cost-effective suppliers across a range of markets whilst validating suppliers' business processes, quality and standards.
- › Alternative sources of supply actively sought to reduce dependency upon single-source suppliers.
- › Business interruption insurance.
- › Strong contract review process.

### 2018 update

We continued to identify and qualify secondary sources of supply where key dependencies have been identified. The Group Vice President Supply Chain (recruited in 2017) continues to drive the following:

- › Enhanced focus on the Group's critical suppliers based on specialist independent spend analysis.
- › Streamlining of previously fragmented vendor relationships into fewer, global, agreements.
- › Driving benefits out of the existing procurement projects.

## Intellectual property



**Risk appetite:** Cautious  
**Assessment:** Very low

In support of the Group's business model to provide technologically-advanced solutions to its customers, the Group has continued to take a holistic approach towards intellectual property protection and management. The Group owns and registers patents and trademarks and maintains trade secrets, confidential information and copyright as well as exploiting intellectual property through licensing.

The key risks are that the Group may inadvertently infringe third-party rights and that the Group may not hold sufficient rights to prevent competitors independently developing similar products. There are also risks that intellectual property may be lost through failure to implement controls to safeguard confidential information or actively manage registered intellectual property rights.

### Impact

- › Reduced profitability and cash flow.
- › Loss of market share.
- › Failure to recoup investment in innovation.

### Mitigation

- › Policies and procedures in place requiring all of our businesses to:
  - › maintain a watching brief on new third-party patent applications and competitor activity;
  - › ensure adequate protection for key intellectual property, including registration where appropriate;
  - › undertake specific freedom-to-operate technical reviews prior to commencing new product development, acquisitions or licences; and
  - › register intellectual property where appropriate.

### 2018 update

The Group continues to undertake intellectual property audits and facilitates operating company self-assessments with a view to monitoring mitigation and key risk indicators in governance, software, internal and external information protection.

## Information security



**Risk appetite:** Cautious  
**Assessment:** Moderate

As with most organisations of a similar size and complexity, our businesses face both internal and external information security risks, the nature and complexity of which are constantly changing, becoming more sophisticated and unpredictable. In addition, the introduction of regulatory requirements, such as the General Data Protection Regulation ('GDPR', which came into force in May 2018), requires that we continue to develop our processes and mitigations so that they remain effective and compliant.

### Impact

- › Delay or impact on decision-making through lack of available reliable data or disruption of service.
- › Loss of commercially-sensitive or personal information.
- › Reduced service to customers due to poor information handling or interruption of business.

### Mitigation

- › Our businesses employ a number of physical and logical control measures designed to reduce the risk of a breach in information security arising.
- › Our systems are monitored against unauthorised access.
- › A programme of continuous improvement focusing on information security risks evaluates whether the Group's existing controls in this area would benefit from additional strengthening.
- › Employees receive online and face-to-face awareness training of information security risks and controls.
- › Cyber risk and security is reviewed regularly by the Board to address the evolving landscape.

### 2018 update

The Group IT function continues to increase the maturity at our operating companies in respect of data classification, patch management and vulnerability management. A new Chief Information Officer joined Spectris in November 2018, who will continue to refine and drive both the ongoing risk assessment and the existing and planned mitigation activity.

During 2018, the Group Head of Information Risk Governance filled three new positions in the Information Risk Governance team to add further strength.

A Group IT Assurance Manager has also joined the Internal Audit function and will be a key third line of defence in 2019, delivering a plan of in-house assurance against the IT general controls in place across the Group and other risks associated with business systems and information security.

# Viability STATEMENT

In accordance with provision C.2.2 of the 2016 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 32 to 36.

The Directors have determined that a three-year period to 31 December 2021 constitutes an appropriate period over which to provide its Viability Statement. The selection of this period for the assessment is supported by the following considerations:

- › The approach taken by our peers.
- › The Group budgeting, forecasting and strategic planning cycles.
- › The maturity of the Group's credit facilities.
- › The assessment of our operating company and Group principal risks.
- › The variety of industry cycles and geographies that our businesses operate within.

In considering an assessment beyond three years, we have weighed the benefits of such an extended projection against the decrease in data availability and the reliability of predicting events, both of which decrease exponentially beyond three years.

The Directors have considered the above and believe that this supports the selection of a three-year period over which the Viability Statement is made, presenting users of the Annual Report with a reasonable degree of confidence while still providing a longer-term perspective.

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. This assessment was made with reference to the Group's current position and prospects, the Group's strategy and the Group's principal risks, including how these are managed, as detailed on pages 31 to 36.

In considering the Group's prospects, the Directors also noted the broad spread of markets, products and customers maintained by the Group. This natural diversification provides mitigation against the risk of a serious economic downturn in a particular market or the risks associated with dependence on a specific sector or customer. At the same time, the Directors noted the Group's strong financial position coupled with its ability to react promptly in adjusting our cost base in the event of a material change in the trading environment.

Similarly, in making the assessment, the Directors also considered the ability of the Group to raise finance and deploy capital in the context of the principal sources of facility for credit, the maturity of those facilities, the Group's ability to re-finance debt as it falls due and the overall level of headroom available.

While the review encompassed all of the principal risks identified by the Group, the following were focused on for enhanced analysis (including stress testing): political and economic; compliance with laws and regulations; and fluctuations in exchange rates.

The following severe, but plausible, potential scenarios were analysed:

- › A 'no-deal' Brexit outcome, giving rise to:
  - › Weakening Sterling against the Euro and Dollar.
  - › A decline in sales across the UK and Europe.
  - › An extensive variety of operational and administrative events that impact our individual operating companies and have been documented through the work of our Brexit Steering Committee.
- › The impact of existing tariffs, and planned additional tariffs, on trade between the USA and China, leading to a decline in sales across both markets.
- › The translational foreign exchange impact of major movements and volatility in key Group currencies (Sterling vs the Euro and the Dollar).
- › A combination of all three of the above risk scenarios and a consequential global recession similar to 2009.
- › A marked economic slowdown or downturn in the Chinese economy.
- › Legal/regulatory breaches – modelling a fall in sales volumes arising from a theoretical debarment from operating in certain key markets.

Mitigations considered as part of the stress testing included cost reduction, a reduction in the Group's dividend, a reduction in capital expenditure and re-financing of the Group's credit facilities.

The results of the above stress testing demonstrated that the Group would be able to withstand the impact of each of these scenarios materialising over the course of the assessment period. This is in part due to the Group's operating model and organisational structure which gives it the ability to respond rapidly in the event of heightened risk in the external environment, and also partly due to the Group's financial position and access to additional funds.

Based on this assessment, the Directors confirm that they have a reasonable expectation that the Group will continue in operation and meet its liabilities as they fall due over the period to 31 December 2021.

# GLOBAL sustainable growth

“ I’m very pleased to see the focus being given to ethics and integrity. We will continue to ensure these foundational elements underpin our day-to-day behaviours as they are the bedrock on which to build future success. ”

**Andrew Heath**  
Chief Executive

### Recognising our role in global industry

This report outlines how the Group’s sustainability objectives help us to be a responsible global business, managing our relationships and interactions with stakeholders to support our strategy.

At Spectris, we recognise the principal stakeholders in our global networks: shareholders, our people, regulators, customers, suppliers and the communities within which we operate. These principal stakeholders are presented in the graphic below, together with the key issues they expect us to consider when setting strategy and managing its execution. Our belief is that by positively and actively managing these elements we create value and the Board considers all stakeholders in its decision-making.



See the following pages for more information:  
 Culture 7, 39  
 Capital returns 9, 16, 30  
 Shareholders 7

Our business supports the improvement of the productivity of our customers, to enable them to work more efficiently. Our monitoring solutions reduce waste in production lines, our data analytics solutions identify efficiency opportunities, and our use of predictive modelling supports the elimination of trial and error in research and development. In this way, we deliver enhanced value for our customers, consequently driving our own economic success, and support a positive indirect reduction in the environmental impact of manufacturing.

In the spirit of our value of restless innovation, we continuously review and invest in ways to improve the Group’s operating efficiency to ensure that we carry out business in an efficient, sustainable way. Being recognised as a responsible global business is important, to protect and enhance our reputation and to allow us to build strong, trusting relationships. This promotes the long-term success of the Group.

We are proud to have been a constituent of the FTSE4Good Index Series since it was founded in 2001. FTSE4Good is an equity index series designed to measure the performance of companies demonstrating strong environmental, social and governance practices and facilitates investment in companies that meet globally-recognised corporate responsibility standards.

Spectris was recently ranked in Corporate Knights’ ‘2019 Global 100 Most Sustainable Corporations in the World’ index, achieving 20% clean revenue with top quartile performance on waste, innovation capacity and employee retention.

### Board accountability

The Board has overall responsibility for sustainability matters but the day-to-day management of sustainability is led at an operating company level with the operating company presidents responsible for taking appropriate action within their businesses to manage and promote sustainability considerations. The Group Executive team is tasked with challenging and supporting initiatives and promoting cross-operating company synergies, where appropriate.

Developments made by operating companies, including risks and opportunities, are reviewed on an ongoing basis by the Board within the context of the overall Group strategy and the Board also considers the Group’s sustainability framework at a holistic level on an annual basis in light of these risks and opportunities.

In support of its consideration of stakeholders, the Board acknowledges its role in shaping, monitoring and overseeing culture, as well as ensuring alignment between our values, strategy and business model. Culture and ethics were a regular focus of discussion for both the Board and the Audit and Risk Committee during 2018, with key topics including modern slavery and human trafficking, health and safety, whistleblowing and investigations and the ethics and compliance enhancement programme.

A non-financial information statement summarising the nature and location of non-financial disclosures within the Strategic Report is provided on page 80, in compliance with sections 414CA and 414CB of the Companies Act 2006.

## Ethics

### Culture, ethics and leadership

The way we do business and the way we treat our colleagues matters to us. We recognise that continually nurturing and developing the ethical culture of our organisation, and demanding the same high standards from our partners and suppliers, helps to build trust with all our stakeholders and supports our business model (see page 6) and the successful execution of our strategy to realise long-term, sustainable growth (see page 14).

Acquisitions and compliance with laws and regulations are two of our principal risks for which promoting a strong culture, compliance programme and internal control framework are key mitigating factors. Full details of our principal risks are set out on pages 32-36. Our pre-acquisition due diligence includes consideration of ethics and compliance matters, and the effective integration of operations and personnel requires careful planning and the swift adoption of our Code of Business Ethics. Following the acquisition of Concept Life Sciences in January 2018, we immediately conducted a risk assessment and engaged the senior management team to emphasise leadership responsibility and establish workstreams for ethics and compliance integration.

### Evolution of ethics and compliance

In 2018, we completed an assessment of ethics and anti-bribery and corruption risks for the Group. The results were considered by the Board and in support of the continuous refreshment of the programme, an Ethics and Compliance Enhancement Programme has been established which will include deployment of several actions in 2019, including:

- › Launch of revised Code of Business Ethics and training programme.
- › Group-wide ethics survey.
- › Revised incident management and reporting.
- › New all-employee certification process.

### Our ethical leaders

Since 2011, ethics officers have been selected from a variety of business functions to champion the ethics programme within their respective businesses and to act as a point of contact for employees facing ethical dilemmas.

In October 2018, we brought together our ethics officers for a global conference, where we discussed key successes and challenges, the status of global regulatory compliance, our developing strategy and the evolution of our ethics and compliance programme. Each ethics officer, in collaboration with peers, created a personal action plan of priorities for 2019 to closely support our businesses to stay ahead in a changing operating environment.

### Evolution of oversight and monitoring activity

Delivering on our commitment for 2018, we have reviewed and enhanced our oversight and monitoring activity across the Group, including improving incident management reporting and migrating responsibility for investigations management from internal audit to the Group's new Ethics and Compliance team.

With renewed rigour in this particular area, we are confident that we are well positioned to guard against, and swiftly resolve, any ethical problems facing our business in the future.

### Culture of openness and support

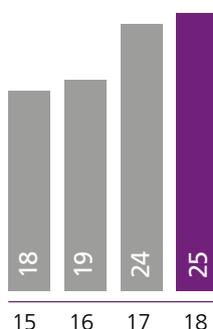
We actively encourage a culture of openness, engagement and communication by integrating messaging on ethics into our business meetings at all levels. This ensures that employees feel they can discuss any issues that arise in the course of their work and raise any concerns with their managers. We also train our managers so they feel confident to discuss these concerns, with support from our ethics officers.

We are proud of our commitment to protect the careers and reputations of employees who report wrongdoing, as long as they do so in good faith. We recognise that speaking up can be a difficult thing to do. Consequently, we regularly review the effectiveness of our mechanisms for whistleblowing and reporting to ensure this process is as effective as possible.

To ensure our employees never feel isolated, our Decisions Guide mobile app is available for all employees to help them tackle challenging decision-making situations, wherever they are in the world. We also have an independent hotline (*spectrishotline.com*) providing a tool for our colleagues, business partners and other third parties to report concerns anonymously if they wish.

Reports received from all sources are fully investigated and the results are communicated to the Audit and Risk Committee at least every six months. Any allegation is investigated and resolved and additional guidance, training and monitoring made available or disciplinary action taken, as appropriate. The total number of reports received in 2018 compared to prior years is presented below. Following a slight increase in reporting in 2017, owing to a one-off voluntary disclosure programme, it is encouraging that the level of reporting remains consistent and that our people still feel confident to report concerns.

### Number of whistleblowing reports received in 2018



### Continuous training and education

We have a comprehensive training programme in place across the Group comprising group workshops and online learning modules. These training elements improve awareness of the Code of Business Ethics, anti-bribery and corruption, export controls, fair competition and prevention of the facilitation of tax evasion. Employees complete key training elements relevant to their role and function on arrival as new joiners. Periodically thereafter, further training and other interventions are made available to enhance employee awareness of laws and regulations and promote thought and discussion of business challenges.

## People

Our people are key to the success of our business. Spectris is a specialised and technical business and we rely on the skills and expertise of our highly-qualified engineers and scientists to stay ahead in a fast-moving world. We continue to drive operational excellence and intelligent innovation and recognise that our workforce thrives in an open, positive and respectful working environment where they can challenge the status quo, explore new ideas and take well-reasoned and measured risks. Further details of the Group’s approach to the management of the People principal risk are set out on page 33.

### Diversity, equality and inclusion

We recruit, develop and promote our people based on their talent, commitment and achievement. We make every effort to ensure that everyone is treated equally and fairly regardless of race, colour,

religion, national origin, gender, sexual orientation, age or background or disability, and we have a zero tolerance policy towards discrimination or harassment in any form. If an employee becomes disabled every effort is made to retain them and, if necessary, re-train them for appropriate roles or alter their working environment. We aim to improve our current gender balance (see table on page 41) by promoting diverse recruitment and development within the Group’s talent pipeline. Our full employment policy is published at [www.spectris.com](http://www.spectris.com).

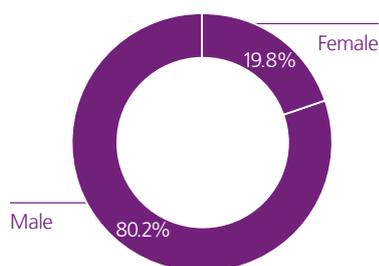
The Board continues to work to improve diversity and inclusion with focus on Group-wide talent management and succession planning. Details of the Board diversity policy and its implementation can be found on page 49. Russell King was appointed as Workforce Engagement Director in December 2018 to provide the Board with a mechanism for receiving and responding to the views of employees. Further details are contained on pages 50 and 51.

### Gender pay gap reporting

Spectris is a diversified group with a decentralised operating company structure, with four of its operating companies headquartered in the UK. Of these, Malvern Instruments (now part of Malvern Panalytical), Millbrook and Concept Life Sciences have 250 or more UK employees and are required by UK legislation to publish their gender pay gap figures on their websites.

Spectris plc employs fewer than 250 people in the UK and is therefore exempt from statutory reporting requirements. However, for the purposes of transparency and good governance we have chosen to voluntarily disclose combined gender pay gap figures covering UK employees of Spectris plc, its other material UK subsidiaries with fewer than 250 employees, and Malvern Panalytical and Millbrook, but excluding Concept Life Sciences as it was not a member of the Spectris Group at the reporting date. This data was reported in 2018 but relates to the snapshot date of 5 April 2017, in line with UK statutory reporting. The Group intends to report on a voluntary basis going forward.

### UK employee gender split



**Median pay gap** – calculated by establishing the exact middle point between the lowest and highest paid female employee and the lowest and highest paid male employee and comparing the two figures.

**Mean pay gap** – calculated by dividing the total hourly pay of all female employees by the number of females, doing the same for the male employees and comparing the two figures.

**Median bonus gap** – calculated by establishing the exact middle point between the lowest and highest bonus value paid to female employees who received a bonus during the 12 months to 5 April 2017, establishing the same in respect of male employees who received a bonus during the same period and comparing the two figures.

**Mean bonus gap** – calculated by dividing the total bonuses paid to female employees during the 12 months to 5 April 2017 by the number of females who received a bonus, doing the same for the male employees and comparing the two figures.

**Bonus proportions** – calculated by (i) dividing the number of female employees who were paid a bonus during the 12 months to 5 April 2017 with the total number of female employees, expressed as a percentage and (ii) dividing the number of male employees who were paid a bonus during the same period with the total number of male employees, expressed as a percentage.

Distinct from the concept of equal pay, the gender pay gap is an average figure showing the difference between the average hourly pay rates for UK female employees compared to male employees, expressed as a percentage of male employees’ average salary, irrespective of role or level in the organisation.

The combined results for Spectris plc and its UK companies were based on 1,196 UK employees (of whom less than 20% were female) and showed:

	At 5 April 2017 snapshot date	
	Median	Mean
Hourly gender pay gap	9.49%	13.52%
Gender bonus gap	15.41%	30.39%
	Female	Male
Bonus proportion	60.25%	48.02%

We are confident that men and women are paid equally for doing equivalent jobs but the evaluation of the UK gender pay gap confirms that, rather than being driven by a pay issue, our gender pay gap is driven by the structure of our workforce and an imbalance in the number of male and female employees in senior roles. Although the results are below the 2017 UK national gender pay gap median and mean figures of 18.4% and 17.2%, respectively, and in line with the sector in which we operate, we are committed to improving our gender pay and bonus gaps and have already implemented a number of actions to address gender pay and wider diversity, summarised below.

### Actions implemented in 2018

- › Family-friendly policies offering enhanced maternity/paternity pay, parental leave and flexible working policy are in place at Malvern Panalytical, Millbrook and Concept Life Sciences.
- › Further embedding of rigorous recruitment processes to ensure bias-free recruitment with the rollout of toolkits and training for recruiting managers.
- › Regular industry salary benchmarking and monitoring of pay to identify pay differences and remedial actions.
- › Strengthened links with local colleges and schools to encourage female students into science, technology, engineering and mathematics (‘STEM’) careers.

### Future actions

- › In 2019, the remit of the Remuneration Committee will extend to overseeing remuneration and diversity policies and practices in respect of the wider workforce.
- › The Group has initiated a senior women’s network to promote the interaction and development of women at a senior management level across the Group.

### Management development at Servomex

Following feedback from employee opinion surveys and observations from the senior leadership team, Servomex crafted a bespoke Management Development Programme for its 63 managers globally. The intention is to provide additional professional development and build on existing knowledge and skills identified as being critical for the delivery of strategy, and empower managers to deal effectively with day-to-day issues and lead continuous improvement projects, ultimately becoming great people managers and future leaders.

The first two modules were completed in 2018, with a further two modules scheduled for 2019.

Each module begins with a full day workshop in one of the four key Servomex locations: Shanghai, Boston, Houston and Crowborough. After the session, each manager develops a set of action steps to implement within their teams and finally receives an individual coaching session where they can embed learning in their team. This ensures all learning is relevant to the activities of teams and builds critical competencies throughout the organisation.

Feedback from managers involved has been incredibly positive, and they not only appreciate the support and development in their role, but also recognise the benefits of building networks across the business.



### Employees by gender and role as at 31 December 2018

	Male	Female	Total
Directors	7	2	9
Senior management	117	30	147
Other employees	6,543	2,996	9,539
Total	6,667	3,028	9,695
% of total	69	31	100

### Talent management

We have made significant progress in one of our key HR priorities; ensuring a robust succession for our most senior roles across the Group. We have built on our existing talent management processes to understand where we have the right talent, identify key talent for pipeline roles and make informed career-planning decisions that prepare our high-potential employees for executive positions at Group and operating company level. This approach has supported several high-profile internal appointments during 2018.

### Wellbeing, development and incentives

We work hard to build a creative working environment for our people, with scope for individual responsibility and personal achievement. Our training programmes help our employees to develop both personally and professionally to reach their full potential.

We encourage our employees to maintain a healthy balance between their working and personal lives and offer flexible part-time and job-share opportunities to employees with family commitments, wherever possible. Appreciating the value of having a happy and healthy workforce, Servomex has made employee health and wellbeing a priority, implementing volunteering and employee wellbeing policies, as well as a number of initiatives to promote a healthier workforce: running wellbeing weeks; completing pedometer challenges; training mental health first aiders; and promoting healthy eating and exercise to support mental wellbeing. A case study on management development at Servomex is presented above.

To maintain our skilled workforce, we are driving high-value, cost-effective talent acquisition by investing in specialist resources and tools, enabling us to attract, identify and hire the right talent into the business, whilst delivering significant efficiencies through in-house recruiting methods.

As part of our commitment to ensure fair, equitable reward structures and to enable transparency of career opportunities, we have implemented a Group-wide initiative to create consistency in how we grade jobs across our operating companies. Partnering with Korn Ferry Hay Group, we have made significant progress in implementing a uniform approach to job-sizing and how this applies to pay, organisational effectiveness and career management.

### Employee turnover

The table below shows the percentage of employees leaving the Group voluntarily. A higher turnover of employees was experienced in 2018 at a time of strategic and organisational evolution, but we continue to ensure the right talent is maintained throughout the Group. As we head into 2019, there will continue to be change within the organisation as we implement our profit improvement programme and complete the strategic review. We are committed to supporting our people through this change.

2018	2017	2016	2015	2014
14.2%	7.6%	7.2%	7.1%	5.9%

### Human rights

Our human rights policy is consistent with the Core Conventions of the International Labour Organization, and we comply with internationally-recognised human rights standards at all our sites. The policy includes our position on non-discrimination, harassment, pay and forced labour and all our employees are required to complete online training on modern slavery and human trafficking. Human rights considerations are also included in the due diligence process we undertake before any potential acquisition. This ensures that before we acquire a business, we are fully informed of its approach in areas such as non-discrimination, equal opportunities and freedom of association. Our full human rights policy is available on our website at [www.spectris.com](http://www.spectris.com).

## Health and safety

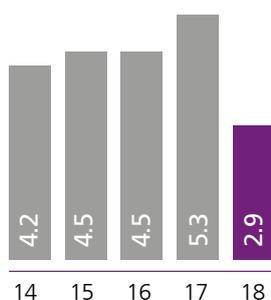
As a responsible employer, we take the health and safety of our employees seriously. We are proud to have an excellent record of safety in our workplaces, but we continue to track our accident incidence rate as a key performance indicator (see page 17 for further details), with local health and safety managers conducting regular audits and employee training and recommending improvements in working practices to maintain a safe workplace. A number of our UK offices have achieved certification to OHSAS 18001.

Potential product-related health and safety issues are considered as part of the product design process and continuous improvement programmes focused on health and safety aim to reduce accidents and injuries at our sites to as low a level as reasonably practical.

In 2018, we standardised the recording of health and safety data across the Group to conform with the guidance of the UK Institute of Occupational Safety and Health. The number of reportable accidents remains low, as shown below.

### Accident incidence rate

Number of reportable accidents per 1,000 employees



## Environment

Our products and services help our customers to reduce their impact on the environment. We are also mindful to reduce our direct impact on the environment by monitoring the use of key sources of energy (electricity, gas, oil and steam) in our continual effort to reduce consumption and save costs. The table to the right summarises our performance in 2018 and we explore each of the key sources further below.

Energy efficiency (energy use per £m revenue) is one of our key performance indicators related to accelerating our operational excellence, as detailed on page 17. This remains at a similar level compared to 2017, in spite of absolute energy consumption increasing by 7% over the same period due to improved data collection and an expanding portfolio of business activities. The energy consumption table on the right shows that an increase in electricity consumption is primarily responsible for the increase in energy use, and it remains the single largest energy source for our business.

Our carbon footprint reduced overall due to slight increases in scope 2 and 3 emissions being offset by a large reduction in scope 1 emissions. Scope 1 emissions reduced by 34% compared to 2017, owing to a decrease in oil and refrigerant usage and a significant drop in vehicle emissions, partly aided by our new reporting system which allows the more accurate recording of carbon footprint data across the Group. Scope 2 emissions rose slightly as a result of the increase in electricity use described above, although this was mitigated partly by grid decarbonisation. Scope 3 emissions increased as a result of increased air travel related to the

EMS Brüel & Kjaer joint venture and divestment of Microscan. For the Group as a whole, this results in a net 4% decrease in greenhouse gas ('GHG') emissions and therefore carbon emissions per £m of revenue were brought down significantly by 11%.

From 2018, the Group began to monitor GHG emissions related to the transport of products to market. Using a recognised emissions conversion methodology, 'freight forwarding' emissions data captured will be used to inform future analysis of the Group's scope 3 emissions.

ISO 14001 is an international standard ('ISO') setting out criteria for the formulation and maintenance of an environmental management system. Certification to ISO 14001 requires an organisation to effectively manage its environmental impacts through commitments to pollution prevention, legal compliance and continual improvement. Approximately 60% of Spectris' key manufacturing operations by turnover are certified to ISO 14001. No environmental risks have currently been assessed as being material to the business, however, we keep this under review and take seriously our responsibility to minimise our impact and recognise the opportunities and risks to the business of climate-related issues.

### Performance summary

Indicator	2018	2017	Change
Energy consumption (absolute) (MWh)	106,659	100,041	7%
Energy efficiency (MWh per £m revenue)	66.5	67.2	(1%)
Greenhouse gas emissions (tonnes CO <sub>2</sub> e)	78,380	81,604	(4%)
Total carbon emissions (tonnes CO <sub>2</sub> e per £m revenue)	48.86	54.79	(11%)

### Energy consumption

Unit of measurement – MWh	2018	2017	Change
Electricity	76,823	71,406	8%
Gas	10,312	10,591	(3%)
Oil	2,714	3,165	(14%)
Steam	16,613	14,168	17%
Other fuels	197	711	(72%)

### Greenhouse gas emissions (tonnes CO<sub>2</sub>e)

Unit of measurement – tonnes CO <sub>2</sub> equivalent	2018	2017
Scope 1	9,256	14,112
Scope 2	37,425	35,947
Scope 3	31,699	31,545
Total gross emissions	78,380	81,604
Total carbon emissions per £m revenue	48.86	54.79

From 2018, we started to capture detailed waste data relating to our sites, including landfill, incineration and recycling. This will provide us with a clearer picture of the physical waste that our sites produce and the proportion of recycling achieved by our operations. We will review this data periodically throughout 2019 to identify opportunities for reducing waste.

In 2018, we launched a new online reporting tool to centralise and streamline the capture of all our corporate responsibility data. The tool will enable us to conduct more comprehensive analysis and monitor progress against sustainability objectives at more regular intervals throughout the year.

Ricardo Energy & Environment ('Ricardo') has independently verified the data associated with energy consumption, GHG emissions, company vehicle and air miles and the accident incidence rate. We are confident that we have appropriate systems in place for measuring, monitoring and reporting energy use.

Following engagement with shareholders in 2018, we have decided to participate in the Carbon Disclosure Project from 2019 onwards. We recognise that our participation matters to shareholders and wish to re-affirm our commitment to transparency and accountability in our environmental reporting, including GHG emissions, energy, and emissions reduction targets.

## Customers

We serve a broad spectrum of customers across a variety of markets. Our businesses work closely with their customers to develop a deep understanding of their business, giving us a unique ability to anticipate and respond to their changing needs and foster strong long-term relationships.

The case study below describes a Group-wide initiative in 2018 to use technology to better understand our customers and share knowledge more effectively across the Group. In addition to this, we are developing a key account management structure within our operating segments to further develop our solutions-selling proposition. Together, these initiatives help Spectris engage more meaningfully with its customers to develop our relationships and improve our value proposition, becoming and remaining the partner of choice.

### Understanding our customers

Our customers operate in a variety of complex, fast-paced markets and our products and services are highly specialised. Really understanding our customers is critical to the success of our business as we work closely to develop strong customer value propositions.

To drive this, we are investing in sales-enablement tools to improve our customers' experience. In 2018, we continued to roll out and upgrade our Client Relationship Management tools to support our sales teams around the world. These tools enable data-driven sales and marketing capabilities for the Group so we can identify and respond to customer requirements and develop our key accounts within and across operating segments. In 2019, we will continue to develop our customer engagement strategy to build trusting, long-term relationships.

## Key external certifications and recognition



## Suppliers

Effective supply chain management is important to gain a competitive advantage through achieving operating efficiencies, meeting stakeholder expectations, innovation, and compliance with legal and regulatory obligations. Supply chain dependencies and disruption is one of our principal risks which we seek to actively mitigate (read our Principal Risks and Uncertainties on page 35).

Our supplier base is diverse to reflect the operations of our various businesses, which are spread around the globe. Responsibility for vetting and managing suppliers is therefore devolved to local management but must meet the Group's ethical standards. Following the recruitment of a Group Vice President, Supply Chain, we have initiated a detailed review of key supplier contracts and opportunities for standardisation across the Group. Potential opportunities for gaining efficiencies and cost savings will be considered in 2019.

We know that our customers demand the highest standards from us, including how we manage our own suppliers. Our supply chain management policy can be found at [www.spectris.com](http://www.spectris.com). We carry out regular inspections at our supplier sites and use the SA 8000 Social Accountability Standard to audit our key suppliers against specific criteria. In 2018, we incorporated anti-slavery and conflict minerals sections into the SA 8000 Asia Pacific supplier audit process. We comply fully with the modern slavery laws of the UK, France and United States, and all relevant employees have the opportunity to complete a modern slavery online training module to ensure full understanding of our obligations and liabilities.

The SA 8000 standard addresses various aspects of quality management and provides guidance and tools for companies to ensure that their products and services consistently meet customer requirements, and that quality is continuously improved. Recently updated, the new version of the standard requires that key quality management principles are embedded in the organisation. All key Spectris global manufacturing operations are certified to ISO 9001. We are very proud that we can reassure our customers of the high quality of all our products.

## Community

We recognise that we are a major employer in many of the locations where we are based and respect our social responsibilities in all communities where we operate. Community involvement and decisions on charitable donations and sponsorship are undertaken by local management teams and vary from one company to another, taking into account the specific needs of the local community.

We seek to play a positive role by participating in a range of activities and educational initiatives in schools and universities to promote science, technology and engineering. We also run a number of awards and programmes which help to support young scientists starting their careers.

In line with our gifts and hospitality policy, we do not give either cash or support in kind to political parties or campaigns.

The Strategic Report was approved by the Board on 19 February 2019.  
By order of the Board

**Mark Serfözö**  
Company Secretary  
19 February 2019



**// The Board is committed to ensuring that high standards of ethical behaviour and governance are maintained throughout the Group. //**

Good corporate governance is critical in helping to build a successful business that can be sustained over the longer term.

As Chairman, I am focused on ensuring that Spectris has a Board that works effectively and cohesively under my leadership, with an appropriate balance of skills, expertise and attributes. I am confident that our governance processes, our culture of integrity and openness, and a diversity of perspective promote the necessary degree of constructive challenge. The Board fully supports the Group's values and is committed to ensuring that high standards of ethical behaviour and governance are maintained throughout the Group.

The Corporate Governance section of the Annual Report follows the format that was introduced last year and includes an At a Glance section which sets out our compliance with the 2016 UK Corporate Governance Code (the 'Code') and a report on each of the Committees introduced by the Committee Chairmen.

### Appointment of Chief Executive

The Board spent significant time in 2018, through the Nomination Committee, on the search for a new Group Chief Executive, which resulted in the appointment of Andrew Heath. The relationship between the Chairman and the Chief Executive is a cornerstone of good governance, and I am delighted to have already developed a positive and constructive working relationship with Andrew in his new role. The search and selection process followed by the Board is set out in detail on page 53 of this report and I would like to thank the members of the Nomination Committee and, particularly, Russell King, Martha Wyrsh and Bill Seeger for their active participation in the process.

### Focus areas and activities

The Board has continued to focus on creating long-term sustainable value for our shareholders, customers and the wider communities in which we operate. Following the initiation of the Group's strategic review and profit improvement programme, as announced to the market in November 2018, the Board has closely monitored the development of the plans devised by the management team

and we will continue to work with management to review, support and challenge the implementation of the strategy during 2019.

In support of our review of the Group's strategy and performance, the work of the Audit and Risk Committee continues to provide a firm foundation from which the Board can review and assess the effectiveness of internal controls, risk management and compliance processes. This contributes to the success of the strategy and informs the culture of the Group as a whole.

Following the publication of the 2018 UK Corporate Governance Code, the Board has considered how the Group will comply with the new obligations. With the support of the General Counsel and Company Secretary, the Board has developed a workplan to meet our new obligations and details of our planned approach are set out on pages 50 and 51 of this report. I look forward to updating you on the outcomes of our workplan in the 2019 Annual Report and Accounts.

### Board culture and composition

We regularly review the composition, diversity and size of the Board to ensure that we have the right talent to support our strategy. We recognise that diversity and inclusion are essential to our success. By ensuring that different genders, backgrounds, nationalities and ages are represented throughout the Group, we ensure that decision-making is informed by a range of skillsets, experience and cultural perspectives. Details of our approach to succession planning and diversity can be found on pages 49 and 52.

With the exception of Clive Watson who will retire from the Board in April, all Directors will be standing for election or re-election at the 2019 AGM and we look forward to your continued support. The Board and I appreciate our interactions with shareholders and listen carefully to all feedback. I welcome your comments on this Corporate Governance Report and on the 2018 Annual Report and Accounts more generally.

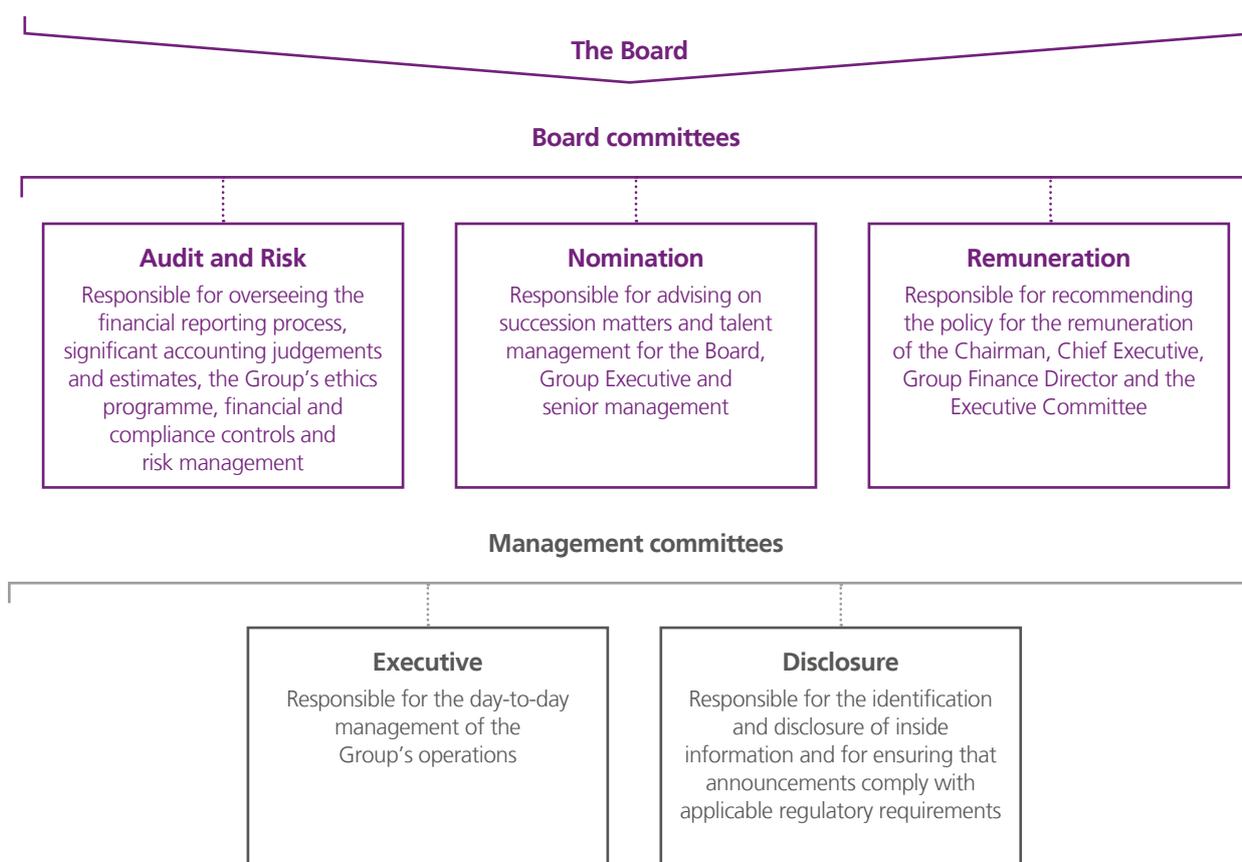
**Mark Williamson**  
Chairman  
19 February 2019

### 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 2016 UK Corporate Governance Code ('the Code'). The Board considers that the Company complied with the Code throughout the year ended 31 December 2018 and a full summary of compliance is set out on pages 58 and 59.

## 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 (scheduled)	Board (ad hoc)	Audit and Risk Committee	Remuneration Committee	Nomination Committee	AGM
Mark Williamson	7/7	6/6	n/a	n/a	7/7	Y
Andrew Heath (appointed 3 September 2018)	2/2	3/3	n/a	n/a	n/a	n/a
Clive Watson <sup>1</sup>	7/7	5/6	n/a	n/a	n/a	Y
Russell King	7/7	6/6	n/a	5/5	7/7	Y
Karim Bitar <sup>2</sup>	6/7	6/6	3/4	5/5	6/7	Y
Ulf Quellmann <sup>3</sup>	7/7	6/6	3/4	4/5	6/7	Y
Bill Seeger	7/7	6/6	4/4	n/a	7/7	Y
Kjersti Wiklund	7/7	6/6	n/a	5/5	7/7	Y
Martha Wyrsh	7/7	6/6	4/4	n/a	7/7	Y
John O'Higgins (retired 28 September 2018)	5/5	3/3	n/a	n/a	n/a	Y

1. An ad hoc meeting of the Board was held in December 2018 to discuss succession planning for the role of Chief Financial Officer. All Directors attended the meeting, with the exception of Clive Watson who excused himself from the discussion.

2. Karim Bitar was unable to attend the October Audit and Risk Committee, Nomination Committee and Board meetings due to a competing engagement with Genus plc where he is CEO. Mr Bitar provided his detailed comments on the matters to be discussed to the Chairman ahead of the meetings.

3. Ulf Quellmann was unable to attend the January Remuneration Committee, Nomination Committee and Audit and Risk Committee meetings due to a competing engagement with Rio Tinto where he holds an executive role. Mr Quellmann provided his detailed comments on the matters to be discussed to the Chairman ahead of the meetings.



**Mark Williamson (61)**  
Chairman (appointed May 2017)  
Nationality: British

**N**  
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. Prior to joining International Power plc, Mark was group financial controller and group chief accountant of Simon Group. He is also a former senior independent non-executive director and chairman of the audit committee of Alent plc.

Mark is chairman of Imperial Brands plc and senior independent non-executive director and chairman of the audit committee of National Grid plc. On 11 February 2019, Imperial Brands plc announced that Mark would step down as chairman once a suitable successor had been found.



**Andrew Heath (55)**  
Chief Executive (appointed September 2018)  
Nationality: British

**E D**  
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 Alent 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.



**Clive Watson (61)**  
Group Finance Director (appointed October 2006)  
Nationality: British

**E D**  
Clive Watson has considerable finance experience, having previously been chief financial officer and executive vice president for business support at Borealis. Prior to this, he was group finance director at Thorn Lighting Group and group finance director Europe at Black & Decker. Clive is a member of the Institute of Chartered Accountants in England and Wales and the Chartered Institute of Taxation. On 15 January 2019 it was announced that Clive will retire from the Board no later than 1 April 2019 following a handover period with Derek Harding.

Clive is senior independent non-executive director and chairman of the audit committee of Spirax-Sarco Engineering plc.



**Russell King (61)**  
Senior Independent Director and Workforce Engagement Director (appointed October 2010)  
Nationality: British

**R N**  
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. 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 is chairman of Hummingbird Resources plc, senior independent non-executive director of Interserve plc and an independent non-executive at BDO LLP.



**Karim Bitar (54)**  
Non-executive Director (appointed July 2017)  
Nationality: American

**A R N**  
Karim Bitar has extensive experience of leading international, technology-focused organisations. He is currently chief executive of Genus plc. Prior to 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.

Karim is a member of the University of Michigan Ross School of Business Advisory Board.

**Derek Harding, Chief Financial Officer Designate**

On 15 January 2019, the Group announced that Derek Harding would join the Board as Chief Financial Officer Designate on 1 March and would succeed Clive Watson as Chief Financial Officer no later than 1 April 2019.

Derek brings a wide range of financial leadership and industrial expertise to Spectris. He most recently served as group finance director at Shop Direct. Prior to that, Derek was group finance director at Senior plc from 2013 to 2017 and before that, he was at Wolseley plc for 11 years, 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.



**Ulf Quellmann (53)**  
 Non-executive Director (appointed January 2015)  
 Nationality: German

(A) (R) (N)

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



**Bill Seeger (67)**  
 Non-executive Director (appointed January 2015)  
 Nationality: American

(A) (N)

Bill Seeger has significant corporate finance and accounting experience, having formerly been 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.

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



**Kjersti Wiklund (56)**  
 Non-executive Director (appointed January 2017)  
 Nationality: Norwegian

(R) (N)

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.

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



**Martha Wyrsh (61)**  
 Non-executive Director (appointed June 2012)  
 Nationality: American

(A) (N)

Martha Wyrsh has held a number of senior executive positions in the energy industry and has significant experience in North American markets. She currently holds the position of 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.

Martha is a director of the Cristo Rey Network (a US non-profit educational foundation), IEnova, S.A.B. (a Mexican subsidiary of Sempra Energy with publicly-traded shares) and a non-executive director of First American Financial Corporation. Martha will retire from Sempra and will step down from all associated subsidiary boards on 1 March 2019.



**Mark Serfözö**  
 General Counsel and Company Secretary (appointed October 2017)

(E) (D)

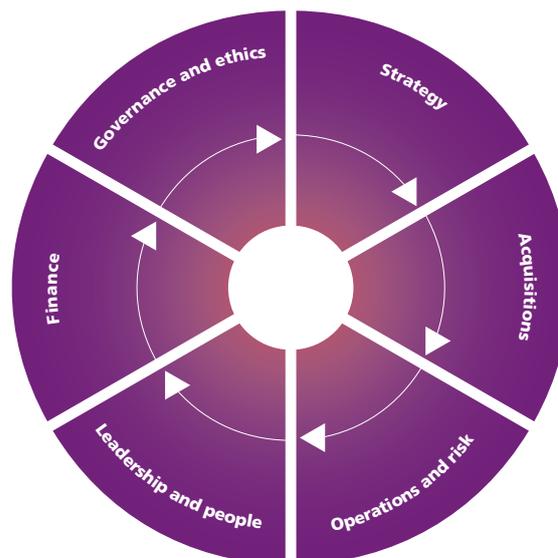
Mark joined Spectris from Rolls-Royce where he served as director of risk for four years and before that he spent 18 years at BAE Systems plc where he held a number of senior legal positions including, latterly, the role of group chief counsel compliance and regulation. Mark qualified as a solicitor in 1990 and is a member of the University College London Centre for Ethics and Law Advisory Board.

Committee membership key

- (A) Audit and Risk
- (D) Disclosure
- (N) Nomination
- (E) Executive
- (R) Remuneration
- Chairman of Committee

Membership as at 31 December 2018

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. This page details the focus of the Board during 2018 in support of that responsibility.



### Strategy

- › Held a detailed annual strategy off-site meeting for the Board and Executive.
- › Commenced a strategic review, to target asset optimisation, capital allocation and portfolio composition.
- › Reviewed the Group's operating model, to reduce complexity and support Lean practices.

### Acquisitions, disposals and JVs

- › Approved the acquisitions of Concept Life Sciences, Revolutionary Engineering and VI-grade.
- › Undertook 24-month post-acquisition review of Millbrook.
- › Undertook a high-level review of the Group's approach to the mitigation of the acquisition principal risk.
- › Reviewed the Group's acquisition pipeline.
- › Oversaw the finalisation of the formation of a joint venture with Macquarie Capital through the divestment of 55% of the Group's EMS Brüel & Kjær business.

### Operations and risk

- › Received regular operational updates from the Business Group Directors.
- › Attended site visits to Servomex and Millbrook facilities and received business updates from the Presidents of Millbrook and Servomex.
- › Received presentations from members of the leadership team responsible for Lean and Supply Chain Management.
- › Reviewed the Group's principal risks and systems for identification, management and mitigation.
- › Reviewed the Group's approach to the identification and management of political and economic risk.

### Leadership and people

- › Discussed the composition of the Board and its Committees, including succession planning.
- › Reviewed the Group's talent pipeline and undertook a deep dive review of diverse candidates within that pipeline.
- › Reviewed the development of people within the senior management community, including succession planning for senior leaders.
- › Appointed a new Chief Executive.
- › Deep dive review of the Group's people principal risk.
- › Appointed Workforce Engagement Director as Board lead for workforce engagement.

### Finance

- › Monitored progress against the 2018 financial plan and considered and approved the 2019 financial plan.
- › Reviewed and monitored the impact and progress of Project Uplift.
- › 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 material capital expenditure requests from operating companies.

### Governance and ethics

- › Appointment and induction of the new Chief Executive.
- › Discussed the outcome of the 2017 internal Board evaluation and agreed opportunities for improvement.
- › Completion of 2018 internal evaluation of the Board, Remuneration Committee, Nomination Committee and Audit and Risk Committee, led, respectively, by the Chairman and the Chairmen of the Board Committees.
- › Reviewed feedback from institutional shareholders.
- › Reviewed and approved the terms of reference for the Board Committees.
- › Reviewed and considered the Group's response to the 2018 Hampton-Alexander Review.
- › Received updates from the General Counsel and Company Secretary on developments in corporate governance and key legal and regulatory matters.
- › Regular review of ongoing litigation matters.
- › Reviewed the Group's workplan to support compliance with the 2018 UK Corporate Governance Code.
- › Conducted regular meetings of the Non-executive Directors without management being present.
- › Undertook an annual detailed review of the Group's ethics programme.

## BOARD ACTIVITY

**Board diversity policy**

In 2018, the Board reviewed its approach to the promotion of diversity and approved 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 and 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.”

In support of this policy, the Company has only engaged search firms during the year which have signed up to the Voluntary Code of Conduct for Executive Search Firms on gender diversity and best practice.

During the year, the Nomination Committee has thoroughly reviewed gender composition at senior management levels within the Group and also undertook a deep dive review of diverse talent within the organisation and the approach of management to the development of that talent.

During 2019, the Nomination Committee will continue to review the Group’s progress against the Hampton-Alexander Review and will further consider the Group’s approach to talent management and succession planning.

**Ongoing Board training and development**

Board meetings are held regularly at our operating company sites, giving the Board the opportunity to tour the sites, meet local management and employees and gain an in-depth knowledge of the Group’s operations. Further details of the Board’s site visits during the year are set out below.

In addition, during 2018 the Board received detailed overviews of the Group’s Lean programme and Supply Chain Management programme from the Group’s subject matter experts and technical updates were also provided by the General Counsel and Company Secretary and the Group’s remuneration consultants.

The Non-executive Directors have access to an externally-provided programme of training to enable them to undertake their own programme of continuing professional development.

**Board evaluation**

In accordance with current best practice and the Code, the Board undertakes an annual formal evaluation of its performance and effectiveness and that of each Director and its Committees, with an external evaluation every three years. The most recent external evaluation took place in 2016 and was led by Dr Tracy Long. The 2017 and 2018 evaluations were undertaken internally and were led by the Chairman. The evaluations were supplemented by individual evaluation exercises for each Board Committee which were managed by the relevant Committee chairman. A summary of activity undertaken by the Board during the year in support of the findings of the 2017 evaluation process is set out below:

- › **Strategy and stakeholder considerations:** The Board worked closely with the new Chief Executive to monitor and challenge the progress of the Group’s strategic review and the impact of the proposed strategy on the Group’s key stakeholders, particularly employees, customers and shareholders.
- › **Risk management:** The Board began a series of deep dive discussions on each principal risk during the year. These deep dive discussions will continue as part of the ordinary Board agenda in 2019.
- › **Board meetings:** A comprehensive Board planner was introduced during the year to ensure that the structure and planning of Board meetings supported the effective focus on key issues and allowed sufficient opportunities for open dialogue and debate.
- › **Succession planning:** The Nomination Committee focused heavily on executive and senior management succession planning during the year, including the review of senior talent and diversity in the talent pipeline. The Nomination Committee and the wider Board also spent considerable time overseeing the search and selection process for a new Chief Executive and Chief Financial Officer.
- › **Board continuing development:** Site visits to Servomex and Millbrook supported the Board’s deepening knowledge of both businesses and gave the Board an additional opportunity to meet with key management below the Group Executive team.

The 2018 evaluation took place in December 2018 and built on the outcomes of the 2017 evaluation ahead of a formal, externally-led evaluation process being undertaken in 2019.



During its visit to Servomex in April, the Board received a presentation from the new president, Trevor Sands, which included an overview of the business and its strategy. Trevor also led the Board in a tour of the facility, which highlighted the operating company’s approach to health and safety and also the implementation of the Lean production system.

In October, the Board visited Millbrook Proving Ground (left) and toured recent changes to the facility, including the recently expanded equipment and facilities for testing low emission vehicle technology and the work Millbrook is undertaking to support Transport for London on its new Bus Safety Standard.

During both visits, the Board was able to meet with the management team and key employees outside of the formal meetings.

# Activity to support the application of the 2018 UK Corporate Governance Code



Culture and Values

The new Code requires that the Board satisfies itself that the Company's purpose, values and strategy are aligned with the Company's culture. Further, the Board should assess and monitor the Company's culture on an ongoing basis, lead by example and promote the desired culture.



Remuneration

Under the new Code, the Remuneration Committee is required to review workforce compensation and related policies and the alignment of incentives and rewards with culture, and to take this review into account in the setting of the policy for Executive Director remuneration.



Workforce and Stakeholder Engagement

The new Code emphasises that the Board should understand the views of key stakeholders and ensure that the Annual Report includes an explanation of how their interests have been considered in decision-making. Stakeholder engagement mechanisms should be kept under review and, in particular, the new Code prescribes how the Board should engage with the workforce.

## Workforce Engagement Director ('WED')

**In December 2018, Russell King was appointed as the Board lead for workforce engagement. The role profile for the Workforce Engagement Director was agreed by the Board and includes:**

- › Being available to the workforce if they have concerns which escalation through the normal company channels has failed to resolve, or for which such contact is inappropriate.
- › Attending, where appropriate, sufficient meetings with workforce representatives to obtain a balanced understanding of the issues and concerns of the workforce.
- › Reviewing employee engagement mechanisms annually with the Board to ensure they remain effective.
- › Periodically reviewing the channels available for the workforce to raise concerns in confidence and – if they wish – anonymously, to consider whether such arrangements are proportionate and whether independent investigation of such matters, and any follow-up actions, are proportionate and appropriately managed.
- › Providing timely and appropriately detailed feedback to the Board as a whole on any workforce concerns or issues raised, whilst observing the confidentiality of individuals who have raised concerns, and supporting an appropriate focus being placed on workforce considerations during relevant Board deliberations.

In completing these duties, the Workforce Engagement Director will be supported by the Group HR Director and the General Counsel and Company Secretary.

- › In late 2018, the Group Executive team began a review of the Group's culture in support of the wider Group strategic review announced in November 2018. During 2019, the Board will oversee this review of the culture of the Group and assess progress against the Group's agreed strategy with culture being included as a specific item of discussion on the Board's annual agenda plan.
- › In support of this new focus, the Board approved new Matters Reserved to the Board and revised extended terms of reference for all key Board Committees in December 2018 to reflect the proposed focus on culture. Copies of each document are available at [www.spectris.com](http://www.spectris.com).

- › During 2018, the Remuneration Committee reviewed the requirements of the new Code and devised an extended work plan for 2019, which has now also been reflected in the Committee's terms of reference. During 2019, the Committee will review wider workforce remuneration, pension and related matters, including CEO average pay, and will also consider the Group's gender pay gap in conjunction with the Nomination Committee (further details are set out on page 40).
- › As part of the Board's ongoing oversight of the culture of the Group, consideration will also be given to how the Group rewards appropriate behaviours and the Committee will review the best way to capture culture and behaviour in the 2020 Remuneration Policy.
- › The Nomination Committee will begin the recruitment process for the successor to Russell King as Remuneration Committee Chairman in 2019 and will ensure the successful candidate has the pre-appointment experience that the new Code now requires of any new Remuneration Committee Chairman.

- › In December 2018, the Board appointed Russell King as Workforce Engagement Director and an agenda for workforce engagement in 2019 was agreed. Further details are set out below.
- › The Ethics and Compliance Enhancement Programme, together with the Spectris independent reporting hotline, will support further in-depth reporting in 2019 on HR issues and non-financial matters, for review and consideration by the Audit and Risk Committee and the Board.
- › The Board has built into its review and decision-making processes the consideration of stakeholder interests which is now captured in all Board papers in a proportionate and appropriate way relevant to the matter to be considered.
- › A proportionate shareholder engagement programme will be launched during 2019 to support the successful agreement of the Group's Remuneration Policy by shareholders, in advance of a binding shareholder vote at the 2020 AGM.

**The Board will implement and iterate their approach to applying the 2018 UK Corporate Governance Code during 2019 to ensure that the approach to implementation provides optimal support to the Group's strategic aims. A summary of the application of the new Code will be detailed in the 2019 Annual Report and Accounts.**

### Proposed Workforce Engagement activities for 2019

#### The Board has endorsed the following workplan for the Workforce Engagement Director for 2019:

- › The Workforce Engagement Director will attend informal meetings with employee stakeholder groups which will include a cross-section of roles and perspectives, including graduates, apprentices and managers at key sites.
- › A deep dive review of HR cases and themes arising from the Group's Speak Up process (detailed on page 39) will be undertaken with the support of the General Counsel and Company Secretary.
- › A deep dive review of workforce remuneration will be undertaken with the support of the Group HR Director and the results of this review will be shared with the Remuneration Committee and be used as support for the Group's Remuneration Policy review.
- › Detailed briefings will be provided on key employee engagement activity undertaken by management and the key outcomes of this activity.

This plan will be subject to iteration and change as the year progresses to support the Board in achieving effective workforce engagement.



The Nomination Committee recognises that ongoing and effective talent management is key to achieving the Group's strategic objectives.

During 2018, the Committee has continued to take a keen interest in the development of talent and capabilities below Board level, challenging 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 this review we have built greater clarity and a common understanding with management of the key talent within the Group and this common understanding will strengthen the Group's overall capabilities in the near term. The development of talent within the organisation will be the subject of ongoing dialogue in 2019.

The Committee also spent considerable time selecting and recommending the appointment of a new Chief Executive. The process undertaken, which led to the appointment of Andrew Heath, is set out in detail on the opposite page.

**Mark Williamson**  
**Chairman of the Nomination Committee**  
 19 February 2019

### 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, when recruiting new Board members, addresses the issue of diversity, with particular regard to the percentage of women on the Board.

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.

**// The Committee has continued to take a keen interest in the development of talent and capabilities below Board level. //**

Detailed terms of reference for the Committee can be found at [www.spectris.com](http://www.spectris.com).

### Membership and attendees

Throughout 2018, all Non-executive Directors were members of the Committee. Meetings of the Committee are normally attended by the Chief Executive and Group HR Director (except during any discussion of their own role).

### Activities of the Committee during 2018

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

- › the search and selection process for a new Chief Executive which culminated in the recommendation of Andrew Heath's appointment to the Board;
- › the search and selection process for a new Chief Financial Officer which culminated in the recommendation of Derek Harding's appointment to the Board;
- › reviewing and challenging the Group's talent management and succession planning at a Group Executive and operating company management level;
- › undertaking a detailed review of diverse candidates within the Group's talent pipeline, in support of the Board diversity policy (see page 49 for details);
- › considering the independence of each Non-executive Director and their time commitments; and
- › providing continued oversight of a Group-wide organisational capability review.

The Committee's performance was assessed as part of the Board's annual effectiveness review. It was concluded that the Committee had operated effectively.

During 2019, the Committee will continue to focus on succession planning and supporting the diverse composition of the Board, Executive and senior management in support of the Board's diversity policy as set out on page 49.

Focus will also be placed on non-executive succession planning, and in particular succession for Russell King who will have served on the Board for nine years in October 2019. The Board has asked Mr King to remain on the Board until the 2020 AGM to support both succession planning and the setting of the Group's Remuneration Policy in 2020. In planning succession, the Committee will pay particular attention to the 2018 UK Corporate Governance Code's criteria for Remuneration Committee Chairmen and the fact the Company has yet to reach the 2020 target set out in the Hampton-Alexander Review of 33% female representation on the Board.

## Board composition

As at 31 December 2018

### Gender diversity

#### Board



#### Executive Committee



#### Executive Committee and direct reports

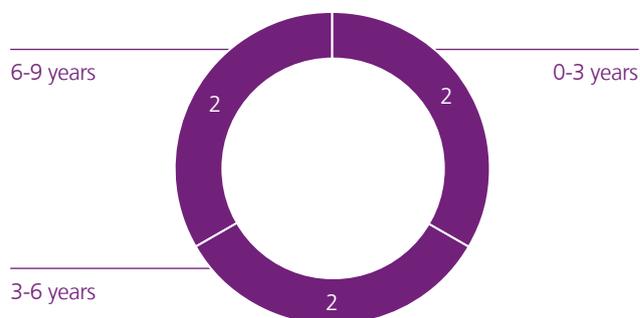


■ Male ■ Female



See page 49 for details of the Company's Board diversity policy.

### Non-executive Director tenure



### Appointment of the new Chief Executive

In May 2018, the Group announced that, after 12 years in the role, John O'Higgins intended to step down from the role of Chief Executive once a replacement had been appointed to the Board.

The Board commenced a rigorous process to identify and appoint a new Chief Executive. A Selection Committee was formed as a sub-set of the Nomination Committee which was led by the Chairman and comprised Russell King, Bill Seeger and Martha Wyrsh.

The key stages in the selection and appointment process were, as follows:

- › The Selection Committee had a number of discussions to scope the key skills, experience, behaviours and style of leadership that would be required to successfully lead the Group as Chief Executive. The specific qualities identified included:
  - › a strong track record of leading strategic direction and driving a growth agenda;
  - › broad knowledge and demonstrable expertise of operating in the industrial manufacturing and engineering sectors;
  - › credible relationships with relevant external stakeholders, including significant investor experience;
  - › proven understanding and application of building organisational capability; and
  - › leadership experience within a strong values-based culture.
- › The Committee engaged Egon Zehnder to work with the Committee to establish a long list of candidates (including diverse and internal candidates) who were then considered against the Selection Committee's specifications for the role. Egon Zehnder is a signatory to the Voluntary Code of Conduct for Executive Search Firms on gender diversity and best practice and, aside from assisting with the recruitment and development of senior leaders, has no other links with the Company. Due to the public announcement made regarding John O'Higgins' departure, it was not considered necessary to separately publicly advertise the role.

- › The Selection Committee then determined a shortlist of internal and external candidates based on the agreed criteria and then undertook a two-stage in person interview process with each candidate.
- › The wider Nomination Committee was briefed on progress by the Selection Committee and Egon Zehnder. The remaining members of the Nomination Committee then met with preferred candidates ahead of a recommendation being made to the Board to appoint Andrew Heath as Chief Executive.

Following the identification of Mr Heath as the preferred candidate, the Remuneration Committee sought to agree a competitive remuneration package to secure his appointment. This was achieved within the Group's existing Remuneration Policy and further details are set out on pages 60 to 78.

#### What Andrew Heath brings to the role

- › Education: Bachelor of Science, Imperial College London and Masters of Business Administration, Loughborough University.
- › Experience: Two previous UK listed CEO roles and almost 30 years' experience at Rolls-Royce plc where he held significant and global leadership roles.
- › Expertise: strategy, industrial, financial, mergers and acquisitions and investor.
- › Industry experience: engineering, manufacturing, technology and B2B.

**"Our Chief Executive search was conducted in a collaborative and thoughtful manner, with keen focus from all members of our Board of Directors, led by our Chairman and the Selection Committee. The deliberate pace resulted in a thorough review of a number of diverse candidates and ensured that we selected a leader with the skills and acumen to drive Spectris forward with momentum and vitality."**

#### Martha Wyrsh



**// The Committee will continue to focus on risk management and the Group’s ongoing enhancements to systems of governance and internal control. //**

I am pleased to present the report to shareholders on the activities of the Audit and Risk Committee during 2018. This report sets out how the Committee has assessed 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 met four times during the year. The meetings are aligned to the Group’s financial reporting timetable, to allow sufficient time for full discussion of key topics and enable early identification and resolution of risks and issues. The Committee has an annual calendar of activities to ensure that all significant areas of risk management are addressed. The schedule is flexible to ensure that the Committee’s activities allow for the review of regulatory developments and emerging best practice.

The Committee considers it important to interact with members of management beyond the Executive Committee. The Committee held its meeting in October at Millbrook Proving Ground and spent time with the Millbrook senior leadership team to discuss the opportunities and risks faced by the business. As Chairman of the Committee, I also met regularly with management, internal audit and the external auditor between Committee meetings.

Deloitte LLP was appointed as the Company’s auditor in 2016 following a competitive tender and they have now completed their second year as auditor. The Committee carried out an assessment of the performance, independence and effectiveness of Deloitte during the year and was satisfied that Deloitte remain effective in their role.

The UK Corporate Governance Code invites the Committee to report on the significant matters considered during the year. I am satisfied that our activities have provided the Committee with a good understanding of the key matters impacting the Group during the year and details are contained in this report. From my perspective, the most important matters were:

- › the consideration of changes in the presentation of alternative performance measures related to the 2018 Financial Statements;
- › the continued review of the impact of IFRS 15 on the timing of revenue recognition across the Group;
- › the annual impairment review;
- › the review of the financial reporting process, estimates and judgements; and
- › the review of the Group Ethics and Compliance Enhancement Programme which will enhance the Group’s approach to monitoring and mitigating of actions in respect of ethics, anti-bribery and corruption and export controls.

As a Committee, we continue to focus 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 in understanding the work of the Committee during the year. The Committee encourages shareholder feedback and I look forward to meeting with shareholders at our Annual General Meeting in May.

**Bill Seeger**  
**Chairman of the Audit and Risk Committee**  
 19 February 2019

### Membership and attendance

The Committee is comprised solely of independent Non-executive Directors. Bill Seeger, Martha Wyrsh, Ulf Quellmann and Karim Bitar were members of the Committee throughout 2018. 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.

Meetings are normally attended by the Chairman, the Chief Executive, the Group Finance Director, 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.

During the year, the Committee reviewed the annual forward agenda and its terms of reference and concluded that, for the coming year, three longer meetings of the Committee would be scheduled in place of four, to allow for a more focused review of audit and risk management. The annual forward agenda and terms of reference were amended to accommodate this change.

## Key areas of focus in relation to the Financial Statements

Issues and significance	The role of the Committee	Comments and conclusions
<b>Change in the presentation of Alternative Performance Measures</b>		
<p>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 like-for-like basis) is therefore presented before the impact of Project Uplift and Group profit improvement programme costs, which have been combined as restructuring for presentation purposes. Adjusted operating profit after Project Uplift costs has been presented for ease of comparability between 2017 and 2018.</p>	<p>The Committee considered the presentation of the Financial Statements and the use of alternative performance measures and the presentation of adjusted items, including the change in the Group's definition of adjusted items. The Committee received a report from management outlining the judgements applied in relation to the disclosure of adjusted items and, challenged by the external auditor, considered whether the performance measures and use of adjusted items proposed by management provided a meaningful insight into the results of the Company for shareholders.</p>	<p>The Committee considered the change in definition of adjusted measures and reviewed the restated comparative adjusted figures for 2017. With the challenge of the external auditor, the Committee agreed that the Financial Statements included clear and meaningful descriptions of the alternative performance measures used, including appropriate re-statement of prior year figures. It was also concluded that the relationship between these measures and the statutory IFRS measures was clearly explained and supported the understanding of the Financial Statements.</p>
<b>Revenue recognition</b>		
<p>The Company has been required to comply with IFRS 15 throughout 2018. Under IFRS 15, an entity is required to recognise revenue when it transfers goods/services to the customer in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods and services.</p>	<p>The Committee considered management's approach to the changes to revenue recognition, the assumptions and estimates, and the impact on the Group's revenue. They also reviewed the approach of the external auditor to the design of audit procedures to support the avoidance of the misstatement of revenue.</p>	<p>The Committee considered the judgements made by management regarding the impact of IFRS 15 for the year ended 31 December 2018. The external auditor confirmed to the Committee during the year that it had audited the accounting treatment adopted by management in respect of IFRS 15.</p>
<b>Review of goodwill and intangible assets for impairment</b>		
<p>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. Concept Life Sciences' performance following acquisition has been below expectations during 2018. As part of the annual impairment review process, it was determined that for this cash-generating unit, a reasonably possible change in assumptions could lead to an impairment in the future. Further detailed disclosure around the sensitivities is set out in Note 11 to the Financial Statements.</p>	<p>The Committee reviewed and challenged assumptions made by management in their assessment of the valuation of goodwill and intangible assets and considered the challenge from the external auditor on the assumptions underpinning management's estimates. The Committee then agreed with management an increased level of disclosure to support their assessment.</p>	<p>For all cash-generating units, except Concept Life Sciences, 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. Following the assessment by management and the review and challenge of the external auditor and the Committee, it was confirmed that a reasonably possible change in assumption could lead to an impairment of Concept Life Sciences in the future.</p>
<b>Estimation, uncertainty and judgement</b>		
<p>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.</p> <p>The key risks of estimation disclosed in the Group's 2018 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.</p> <p>Further details are set out in Note 1, Note 8, Note 11 and Note 20 to the Financial Statements.</p>	<p>Management confirmed to the Committee that they were not aware of any material or immaterial misstatements made intentionally to achieve a particular presentation.</p> <p>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.</p>	<p>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).</p> <p>The Committee is also satisfied that the significant assumptions used for determining the value of assets and liabilities have been appropriately scrutinised and challenged and are sufficiently robust.</p>

## Role of the Committee

The Committee supports the Board in fulfilling its responsibilities in respect of: overseeing the Company's financial reporting processes; 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. The terms of reference for the Committee can be found at [www.spectris.com](http://www.spectris.com).

## Principal areas of responsibility



## Activities of the Committee during 2018

The Committee has an annual forward agenda developed from its terms of reference with standing items 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 2018 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 emerging practice and investor comment as well as the Group's Viability Statement;
- › reviewing updates on accounting matters including the new accounting standard on leases (IFRS 16); and
- › reviewing the processes to assure the integrity of the Annual Report and Accounts, as well as reviewing:
  - › the management representation letter to the external auditor;
  - › the findings and opinions of the external auditor;
  - › the disclosures in relation to internal controls and the work of the Committee;
  - › 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 performance, business model and strategy and the processes undertaken to support the disclosure of that information;
  - › 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;
  - › 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; and
  - › the Directors' Report.

### 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;
- › 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;
- › 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 their 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 39.

### 3. External auditor

- › considering the re-appointment of the external auditor;
- › considering and approving the audit approach and 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 their effectiveness, taking into account:
  - › non-audit work undertaken by the external auditor;
  - › feedback from a survey targeted at various stakeholders; and
  - › the Committee's own assessment.

## Internal control and risk management systems

The Board is responsible for determining the nature and extent of the significant risks it is willing to take in achieving its particular objectives and is ultimately responsible for the effectiveness of the risk management and internal control systems that safeguard shareholders' investments and the Company's assets. To ensure the effectiveness of these systems, at the Board's request, a robust assessment of the principal risks facing the Group is undertaken by the Committee.

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, risk of failure to achieve business objectives, and can provide only reasonable and not absolute assurance against material misstatement or loss.

### Viability Statement

The Committee reviewed the 2018 Viability Statement in light of factors affecting the duration over which the Viability Statement is made, including the strategic planning process, the three-year period over which the potential impact and velocity of material risks are evaluated, the duration of the Group's sources of credit and future prospects. 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 is set out on page 37.

## Independent assurance

### Internal audit

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

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 2018 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 carried out an assessment of the effectiveness of the internal audit function. This assessment incorporated feedback from the operating company leadership teams and Group functions. The Committee discussed the feedback with the Head of Internal Audit and it was 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.

The Company last undertook a tender for external audit services during 2016 which led to the appointment of Deloitte LLP at the May 2017 Annual General Meeting ('AGM'). The lead audit partner is Mark Mullins who has held the role since May 2017.

During the year, the Committee carried out an assessment of the external auditor which focused on their performance during the 2017 audit and reported these findings to the Board. To support this assessment, the Committee invited members of the Group and operating company finance teams to provide their feedback. In addition, the Committee reviewed the Audit Quality Inspection public report for 2017/18 for Deloitte. After taking these reports into consideration, together with the auditor's report on their approach to audit quality and transparency, the Committee concluded that the auditors demonstrated appropriate qualifications and expertise and remained independent of the Group and that the audit process was effective.

The Committee reviewed the proposed engagement letter for the audit of the 2018 Financial Statements and determined the proposed remuneration of Deloitte in accordance with the authority given to it by shareholders at the 2018 AGM. The Committee considered the proposed auditor's remuneration to be appropriate.

It is proposed that Deloitte be re-appointed as auditors of the Company at the next AGM in May 2019 and, if so re-appointed, that they 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](http://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 84 to 91. As detailed above, the Company complied with the Statutory Audit Services Order 2014 throughout 2018.

### 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](http://www.spectris.com). Non-audit fees for services provided by Deloitte for the year amounted to £0.1 million (5% of the audit fee). Further details are included in Note 5 to the Financial Statements.

### Performance review

The Committee's performance was assessed during the year under the stewardship of the Committee Chairman and this review was fed into the wider Board evaluation process which was led by the Chairman. It was concluded that the Committee operated effectively.

The UK Listing Rules stipulate that listed companies must include in their annual report a statement of whether they have complied with all the relevant provisions of the 2016 UK Corporate Governance Code ('the Code'), which can be found at [www.frc.org.uk](http://www.frc.org.uk).

During 2018, Spectris complied fully with the Code. The notes below are intended to assist with the evaluation of Spectris' compliance during 2018 and the processes put in place to support the continuation of best governance principles.

## A. Leadership

### A.1 The role of the Board

The Board is collectively responsible for promoting the success of Spectris and the operation of effective governance arrangements with a view to the creation of strong, sustainable financial performance and long-term shareholder value. The steps the Board takes to facilitate this are outlined in the Governance Report set out on pages 44 to 83.

The Board held seven scheduled meetings in 2018 in order to review the Company's performance and strategy against set objectives. Details of Board and Board Committee attendance for 2018 are set out on page 45.

The Board has adopted a clear schedule of matters reserved for its specific approval, including a framework for those decisions which can be delegated to committees or otherwise. A full list of matters reserved to the Board is available at [www.spectris.com](http://www.spectris.com).

All Directors are covered by a directors' and officers' insurance policy.

### A.2 Division of responsibilities

The roles of Chairman and Chief Executive are separate, with both having distinct and clearly defined responsibilities which are established in written terms of reference that have been agreed by the Board and which are available at [www.spectris.com](http://www.spectris.com). The Chairman is responsible for the leadership and effectiveness of the Board, and the Chief Executive is responsible for leading the day-to-day management of the Company within the strategy set by the Board.

### A.3 The Chairman

The Chairman sets the agenda for meetings, manages the meeting timetable and facilitates open and constructive dialogue during the meetings.

The Chairman was independent on appointment.

### A.4 Non-executive Directors

The Chairman promotes an open and constructive environment in the boardroom and actively invites the Non-executive Directors' views to help develop proposals on strategy and scrutinise the performance of management against set goals and objectives. They should satisfy themselves on the integrity of financial information and that financial controls and systems of risk management are robust and defensible.

Russell King is the Senior Independent Non-executive Director and is available to meet with shareholders if required. The Chairman meets with Non-executive Directors in the absence of the Executive Directors at regular intervals during the year, and the Senior Independent Non-executive Director leads a meeting with the Non-executive Directors without the Chairman present at least once a year.

During the year, the Directors had no unresolved concerns about the running of the Company or any proposed action.

## B. Effectiveness

### B.1 The composition of the Board

There are currently six Non-executive Directors in addition to the Chairman and two Executive Directors on the Board.

The composition of the Board is reviewed regularly by the Nomination Committee to ensure that there is an appropriate mix of skills, experience, diversity (including gender), independence and knowledge on the Board. Board members' biographies are provided on pages 46 and 47, which identify the experience each Director brings to the Board. The 2018 Board evaluation determined that the Board continued to be effective and that the current Directors' backgrounds provided a good mix to meet current and future needs.

## B. Effectiveness continued

The Board determines, through the Nomination Committee, the independence of its members. The Board considers all of its Non-executive Directors to be independent and free of any business relationships that could compromise the exercise of independent and objective judgement. Conflicts of interest are regularly monitored.

### B.2 Appointments to the Board

The Nomination Committee leads all appointments of new Directors to the Board, applying a rigorous and transparent process mindful of merit, objectivity and diversity. Details of its activities undertaken during the year, including the search and selection process that led to the appointment of the new Chief Executive, succession planning and talent management, can be found in the Nomination Committee report on pages 52 and 53.

Details of the Company's diversity policy are set out on page 49.

The terms of reference for the Nomination Committee are available at [www.spectris.com](http://www.spectris.com).

### B.3 Commitment

The Nomination Committee considers on appointment and annually the time needed to fulfil the roles of Chairman, Senior Independent Director and Non-executive Director and ensures that the Non-executive Directors will have sufficient time to fulfil their duties.

On appointment, and as at the date of this report, the Chairman's significant listed company interests are as chairman of Imperial Brands plc and senior independent non-executive director of National Grid plc. The Board has formally reviewed the Chairman's other commitments and noted the announcement on 11 February 2019 that Mark Williamson will step down as chairman of Imperial Brands plc when a suitable successor has been found. Notwithstanding this change, the Board confirms that it believes that the Chairman's obligations to the Company are properly fulfilled. Indeed, the Board is appreciative of the additional skills and experience the Chairman brings to the Board arising from these directorships.

Clive Watson has been a non-executive director of Spirax-Sarco Engineering plc since 2009 and the senior independent non-executive director since May 2018.

### B.4 Development

New Directors receive a full, formal and tailored induction on joining and the Chairman reviews and agrees subsequent training and development needs with the Board on at least an annual basis.

In April 2018, the Board visited Servomex and in October 2018, the Board visited our Millbrook facility to support its familiarity with the Group's operations. Further details are set out on page 49.

### B.5 Information and support

The Chairman is responsible for the delivery of accurate, timely and clear information to the Directors, with support from the General Counsel and Company Secretary.

Directors are able to solicit independent professional advice at the Company's expense where specific expertise is required in the course of discharging their duties. All Directors have access to the General Counsel and Company Secretary, who is responsible for ensuring compliance with appropriate statutes and regulations.

### B.6 Evaluation

The Board and the Board Committees undertook an internal evaluation in 2018 which was led by the Chairman and the Committee Chairmen and included a review of Committee membership, a review of Non-executive Directors whose length of service was more than six years, the external commitments of all Directors and a review of the skills of each of the Directors. Further details are set out on page 49.

## B. Effectiveness continued

### B.7 Election/re-election

Each Director is subject to election at the first AGM following their appointment, and re-election at each subsequent AGM. In determining whether a Director should be proposed for re-election at the 2019 AGM, the Board took into account the Nomination Committee's advice based on the results of a peer group review of each Director's contribution to the Board's effectiveness, which formed part of the internal Board evaluation. This review confirmed that all Directors continue to be effective and demonstrate commitment to their roles and the Committee accordingly recommended their re-appointment.

## C. Accountability

### C.1 Financial and business reporting

A statement of the Directors' responsibilities regarding the Financial Statements, including the status of the Group as a going concern, is set out on page 83, with an explanation of the Group's strategy and business model, together with relevant risks and performance metrics, which are set out on pages 1 to 36.

A further statement is provided on page 83, confirming that the Board considers that the 2018 Annual Report and Accounts, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's position, performance, business model and strategy.

The external auditor has provided a report to the shareholders on their reporting responsibilities on pages 84 to 91.

### C.2 Risk management and internal control

The Company maintains its system of risk management and internal control with a view to safeguarding shareholders' investment and the Company's assets. The Board has carried out a robust assessment of the principal risks facing the Company, including an assessment of the prospects of the Group. Further details can be found on pages 32 to 36.

The Directors have assessed that the appropriate period of longer-term viability for the Group is three years, as disclosed in the Viability Statement on page 37. The Viability Statement includes an explanation of how the Directors have assessed the prospects of the Company, over what period they have done so and why they consider that period to be appropriate. It also includes a statement that the Directors have a reasonable expectation that the Group can continue in operation over the three-year longer-term viability period.

The Board determines the Company's risk appetite and has established risk management and internal control systems. At least annually, the Board undertakes a review of their effectiveness. Further details are set out on pages 31 and 57.

The Company operates a robust internal control framework which is routinely monitored through a combination of certification, self-assessment and internal audit reviews, complemented by a sound risk management process. This process is overseen by the Audit and Risk Committee.

### C.3 Audit committee and auditor

The Audit and Risk Committee Report on pages 54 to 57 sets out details of the composition of the Committee, including the expertise of members, and outlines how the Committee has discharged its responsibilities during 2018.

The Board has delegated a number of responsibilities to the Audit and Risk Committee, including: financial and narrative reporting; management of the external and internal audit processes; internal controls; and risk management systems. Full details are set out in the terms of reference for the Committee, published at [www.spectris.com](http://www.spectris.com).

## D. Remuneration

### D.1 The level and components of remuneration

The Remuneration Report on pages 60 to 78 outlines the implementation of remuneration during 2018, including salary, bonus and share awards.

Details of John O'Higgins' remuneration relating to his non-executive director role at Johnson Matthey during the period of his directorship and Clive Watson's remuneration relating to his non-executive director role at Spirax-Sarco are set out on page 77.

The Board believes that the current Remuneration Policy, as approved by shareholders at the 2017 AGM, remains appropriate and fit for purpose. The Board considers that Executive Director remuneration is an appropriate balance between fixed and performance-related, immediate and deferred remuneration, with the latter being subject to demanding performance conditions aligned with the Group's strategic objectives, including appropriate circumstances for Spectris to recover sums paid or to withhold payment of sums.

### D.2 Procedure

During 2018, the Remuneration Committee comprised four Non-executive Directors and has delegated authority for setting the remuneration of the Executive Directors and the Chairman. The fees payable to the Non-executive Directors are determined by the Board. Full details of responsibilities are set out in the terms of reference for the Committee, available at [www.spectris.com](http://www.spectris.com).

During 2018, PricewaterhouseCoopers LLP acted as the independent remuneration adviser to the Remuneration Committee.

During 2018, no individual was present when their own remuneration was being discussed.

## E. Relations with shareholders

### E.1 Dialogue with shareholders

The Board recognises that meaningful engagement with institutional and retail shareholders is integral to the continuing success of the Company. Throughout the year, the Board has sought to actively engage with shareholders on a number of occasions through meetings and roadshows.

Shareholders representing in excess of 2.5% of the Company's issued share capital receive a standing invitation to meet with the Chairman, the Senior Independent Director or Non-executive Directors. Such meetings supplement but do not replace the regular meetings with the Chief Executive and the Group Finance Director. The Board is kept informed of the views, needs, expectations, major issues and concerns of shareholders through periodic reports including, but not limited to, market feedback on investor relations, shareholding analysis and consensus.

### E.2 Constructive use of general meetings

The next AGM will be held on 24 May 2019 and is an opportunity for shareholders to vote on certain aspects of Group business, in person, and have the opportunity to meet and question the Chairman and Board members.

The results of proxy votes are available at the AGM. These are then published on the Company's website.

At the AGM in 2018, there were no significant votes against any of the resolutions put before shareholders.



**“ I am pleased that we secured the employment of Andrew Heath and Derek Harding within the framework of our existing Remuneration Policy. ”**

On behalf of the Board, I am pleased to present the Group’s 2018 Remuneration Report. The Report covers the required regulatory information, balanced against commercial sensitivities, and also provides further context and insight into our Executive pay arrangements. The full Remuneration Policy can be viewed on the Group’s website. A summary overview of the Directors’ annual remuneration framework is provided on pages 62 to 65.

To better highlight the remuneration structures applicable to the Executive Directors, and their relative payments under those structures for the year ended 31 December 2018, a detailed illustration of actual payments, set against the maximum amounts permissible under the Policy, is set out on the opposite page.

**Executive remuneration**

The Committee was closely involved with the remuneration arrangements in relation to the departure of John O’Higgins and the recruitment of Andrew Heath as Chief Executive. Details of the leaving arrangements for John can be found on page 70 of this Report and on the Group’s website and a summary of Andrew’s remuneration is set out on the opposite page. I am pleased that we not only secured the employment of Andrew within the framework of our existing Remuneration Policy, but that we were able to better align Andrew’s overall remuneration to the wider workforce by setting his annual pension contribution at 20% (John O’Higgins received a 25% contribution).

In January 2019, the Group announced that Derek Harding would join the Board of Spectris as Chief Financial Officer Designate on 1 March 2019 following the decision by Clive Watson to retire. Derek’s remuneration will also be within the framework of our existing Remuneration Policy with a base salary of £475,000 and an annual pension contribution of 15% (Clive Watson received a 25% contribution). All other terms are on the same basis as the incumbent. Derek’s salary was set with reference to his previous remuneration, external benchmarking and reflects his level of experience and the enhanced role that he will take in the Group’s strategic review. He will also be taking on broader responsibilities as we realign the role of the centre with the new strategy. Full disclosure of Derek’s remuneration will be provided in the 2019 Directors’ Remuneration Report.

In our reflections on making these arrangements, the Committee agrees that our Remuneration Policy continues to provide appropriate flexibility, while also ensuring that any payments made in the implementation of the Policy are in the best interests of both the Group and our shareholders.

The Group’s performance in 2018 was good with increases in both like-for-like sales and profit. The Group achieved a 3% increase in adjusted profit before tax and a 7% increase in adjusted earnings per share (see Note 2 to the Financial Statements for details of the basis of adjustment). This contributed to bonus outcomes for 2018 of 59.7%, 53.7% and 60.9% of maximum bonus opportunity for Andrew Heath, John O’Higgins and Clive Watson, respectively.

**Corporate governance developments**

The Committee has closely monitored external governance developments during 2018 and, in particular, has reviewed the requirements of the 2018 UK Corporate Governance Code and The Companies (Miscellaneous Reporting) Regulations 2018. The Committee agreed new terms of reference in December 2018 together with a revised workplan and will report in detail on its work to comply with the new requirements in the 2019 Annual Report and Accounts.

During 2019, we will reflect further on the suitability of the current Remuneration Policy based on the Group’s evolving strategy and structure, wider workforce remuneration and related policies and the alignment of the Group’s approach to remuneration with its culture. These reflections will form the base of a proposal to be put to shareholders at the 2020 Annual General Meeting for the approval of the Group’s Remuneration Policy.

This Directors’ Remuneration Report will be subject to an advisory vote at the AGM on 24 May 2019 and we look forward to receiving your continued support. Together with the rest of the Board, I also look forward to hearing your views on our remuneration arrangements and we will be available to answer any questions you may have.

**Russell King**  
**Chairman of the Remuneration Committee**  
 19 February 2019

This Directors’ Remuneration Report for the year ended 31 December 2018 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 (Amendment) Regulations 2013 and the provisions of the 2016 UK Corporate Governance Code.

**Executive Director single total figures of remuneration**

The table below summarises each Executive Director's single total figure of remuneration for 2018. Full details are disclosed on pages 66 to 69.

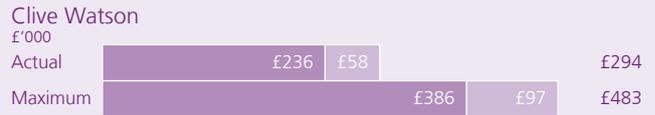
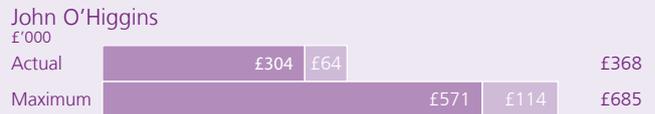
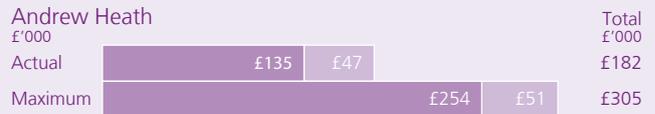
	Andrew Heath £'000	John O'Higgins £'000	Clive Watson £'000
Salary	203	457	386
Pension, benefits and SAYE	47	128	122
Annual bonus	182	368	294
Performance Share Plan ('PSP')	–	1,012	643
<b>Total</b>	<b>432</b>	<b>1,965</b>	<b>1,445</b>

■ Fixed elements of pay   ■ Annual bonus   ■ PSP

The fixed elements of pay include base salary, pension, benefits in kind, taxable expenses and all-employee share plan participation. The stated figures in respect of Andrew Heath and John O'Higgins are pro-rated to reflect time served as a Director during 2018. The figures in respect of the Performance Share Plan relate to awards granted in 2016 which are due to mature on 23 February 2019 and are, in part, based on estimated vesting levels.

**2018 Bonus actual vs. policy maximum**

The charts below show the 2018 actual bonus earned and potential maximum opportunity in respect of each Executive Director based on their base salary (pro-rated on a time served basis in respect of Andrew Heath and John O'Higgins).



■ Adjusted PBT   ■ Personal objectives

**Remuneration outcomes in different performance scenarios**

The charts below illustrate the pro-rated remuneration outcomes at target and maximum opportunity in respect of each Executive Director for 2018. For comparison purposes, the annualised figures in respect of each Chief Executive who served during 2018 are also illustrated below.

**2018**

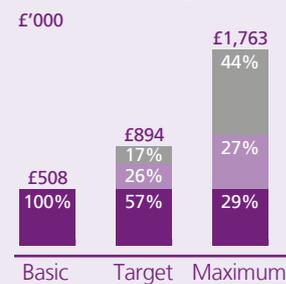
**Andrew Heath, Chief Executive**



**John O'Higgins, Chief Executive**



**Clive Watson, Group Finance Director**



**2018 Annualised**

**Andrew Heath, Chief Executive**



**John O'Higgins, Chief Executive**

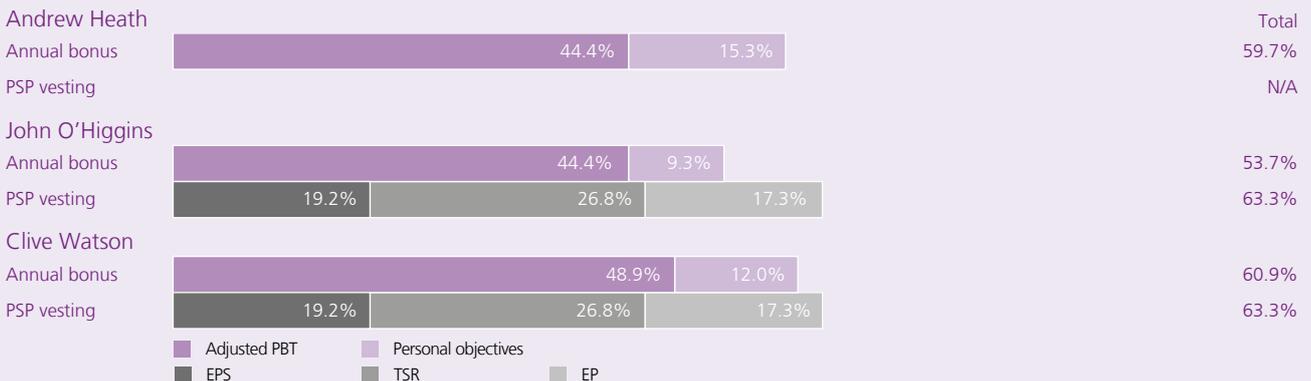


■ Fixed pay  
■ Annual bonus  
■ PSP

Note: Each coloured bar shows the percentage of the total comprised by each of the parts.

**2018 Outcomes – Incentive Plans**

The charts below show the percentage of maximum bonus opportunity earned by the Executive Directors, pro-rated on a time served basis, in respect of the 2018 financial year together with the estimated vesting outcomes of the PSP awards granted in 2016, expressed as a percentage of total award. Further details are set out on pages 66 to 69.



### Summary of Remuneration Policy and 2019 implementation

Our Remuneration Policy was approved by shareholders at the AGM on 26 May 2017 and took effect from that date. In line with current regulations, this policy may operate for the next three years at which point it will be reviewed and shareholder approval of a new remuneration policy will be sought at the 2020 AGM at the latest. A summary of the key features of the Remuneration Policy, along with its implementation for 2019, are detailed in the tables below:

#### Remuneration Policy summary

Element	Base salary/fees	Annual bonus	Performance Share Plan ('PSP')
<b>Purpose and link to strategy</b>	<ul style="list-style-type: none"> <li>› Competitive fixed remuneration that enables Spectris to attract and retain key executives.</li> </ul>	<ul style="list-style-type: none"> <li>› Drives short-term profit performance.</li> <li>› Incentivises Executive Directors to achieve specific pre-determined stretching objectives relating to Spectris and the individual's personal responsibilities.</li> </ul>	<ul style="list-style-type: none"> <li>› 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').</li> </ul>
<b>Operation</b>	<ul style="list-style-type: none"> <li>› Normally reviewed annually.</li> <li>› Benchmarked triennially against relevant comparators.</li> </ul>	<ul style="list-style-type: none"> <li>› Bonus potential set at a market-competitive rate.</li> <li>› Payable in cash.</li> <li>› Bonus based on annual performance targets.</li> <li>› 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.</li> <li>› No further bonus deferral arrangements are currently in operation.</li> <li>› 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.</li> </ul>	<ul style="list-style-type: none"> <li>› Awards made annually with performance conditions based over a three-year period.</li> <li>› Two-year holding period for all new awards.</li> <li>› Post-tax benefit of any vested PSP awards must be applied to the acquisition of shares until the required level of shareholding is achieved.</li> <li>› 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.</li> </ul>
<b>Maximum opportunity</b>	<ul style="list-style-type: none"> <li>› Increases limited to the average increase for general UK wage inflation.</li> <li>› The Committee retains the discretion to award increases/reductions in excess of/below this if, and where, it deems appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>› Maximum opportunity is based on base salary:                             <ul style="list-style-type: none"> <li>› 150% Chief Executive.</li> <li>› 125% Group Finance Director.</li> </ul> </li> <li>› Bonus starts accruing from threshold levels of performance.</li> </ul>	<ul style="list-style-type: none"> <li>› 200% of base salary.</li> </ul>
<b>Performance metric</b>	<ul style="list-style-type: none"> <li>› Reflects the role and the Director's skills, performance and experience, referenced to a level at or moderately below the comparator group's median.</li> </ul>	<ul style="list-style-type: none"> <li>› The Committee may determine appropriate performance measures, which are assessed annually.</li> <li>› 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.</li> </ul>	<ul style="list-style-type: none"> <li>› The Committee may determine appropriate performance measures and vesting levels for awards.</li> <li>› 20% of award shares vest on achievement of minimum performance and 100% for maximum performance.</li> </ul>

Full details of the Policy are set out on pages 76 to 82 of the Company's Annual Report and Accounts 2016, a copy of which is available on the Company's website [www.spectris.com](http://www.spectris.com) or, upon request, from the Company Secretary at the Company's registered office address.

Benefits in kind	Pension and other benefits in kind	All-employee share plans	Shareholding ownership guidelines
<ul style="list-style-type: none"> <li>› Market-competitive benefits in kind enabling Spectris to attract and retain key executives.</li> </ul>	<ul style="list-style-type: none"> <li>› Market-competitive defined contribution pension, enabling Spectris to attract and retain key executives.</li> </ul>	<ul style="list-style-type: none"> <li>› 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.</li> </ul>	<ul style="list-style-type: none"> <li>› To encourage share ownership by the Executive Directors and ensure that their interests are aligned with those of shareholders.</li> </ul>
<ul style="list-style-type: none"> <li>› Benefits in kind include company cars or allowances, private fuel, medical insurance and life and disability insurance, and are benchmarked periodically.</li> </ul>	<ul style="list-style-type: none"> <li>› Pensions are benchmarked periodically.</li> </ul>	<ul style="list-style-type: none"> <li>› Executive Directors are able to participate in the Group's all-employee share plans on the same terms as other Group UK employees.</li> <li>› 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.</li> <li>› The SIP replaced the Spectris Savings Related Share Option Scheme ('SAYE Scheme').</li> </ul>	<ul style="list-style-type: none"> <li>› 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.</li> <li>› Post-tax benefit of any vested PSP 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.</li> </ul>
<ul style="list-style-type: none"> <li>› Total benefits limited to £30,000 p.a.</li> <li>› A departing gift may be provided up to a value of £2,500 per Director (applies to both Executive and Non-executive Directors).</li> </ul>	<ul style="list-style-type: none"> <li>› Maximum 25% of base salary as taxable cash allowance in lieu of pension contributions:               <ul style="list-style-type: none"> <li>› 20% Chief Executive.</li> <li>› 25% Group Finance Director (until 1 April 2019).</li> <li>› 15% Chief Financial Officer (from 1 March 2019).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>› HMRC limit £150 per month and one free Matching share for every five shares purchased.</li> </ul>	None applicable.
None applicable.	None applicable.	None applicable.	None applicable.

### Implementation of the Remuneration Policy for 2019

Element	Base salary/fees	Annual bonus	Performance Share Plan ('PSP')
<b>Executive Directors</b>	<ul style="list-style-type: none"> <li>› Salaries are reviewed with effect from 1 April and no increases will be made to Executive Director salaries in 2019.</li> <li>› Chief Financial Officer Designate recruited at annual base salary of £475,000 with next expected salary review based on market rate to take place in April 2020.</li> </ul>	<ul style="list-style-type: none"> <li>› 2019 maximum bonus and performance weightings:                             <ul style="list-style-type: none"> <li>› Chief Executive 150% of salary of which:                                     <ul style="list-style-type: none"> <li>› 125% is based on adjusted PBT</li> <li>› 25% is based on personal objectives</li> </ul> </li> <li>› Group Finance Director 125% of salary of which:                                     <ul style="list-style-type: none"> <li>› 100% is based on adjusted PBT</li> <li>› 25% is based on personal objectives</li> </ul> </li> </ul> </li> <li>› The performance thresholds and corresponding percentage of maximum bonus payable for 2019 are determined by the Committee.</li> <li>› A minimum (threshold) level of performance will result in a bonus of 1% of base salary. At target, the bonus level is 60% of base salary comprising 50% based on PBT and 10% based on personal objectives.</li> <li>› 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.</li> </ul>	<ul style="list-style-type: none"> <li>› Award level 200% of base salary.</li> <li>› Three-year performance period.</li> <li>› Two-year holding period after initial three-year performance period.</li> <li>› Performance measures remain unchanged with one-third weightings to each of growth in adjusted EPS, TSR and EP.</li> <li>› Performance metrics will be the same as those stated for 2018 awards as detailed on page 75.</li> <li>› No buy-out awards were granted in respect of the appointment of either the Chief Executive or Chief Financial Officer.</li> <li>› Dividends are accrued and paid in shares.</li> </ul>
<b>Non-executive Directors</b>	No increase in fees or changes to the fee structure. Fee arrangements will be reviewed in December 2019.	None applicable.	None applicable.

### Recruitment remuneration

The Company's policy on the recruitment of Executive Directors is to pay a fair remuneration package for the role being undertaken and the experience of the Executive Director. The Remuneration Committee will determine base salary in line with the current Remuneration Policy and having regard to the parameters and limits set out in the future implementation table. Incoming Executive Directors will be entitled to pension, benefit and incentive arrangements, which are the same as provided to existing Executive Directors although the Committee may exercise its discretion to vary those elements of remuneration within the maximum levels set. On that basis, incentive awards would not exceed the maximum levels of 350% of base salary in the case of a newly appointed Chief Executive and 325% of base salary in the case of a Group Finance Director.

Where an existing employee is appointed as an Executive Director, any variable pay element awarded in respect of the prior role may either continue on its original terms or be adjusted to reflect the new appointment.

The Committee may also agree that the Company will meet certain relocation expenses as it considers appropriate.

In recognition of the fact that a new Executive Director may have to forfeit sizeable cash bonuses and share awards if they choose to leave their former employer to join Spectris, the Committee has the ability to compensate incoming Executive Directors for incentive awards they give up on joining Spectris. The Remuneration Committee will use its judgement in determining any such compensation, will only provide compensation which is no more beneficial than that given up and will seek to replicate forfeited share awards using Spectris incentive plans or through reliance on Rule 9.4.2 of the Listing Rules.

### Termination arrangements

The Company's policy regarding termination payments to departing Executive Directors is to limit severance payments to pre-established contractual arrangements. The contracts permit the Committee to make payment in respect of base salary, pensions and benefits on a monthly basis with payments reducing or ceasing if the departing individual finds another position during the notice period. However, the Committee reserves the power to negotiate a single lump-sum on termination if it considers that to be in the interests of the Company and will have full regard to the duty to mitigate if it does so. In some circumstances, additional benefits may become payable to cover outplacement fees and legal fees.

Benefits in kind	Pension and other benefits in kind	All-employee share plans	Shareholding ownership guidelines
<ul style="list-style-type: none"> <li>› No change to benefits in kind provided.</li> </ul>	<ul style="list-style-type: none"> <li>› Percentage of base salary as taxable cash allowance in lieu of pension contributions:               <ul style="list-style-type: none"> <li>› 20% Chief Executive.</li> <li>› 25% Group Finance Director (until 1 April 2019 at the latest).</li> <li>› 15% Chief Financial Officer (from 1 March 2019).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>› The Executive Directors have the opportunity to participate in the all-employee SIP, as approved by shareholders at the 2018 AGM, on the same terms as other Group UK employees.</li> <li>› No further grants will be made under the SAYE Scheme.</li> </ul>	<ul style="list-style-type: none"> <li>› 300% of base salary within five years of date of appointment.</li> </ul>
None applicable.	None applicable.	None applicable.	None applicable.

Ordinarily, no bonus payments would be made and all share awards would lapse following termination. However, under certain circumstances, such as good leaver provisions covering retirement and ill health, bonus entitlement may be payable, calculated to the date of termination. Additionally, awards made under the PSP will remain exercisable subject to time pro-rating and the application of the performance conditions at the measurement date. The Committee retains discretion to vary or disapply time pro-rating for PSP awards for good leavers where it considers it fair and reasonable to do so or to allow good leavers' PSP awards to vest at the date of termination (subject to time pro-rating and the application of the performance measures) in exceptional cases. Likewise, on a change of control, PSP awards may vest in accordance with the rules of the plan and subject to time-pro-rating and performance conditions.

Vested PSP awards which are subject to a holding period will not normally be forfeited on termination (except in the case of gross misconduct) and the holding period will continue to apply. The Committee has the discretion to release awards early from the holding period in appropriate cases such as death or ill health.

The Remuneration Committee retains discretion to alter these provisions on a case-by-case basis following a review of circumstances and to ensure fairness for both shareholders and Executive Directors.

Details of an out-going Executive Director's remuneration arrangements will be published on the Company's website around the time of leaving.

### Consideration of remuneration conditions elsewhere in the Group

The Committee considers the remuneration and employment conditions elsewhere in the Group together with current market practice when determining remuneration for the Executive Directors. In addition to the UK comparator group set out on page 70, the levels of remuneration, annual bonus and PSP awarded to the Presidents of each of the Group's operating companies are taken into consideration, notwithstanding that these reflect such businesses' particular trading positions and the geographical and technical employment markets in which they operate. However, the Committee does not consult specifically with employees on the Remuneration Policy.

### Consideration of shareholders' views

The Committee takes into account the views of the Company's shareholders and best practice guidelines set by shareholder representative bodies when determining remuneration for Executive Directors. The proposals for the 2020 Remuneration Policy will be the subject of consultation with the Company's significant institutional shareholders and their representative bodies and their feedback will be incorporated into the final policy submitted for shareholder approval at the 2020 AGM.

Details of the votes received on our Remuneration Policy at the 2017 AGM and 2017 Directors' Remuneration Report at the 2018 AGM are provided on page 77.

This section of the Report sets out the details of the implementation of the Remuneration Policy during the 2018 financial year. Details of how the Committee intends to implement the Policy during 2019 are summarised in the table on pages 64 and 65. This part of the Report, together with the Committee Chairman's Statement, Summary of Remuneration Policy and 2019 implementation, and the information on the Remuneration Committee, form the Annual Report on Remuneration which is subject to an advisory shareholder vote at the 2019 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 <sup>3</sup>	E. Pension-related benefits	F. All-employee share plans	Total
Andrew Heath <sup>1</sup>	2018	203	6	182	–	41	–	432
	2017	–	–	–	–	–	–	–
John O'Higgins <sup>2</sup>	2018	457	14	368	1,012	114	–	1,965
	2017	597	19	718	151	149	9	1,643
Clive Watson	2018	386	17	294	643	97	8	1,445
	2017	378	16	359	96	95	–	944

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

2. John O'Higgins stepped down from the Board on 28 September 2018. His remuneration is pro-rated to that date.

3. Includes restated 2017 figures to reflect actual vesting of 2015 awards and estimated vesting for the 2016 awards due to mature in February 2019. Further details are set out on pages 68 and 69.

### Notes to single total figure of remuneration:

#### A. Salary (audited)

John O'Higgins and Clive Watson received a salary increase of 2% with effect from 1 January 2018 (consistent with average UK wage inflation) and Andrew Heath was appointed on an annual base salary of £610,000, in line with the current Remuneration Policy.

#### B. Taxable benefits

Taxable benefits included in the above single total figure of remuneration for each Executive Director are 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 2018 are set out in the table below:

Executive Director	Car and fuel allowances £	Medical/healthcare cover £	Total £
Andrew Heath <sup>1</sup>	5,055	613	5,668
John O'Higgins <sup>2</sup>	12,765	1,498	14,263
Clive Watson	15,287	1,612	16,899
<b>Total</b>	<b>33,107</b>	<b>3,723</b>	<b>36,830</b>

1. Taxable benefits pro-rated from date of appointment on 3 September 2018.

2. Taxable benefits pro-rated to date of stepping down from the Board on 28 September 2018.

#### C. 2018 Annual bonus outcome (audited)

The maximum bonus opportunity for the Chief Executive remains unchanged at 150% of base salary, of which 125% is based on adjusted profit before tax and 25% is based on personal objective performance measures. The maximum bonus opportunity for the Group Finance Director also remained unchanged at 125% of base salary, of which 100% is based on adjusted profit before tax 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 profit before tax 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 shareholding requirements. The table below sets out the annual bonus earned by the Executive Directors in respect of the 2018 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 <sup>1</sup>	150%	Group adjusted PBT	50%	125%	66.6%	135,420	44.4%
		Personal objectives	10%	25%	23.0%	46,767	15.3%
		<b>Total</b>			<b>89.6%</b>	<b>182,187</b>	<b>59.7%</b>
John O'Higgins <sup>2</sup>	150%	Group adjusted PBT	50%	125%	66.6%	304,166	44.4%
		Personal objectives	10%	25%	14.0%	63,939	9.3%
		<b>Total</b>			<b>80.6%</b>	<b>368,105</b>	<b>53.7%</b>
Clive Watson	125%	Group adjusted PBT	50%	100%	61.1%	235,889	48.9%
		Personal objectives	10%	25%	15.0%	57,911	12.0%
		<b>Total</b>			<b>76.1%</b>	<b>293,800</b>	<b>60.9%</b>

1. Andrew Heath's bonus is pro-rated from date of appointment on 3 September 2018.

2. John O'Higgins stepped down from the Board on 28 September 2018. His bonus is pro-rated to that date. His total 2018 bonus for the full year was £490,806.

The adjusted profit before tax bonus range established by the Committee for 2018 was as follows:

Bonus level (as percentage of maximum for this element)	0%	50%	100/125%	Actual
Adjusted profit before tax	£213.9m	£229.7m	£252.7m	£234.8m <sup>1</sup>

1. Includes adjustments to reflect the impact of 2018 share buyback programme and Project Uplift costs. Further details are set out below.

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 <sup>1</sup>	241.4
Project Uplift costs <sup>2</sup>	(10.8)
Adjustments relating to the EMS Brüel & Kjær joint venture <sup>3</sup>	3.5
Additional interest due to share buyback <sup>4</sup>	0.7
Adjusted profit before tax for bonus purposes	234.8

1. Reconciled in Note 2 to the Financial Statements on page 108.

2. Project Uplift costs were included in the targets.

3. These items adjust for the disposal of EMS Brüel & Kjær which was not envisaged in the targets.

4. This item adds back the additional interest payable on loans due to the share buyback which was not envisaged in targets.

The 2018 personal objectives for the Chief Executive and Group Finance Director covered a range of areas. These objectives, and the weightings accorded to each, are detailed below:

#### Chief Executive – Andrew Heath

2018 Objectives	Weighting	Outcome
In support of the re-setting of the Group's strategy:	25%	23%
<ul style="list-style-type: none"> <li>› Initiated and led the Group strategic review;</li> <li>› Devised and led a new profit improvement programme;</li> <li>› Defined and agreed the core operational structure of the Group and the key management team required to deliver on the Group's strategy;</li> <li>› Led the Group's coordinated approach to health and safety management; and</li> <li>› Provided clear emphasis on the importance of ethics and strong endorsement to the launch of the Group's Ethics and Compliance Enhancement Programme.</li> </ul>		

#### Former Chief Executive – John O'Higgins

2018 Objectives	Weighting	Outcome
Led the Group in:	25%	14%
<ul style="list-style-type: none"> <li>› The integration and delivery of investment plans for key acquisitions;</li> <li>› The continuation of the building of acquisition pipelines to grow the Solutions and Industrial business platforms;</li> <li>› Recruiting, driving and promoting the necessary talent for the delivery of the Group's strategy;</li> <li>› The continued focus of the Group's operational model; and</li> <li>› Ensuring broad and deep support for the Spectris Code of Business Ethics.</li> </ul>		

#### Group Finance Director

2018 Objectives	Weighting	Outcome
In support of the continued execution of the Group's strategy, the Group Finance Director:	25%	15%
<ul style="list-style-type: none"> <li>› Strengthened the processes that support the financial discipline of the Group;</li> <li>› Provided leadership and direction as the sponsor of Project Uplift, including overseeing the governance of the project to achieve key milestones and projected costs and benefits;</li> <li>› Progressed the talent development strategy of the high potential talent identified within the Group's finance community; and</li> <li>› Developed the Group's IT Function including the successful recruitment of a Group Chief Information Officer.</li> </ul>		

**D. Performance Share Plan ('PSP') (audited)**

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. The TSR performance condition is measured independently by Aon Hewitt ('Aon').

**PSP awards granted during 2018 (audited)**

The table below details share options granted to Executive Directors, in line with the Remuneration Policy, under the PSP scheme during 2018. 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 awards to John O'Higgins and Clive Watson were granted on 16 March 2018. Due to Andrew Heath joining the Board part way through the annual share plan award cycle, his award was granted on 3 September 2018 and pro-rated on the basis of 5/12 of 200% of base salary. A holding period of two years applies to all awards following vesting. Full details of the performance conditions are set out on page 75.

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		Financial/performance period
						Threshold performance (% of face value)	Maximum opportunity (% of face value)	
Andrew Heath	5p	5/12 of 200% of base salary	21,372 <sup>1</sup>	508,312 <sup>2</sup>	Compound growth in EPS	6.66%	33.33%	1 January 2018 to 31 December 2020
					EP	6.66%	33.33%	
					TSR	6.66%	33.33%	3 September 2018 to 2 September 2021
					Total	20%	100%	
John O'Higgins	5p	200% of base salary	44,600 <sup>1</sup>	1,194,031 <sup>3</sup>	Compound growth in EPS	6.66%	33.33%	1 January 2018 to 31 December 2020
					EP	6.66%	33.33%	
					TSR	6.66%	33.33%	16 March 2018 to 15 March 2021
					Total	20%	100%	
Clive Watson	5p	200% of base salary	28,280 <sup>1</sup>	757,112 <sup>3</sup>	Compound growth in EPS	6.66%	33.33%	1 January 2018 to 31 December 2020
					EP	6.66%	33.33%	
					TSR	6.66%	33.33%	16 March 2018 to 15 March 2021
					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 the five days immediately prior to the date of grant of 2,378.4 pence.

3. Face value based on the average of the closing share price over the five days immediately prior to the date of grant of 2,677.2 pence.

**PSP awards vested during 2018 (audited)**

PSP awards granted in 2015 which matured in March 2018 vested in part on the TSR performance results to 5 March 2018 but did not vest on the EPS and EP performance measures for the three financial years to 31 December 2017. The final outcome was 10.4% of the total award vested on 6 March 2018 and the balance of award lapsed in full (see tables below). The single total remuneration figure for 2017 has been restated to reflect this final outcome.

Performance condition	Weighting	Threshold	Actual	Percentage weighted performance condition vested	Percentage of total award vested
EPS	One-third	CPI + 5% c.p.a.	CPI + 3.6% c.p.a.	0%	0%
TSR	One-third	Median	31.6% (Median: 28.1%) <sup>1</sup>	31.20%	10.4%
EP	One-third	£250 million	£163.2 million	0%	0%
Total					10.4%

1. TSR outcome based on the final TSR performance results on 5 March 2018. Details of the comparator group are set out on page 71.

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 vesting date 6 March 2018	Vesting value (£)
John O'Higgins	51,830 <sup>1</sup>	1,138,809 <sup>2</sup>	10.4%	5,390	396	5,786	2,620p	151,324
Clive Watson	32,930 <sup>1</sup>	723,538 <sup>2</sup>	10.4%	3,424	251	3,675	2,620p	96,114

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

2. 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 2,197.2 pence.

### PSP awards vesting in February 2019 (audited)

PSP awards granted in 2016 and maturing in February 2019 are subject to EPS, TSR and EP performance conditions. The EPS and EP threshold targets in respect of the three financial years to 31 December 2018 were exceeded and, as a result, part of the award (up to a maximum of two-thirds) will vest. Based on the interim TSR performance results provided by Aon as at 31 December 2018, the remaining one-third of the award which is subject to the performance of TSR for the three-year performance period ending on 22 February 2019 may vest subject to the final assessment of TSR on 25 February 2019 (see tables 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 + 13% c.p.a. or above	CPI + 8.75% c.p.a. <sup>1</sup>	57.5%	19.2%
TSR	One-third	Median £145 million	Upper quintile or above £275 million or above	41.9% (Median: 14.8%) <sup>2</sup>	80.4%	26.8%
EP	One-third	£145 million	£275 million or above	£196.8 million	51.9%	17.3%
<b>Estimated total</b>						<b>63.3%</b>

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 109) is set out below:

Adjusted EPS (reported)	164.9	pence
Deduct Project Uplift cost net of tax	(6.8)	
Adjusted EPS (after Project Uplift costs)	158.1	
Net impact of share buyback		
Impact of share buyback – finance charge	0.5	
Impact of share buyback – reduction in shares	(2.4)	(1.9)
Adjusted EPS (for PSP vesting purposes)	156.2	

2. The TSR figures are estimates based on the interim TSR performance results as at 31 December 2018. Details of the comparator group are set out on page 71.

The vesting estimates included in the single total figure of remuneration for 2018 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	Estimated vesting 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
John O'Higgins	67,460	£1,155,995 <sup>1</sup>	63.3%	42,674	3,149	45,823	2,213.91p	<b>£1,012,348</b>
Clive Watson	42,860	£734,449 <sup>1</sup>	63.3%	27,112	2,001	29,113	2,213.91p	<b>£643,181</b>

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

Details of the performance conditions are set out on page 75.

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. John O'Higgins and Clive Watson receive 25% of base salary and Andrew Heath receives 20% of base salary. In light of the pension lifetime allowance of £1.03 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.

### F. All-employee share plans (audited)

Options granted to Clive Watson on 22 September 2015 under the Spectris Savings Related Share Option Scheme ('SAYE Scheme') vested on 1 December 2018 and were exercised on 3 December 2018 to acquire 1,036 ordinary shares at an option price of 1,737 pence per share giving a total exercise value of £17,995. The option price was set at the time of grant based on the closing mid-market price of the Company's shares on 24 August 2015, being the last business day prior to the grant date. Although the SAYE Scheme rules permit the option price to be discounted up to a maximum of 20% of the market price at the time of grant, no discount was applied to the option price. The exercise price therefore reflects fair value as at the date of grant. The closing market price on 3 December 2018, was 2,495 pence per share producing a total gain on exercise of £7,852.88.

**Payments for loss of office or to past Directors (audited)****John O'Higgins**

Under the terms of his service contract and in line with the Remuneration Policy, John O'Higgins is subject to a 12-month notice period that commenced on 24 May 2018. Following him stepping down from the Board on 28 September 2018, he remained an employee of the Group and will remain an employee until 23 May 2019, during which time he will work to facilitate a smooth handover. During this period, John will continue to be paid an amount each month in respect of his salary, pension and benefits. The value of these payments for that period are: salary: £392,722.17; 25% cash pension contributions: £98,180.54; and car allowance: £9,780.33. John is also entitled to his contractual non-cash benefits of medical insurance and death in service benefit and eligible for a payment under the annual bonus plan which will be subject to the performance conditions set, pro-rated to the date he ceases to be an employee and subject to malus and clawback.

John will not participate in the 2019 Performance Share Plan ('PSP') award. PSP awards made to him in 2016, 2017 and 2018 will vest on the original vesting date to the extent that the relevant performance conditions are met. The number of shares under each award is reduced on a time pro-rata 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. On vesting, the 2017 and 2018 PSP awards will also be subject to a two-year holding period.

**Clive Watson**

Under the terms of his service contract and in line with the Remuneration Policy, following his retirement from the Board on 1 April 2019, Clive Watson will remain an employee of the Group until 31 July 2019, during which time he will facilitate a smooth handover. During this period, Clive will continue to be paid: an amount in respect of salary totalling £128,690; 25% cash pension contributions amounting to £32,172.52; and car allowance amounting to £5,055. He will also be entitled to receive his contractual non-cash benefits and be eligible for a payment under the 2019 annual bonus plan subject to meeting the applicable performance conditions and pro-rated on a time served basis.

Clive will not participate in the 2019 PSP award. His 2016 PSP will vest in line with ordinary performance conditions in late February 2019. PSP awards made to him in 2017 and 2018 will vest on the original vesting date to the extent that the relevant performance conditions are met. The number of shares under each award is reduced on a time pro-rata basis to reflect the 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 and the awards will be subject to a two-year holding period.

**Percentage change in the remuneration of the 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 2017 and 31 December 2018. The Group-wide 2018 annual bonus outcomes and payments will be confirmed in March 2019 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 John O'Higgins have been used.

	% change 2017-2018		
	Base salary	Benefits	Annual bonus
Chief Executive	2.0%	0.9%	(31.6)%
Executive team	1.7%	19.4%	(21.5)%
Spectris UK-based employees	4.6%	3.0%	(1.0)%

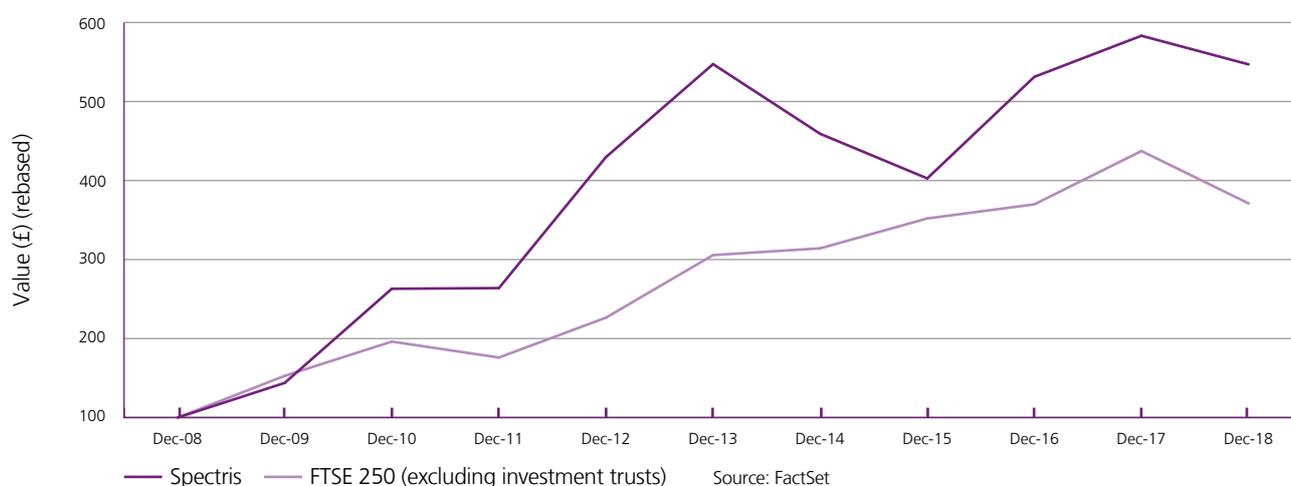
**Relative importance of spend on pay**

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 2017 and 31 December 2018. Total employee pay is the total pay costs 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.

	2018 £m	2017 £m	% change
Total employee pay	633.7	600.6	6%
Dividends paid during the year	68.2	63.2	8%
Share buyback	100.5	–	–%
Adjusted profit before tax <sup>1</sup>	241.4	234.2	3%

1. Adjusted profit before tax is calculated as being the statutory profit before tax as adjusted to exclude certain items defined in Note 2 to the Financial Statements on page 108.

### Total shareholder return performance



This graph shows the value, by 31 December 2018, of £100 invested in Spectris on 31 December 2008, compared with the value of £100 invested in the FTSE 250 Index (excluding investment trusts) on the same date. This index has been chosen because it is a widely-recognised performance benchmark for large companies in the UK.

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 PSP awards that vested based on performance in those years. The annual bonus and PSP percentages show the pay-out for each year as a percentage of the potential maximum.

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018 John O'Higgins	2018 Andrew Heath
Single total figure of remuneration (£'000)	849	1,104	1,481	2,995	2,172	1,122	729	1,388	1,611	1,965 <sup>3</sup>	324 <sup>3</sup>
Annual bonus (% of maximum)	0%	95%	100%	70%	20%	18%	0% <sup>1</sup>	90%	80%	54%	60%
PSP vesting (% of maximum)	33%	89%	100%	100%	100%	28%	0%	0%	10% <sup>2</sup>	63% <sup>4</sup>	N/A

1. Bonus entitlement waived.

2. Restated figure to reflect actual vesting of 2015 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.

4. Estimated vesting of 2016 award.

## Non-executive Directors' remuneration

### Chairman and Non-executive Directors' fees

The fee structure for the Non-executive Directors remained unchanged for 2018 as set out below:

	2018 £'000	2017 £'000
Chairman (all-inclusive fee)	220	220
Non-executive Director basic fee	55	55
Senior Independent Director 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

### Non-executive Directors' 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:

Director		Basic fees £'000	Additional fees £'000	Taxable expenses £'000	Total £'000
Mark Williamson <sup>1</sup>	2018	220	–	–	220
	2017	132	–	–	132
Russell King	2018	55	20	–	75
	2017	55	20	–	75
Karim Bitar <sup>2</sup>	2018	55	–	–	55
	2017	28 <sup>2</sup>	–	–	28 <sup>2</sup>
Ulf Quellmann	2018	55	6 <sup>4</sup>	–	61
	2017	55	–	–	55
Bill Seeger	2018	55	25 <sup>4</sup>	–	80
	2017	55	25 <sup>4</sup>	10 <sup>5</sup>	90
Kjersti Wiklund <sup>3</sup>	2018	55	–	–	55
	2017	52	–	–	52
Martha Wyrsh	2018	55	15 <sup>4</sup>	–	70
	2017	55	15 <sup>4</sup>	–	70

1. Mark Williamson joined the Board as Non-executive Chairman on 26 May 2017. His 2017 fee is pro-rated from that date and is all-inclusive.

2. Karim Bitar joined the Board on 1 July 2017. His 2017 fee is pro-rated from that date and has been restated to reflect an overpayment correction.

3. Kjersti Wiklund joined the Board on 19 January 2017. Her 2017 fee is pro-rated from that date.

4. Bill Seeger and Martha Wyrsh (both based overseas) received an additional annual travel supplement of £15,000 for the 2018 financial year (2017: £15,000), 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.

5. Bill Seeger was reimbursed for certain travel expenses during the 2016/2017 tax year amounting to £5,566 which HMRC subsequently deemed to be subject to UK income tax producing a gross figure of £9,614. This tax liability amounted to £4,048 and was paid by Spectris on his behalf during 2017. There was no tax liability on reimbursed expenses during 2017/18 tax year.

## Additional notes to the Non-executive Directors' single total figure of remuneration table

### Membership of Board Committees

Details of each Non-executive Director's Board Committee membership and, where relevant, Committee Chairmanship, held during 2018, and reflected in the additional fee figures for the financial year, are outlined in the table below:

#### Non-executive Director

Mark Williamson	Non-executive Chairman
Russell King	Senior Independent Director and Chairman of the Remuneration Committee
Karim Bitar	Member of the Audit and Risk and Remuneration Committees
Ulf Quellmann	Member of the Audit and Risk and Remuneration Committees
Bill Seeger	Chairman of the Audit and Risk Committee
Kjersti Wiklund	Member of the Remuneration Committee
Martha Wyrsh	Member of the Audit and Risk Committee

At the date of this report, all Non-executive Directors served on the Nomination Committee, for which there was no additional payment.

### Directors' shareholdings and share interests (audited)

#### Directors' shareholding requirements

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. Andrew Heath was appointed on 3 September 2018 and is in the process of building his shareholding. Both John O'Higgins and Clive Watson each have a holding in excess of this requirement. For comparison purposes, annualised 2018 base salaries in respect of Andrew Heath and John O'Higgins have been used to calculate their respective required level of retained shareholding. 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.

#### Executive Directors' interests in shares

The beneficial interest of each Executive Director (including their closely associated persons) in the shares of the Company, as at 31 December 2018, is as follows:

Director	Shares held as at 31 December 2018 or leaving date <sup>1</sup>	No. of shares to be retained <sup>2</sup>	Percentage of requirement achieved <sup>2</sup>	Interests in share plans		Total interests in shares
				PSP <sup>3</sup>	SIP <sup>4</sup>	
Andrew Heath	21,500	80,298	27%	21,372	22	42,894
John O'Higgins	290,613	80,158	363%	157,440	–	448,053
Clive Watson	133,979	50,820	264%	99,910	38	233,927

Notes:

1. John O'Higgins stepped down from the Board on 28 September 2018.
2. Based on unrestricted shares held and the Company's closing share price on 31 December 2018, the last trading date of 2018, of 2,279 pence.
3. PSPs are nominal cost share options of 5 pence. Performance conditions apply, details of which are set out in the following sections.
4. 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 award.

Between 1 January 2019 and 19 February 2019, Andrew Heath purchased 13 Partnership shares and received 3 free Matching shares and Clive Watson purchased 12 Partnership shares and received 2 free Matching shares through the Company's SIP.

**Executive Directors' interests in share plans**

## PSP and SAYE

Director	Share plan	Date granted	Performance period end date/date exercisable	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 2018	Granted during the year	Exercised during the year	Lapsed during the year	No. of shares subject to options at 31 December 2018
Andrew Heath	PSP	Sept 2018	Sept 2021 <sup>4</sup>	Sept 2028	5	2,378.4	508,312	–	21,372 <sup>6</sup>	–	–	21,372
<b>Total PSP</b>								–	<b>21,372</b>	–	–	<b>21,372</b>
John O'Higgins	PSP	Mar 2015	Mar 2018	Mar 2025	5	2,197.2	1,138,809	51,830 <sup>6</sup>	396 <sup>5</sup>	5,786	46,440	–
		Feb 2016	Feb 2019	Feb 2026	5	1,713.6	1,155,995	67,460	–	–	–	67,460
		Jun 2017	Jun 2020 <sup>4</sup>	Jun 2027	5	2,630.8	1,193,857	45,380	–	–	–	45,380
		Mar 2018	Mar 2021 <sup>4</sup>	Mar 2028	5	2,677.2	1,194,031	–	44,600 <sup>6</sup>	–	–	44,600
		<b>Total PSP</b>								<b>164,670</b>	<b>44,996</b>	<b>5,786</b>
Clive Watson	PSP	Mar 2015	Mar 2018	Mar 2025	5	2,197.2	723,538	32,930 <sup>6</sup>	251 <sup>5</sup>	3,675	29,506	–
		Feb 2016	Feb 2019	Feb 2026	5	1,713.6	734,449	42,860	–	–	–	42,860
		Jun 2017	Jun 2020 <sup>4</sup>	Jun 2027	5	2,630.8	756,881	28,770	–	–	–	28,770
		Mar 2018	Mar 2021 <sup>4</sup>	Mar 2028	5	2,677.2	757,112	–	28,280 <sup>6</sup>	–	–	28,280
		<b>Total PSP</b>								<b>104,560</b>	<b>28,531</b>	<b>3,675</b>
	SAYE	Sept 2015	Dec 2018	Jun 2019	1,737	1,737.0	17,995	1,036	–	1,036	–	–

Notes to the interests in share plans table:

**Performance Share Plan ('PSP')**

- Shareholders approved the rules of the Spectris Performance Share Plan 2017 at the AGM held on 24 May 2017.
- 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.
- 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.
- PSP awards granted in 2017 and 2018 are subject to an additional two-year holding period following the initial three-year performance period. These PSP awards will become available to exercise at the end of the holding period (which will be the fifth anniversary of the date of grant).
- Under the terms of the PSP, 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.
- The PSP awards granted to the Executive Directors in 2015 and 2018 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.
- The number of shares under option shown in the final column for John O'Higgins is as at 28 September 2018, which is the date he ceased to be a Director.

**Savings Related Share Option Scheme ('SAYE Scheme')**

- The Spectris Savings Related Share Option Scheme 2007 expired on 25 May 2017 and was replaced by a new SAYE scheme, on substantially the same terms, on 26 May 2017. This Scheme is a HMRC tax-favoured savings-related share option scheme open to all employees.
- No performance conditions are attached to SAYE options other than continuous service. No grants have been made under the SAYE Scheme since 2016.
- The face value of SAYE awards is calculated using the exercise price which is set at the date of grant based on the closing mid-market share price on the day immediately before the invitation date. Although the SAYE Scheme rules permit the option price to be discounted up to a maximum of 20% of the market price at the time of grant, no such discount was applied to the option price.

**Share Incentive Plan ('SIP')**

	No. of shares held at 1 January 2018	No. of Partnership shares purchased during the year	No. of Matching shares awarded during the year	Total No. of shares held within the SIP as at 31 December 2018
Andrew Heath	–	19	3	22
Clive Watson	–	32	6	38

Notes:

- The Spectris Share Incentive Plan ('SIP') was approved by shareholders at the 2018 AGM. This scheme is a 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. John O'Higgins did not participate in this SIP.
- 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.

### PSP performance conditions

The performance criteria for the awards granted in 2018 and 2017 are summarised as follows:

Performance condition	Performance metric		Percentage of award that vests (expressed as a percentage of one-third of the total number of shares subject to an award)
	2018	2017	
Earnings per share ('EPS')	CPI + 11% c.p.a.	CPI + 11% c.p.a.	100%
	Between CPI + 5% and 11% c.p.a.	Between CPI + 5% and 11% c.p.a.	Pro rata on a straight-line basis between 20% and 100%
	CPI + 5% c.p.a.	CPI + 5% c.p.a.	20%
	Less than CPI + 5% c.p.a.	Less than CPI + 5% c.p.a.	0%
Total Shareholder Return ('TSR') Relative to the FTSE 250 (excluding investment trusts)	Upper quintile or above	Upper quintile or above	100%
	Between median and upper quintile	Between median and upper quintile	Pro rata on a straight-line basis between 20% and 100%
	Median	Median	20%
	Below median	Below median	0%
Economic Profit ('EP') Aggregate economic profit over the financial performance period	£300 million or more	£280 million or more	100%
	Between £180 million and £300 million	Between £150 million and £280 million	Pro rata on a straight-line basis between 20% and 100%
	£180 million	£150 million	20%
	Less than £180 million	Less than £150 million	0%

The performance criteria for the awards granted in 2016 and 2015 are summarised as follows:

Performance condition	Performance metric		Percentage of award that vests (expressed as a percentage of one-third of the total number of shares subject to an award)
	2016	2015	
EPS	CPI + 13% c.p.a.	CPI + 13% c.p.a.	100%
	Between CPI + 5% and 13% c.p.a.	Between CPI + 5% and 13% c.p.a.	Pro rata on a straight-line basis between 20% and 100%
	CPI + 5% c.p.a.	CPI + 5% c.p.a.	20%
	Less than CPI + 5% c.p.a.	Less than CPI + 5% c.p.a.	0%
TSR Relative to the FTSE 250 (excluding investment trusts)	Upper quintile or above	Upper quintile or above	100%
	Between median and upper quintile	Between median and upper quintile	Pro rata on a straight-line basis between 20% and 100%
	Median	Median	20%
	Below median	Below median	0%
EP Aggregate economic profit over the financial performance period	£275 million or more	£370 million or more	100%
	Between £145 million and £275 million	Between £250 million and £370 million	Pro rata on a straight-line basis between 20% and 100%
	£145 million	£250 million	20%
	Less than £145 million	Less than £250 million	0%

Economic profit is defined as adjusted operating profit (after Project Uplift costs) 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.

**Dilution limits**

In line with best practice, the use of new or treasury shares to satisfy the vesting of awards made under all of the Company's share plans (PSP and SAYE combined) is restricted to 10% in any ten-year rolling period. A further restriction applies to the PSP plan of 5% over the same period of which 3.39% has been utilised.

**Chairman and Non-executive Directors' interests 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 2018.

<b>Current Non-executive Director</b>	Shares held at 1 January 2018 (or date of appointment if later)	Shares held at 31 December 2018
Mark Williamson	16,753	16,753
Russell King	3,000	3,000
Karim Bitar	–	1,330
Ulf Quellmann	1,500	1,994
Bill Seeger	3,000	3,000
Kjersti Wiklund	–	–
Martha Wyrsh	3,000	3,000

There has been no change in the interests in shares of the Chairman and Non-executive Directors between 1 January 2019 and 19 February 2019.

**Share price**

At 31 December 2018, the last trading day of 2018, the mid-market closing share price on the London Stock Exchange was 2,279 pence per share. The highest mid-market closing share price in the year was 2,908 pence per share and the lowest was 1,966.5 pence per share.

**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.

The contract of employment in respect of Andrew Heath provides for payment in lieu of notice on termination equivalent to base salary, pension and benefits but excludes any compensation for loss of bonus and is in full and final settlement of all employment-related claims. Such payment may be paid in monthly instalments for the duration of the notice period or as a lump sum and is subject to mitigation if alternative employment is found during the notice period.

The contract of employment in respect of Clive Watson contains an option, at the sole discretion of the Board, for the contract to be terminated by way of payments in lieu of notice equivalent to 1.4 times monthly base salary for the outstanding months of the notice period. Such payment accounts for: the 25% employer pension contribution; company car, insurance and fuel benefits; life, disability and medical expenses insurances; and settlement of any statutory employment claims that may arise upon termination, but excludes any element of compensation for loss of bonus and is in full and final settlement of all employment-related claims.

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 2019
<b>Executive Directors</b>				
Andrew Heath	3 Sept 2018	Rolling contract with no fixed expiry date	12 months	5 months
Clive Watson	1 Oct 2006	4 Feb 2023	12 months	12 years 4 months
<b>Non-executive Directors</b>				
Mark Williamson	26 May 2017	Renewable at each AGM	6 months	1 year 9 months
Russell King	12 Oct 2010	Renewable at each AGM	6 months	8 years 4 months
Karim Bitar	1 July 2017	Renewable at each AGM	6 months	1 year 7 months
Ulf Quellmann	1 Jan 2015	Renewable at each AGM	6 months	4 years 1 month
Bill Seeger	1 Jan 2015	Renewable at each AGM	6 months	4 years 1 month
Kjersti Wiklund	19 Jan 2017	Renewable at each AGM	6 months	2 years 1 month
Martha Wyrtsch	1 Jun 2012	Renewable at each AGM	6 months	6 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 did not hold any external non-executive appointments during 2018. Details of the payments received by John O'Higgins (pro-rated to 28 September 2018 being the date he stepped down from the Spectris Board) and Clive Watson for external non-executive appointments held during 2018 are set out in the table below:

	Company name	Fee retained
John O'Higgins	Johnson Matthey	£47,467
Clive Watson	Spirax-Sarco Engineering plc	£66,595

#### Summary of shareholder voting on Directors' remuneration

At the AGM held on 25 May 2017, shareholders approved the 2017 Directors' Remuneration Policy by 98.46% of the votes cast and the 2017 Directors' Remuneration Report was approved at the 2018 AGM by 99.17% of the votes cast, as detailed in the table below:

		Votes for		Votes against		Votes withheld	
		Number	%	Number	%	Number	
2017 AGM	Directors' Remuneration Policy	93,190,031	98.46%	1,445,329	1.53%	517,033	
2018 AGM	2017 Directors' Remuneration Report	98,570,343	99.17%	821,763	0.83%	43,894	

#### Directors' interests 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 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. Environment, social and governance ('ESG') factors are also considered by the Committee when assessing the personal element of Executive Directors' performance. The Committee also monitors the level and structure of remuneration for operating company Presidents and Managing Directors, and takes into account workforce remuneration and related policies and the alignment of incentives and rewards with the Group's culture. The remuneration of Non-executive Directors is a matter reserved to the Board. The full terms of reference for the Remuneration Committee are reviewed annually and are available at [www.spectris.com](http://www.spectris.com).

### Committee members and attendees

All members of the Committee are independent Non-executive Directors. During 2018, the members were:

- › Russell King (Chairman)
- › Karim Bitar
- › Ulf Quellmann
- › Kjersti Wiklund

The Committee met five times during 2018 and details of each member's attendance are disclosed on page 45. 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 PricewaterhouseCooper LLP ('PwC') and independent information from Aon Hewitt Limited ('Aon').

### Advisers to the Committee

PwC was appointed as independent remuneration adviser on 1 January 2018 and provided advisory support to the Committee on various aspects of the Directors' remuneration including fee benchmarking for the Non-executive Directors. During 2018, PwC 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 £53,667 (2017: nil) and Aon £12,300 (2017: £35,352). 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 is satisfied that the advice it received from these firms during 2018 was objective and independent.

### Activities in 2018

The key issues considered by the Committee during the year included:

- › 2018 Directors' Remuneration Report.
- › Considering and finalising the remuneration arrangements.
- › Executive Directors' 2018 bonus arrangements, target performance measures and personal objectives.
- › Review and approval of 2018 PSP grant levels and target range for performance measures.
- › Reviewing the impact of the in-year share buyback and also the change in calculation of adjusted operating profit on the Group's EPS metric to remove any enhancement.
- › Reviewing ESG risks in determining Director remuneration and agreeing that the current design of the Group's incentive arrangements did not pose undue ESG risk.
- › Reviewing changes to the UK Corporate Governance Code and agreeing a revised workplan to ensure that the Group remains compliant with the Code.

### Annual performance evaluation

The Chairman of the Committee led the annual evaluation of the performance of the Committee for 2018, with the results being discussed by the Committee and forming part of the wider Board and Committee evaluation discussion led by the Chairman. The Committee was considered to have operated effectively during the year.

### 2019 Remuneration Committee Workplan

The planned focus for the Committee during 2019 will be:

- › reviewing wider workforce remuneration framework and key policies;
- › reviewing wider UK workforce pension arrangements;
- › reviewing CEO average pay compared to UK workforce average pay;
- › reviewing the relevance and appropriateness of the Group's long-term incentive structure against the Group's strategic review and market practice;
- › reviewing the Group's existing Remuneration Policy against the Group's strategy, market practice, changes in the external governance environment and investor guidance and recommending any changes to the Board; and
- › developing and undertaking a proportionate investor engagement programme in respect of the proposed Remuneration Policy ahead of it being put before shareholders for approval in 2020.

On behalf of the Board

**Russell King**  
Chairman of the Remuneration Committee

19 February 2019

## 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 ('Companies 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 43 and pages 44 to 78 of the Corporate Governance Report 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 Corporate Governance Report on pages 44 to 78 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	11, 28 and 29
Amendment to Articles of Association	Directors' Report	80
Annual General Meeting	Directors' Report	80
Appointment and removal of Directors	Directors' Report	80
Authority to allot shares	Directors' Report	81
Business model	Strategic Report	6-7
Change of control	Directors' Report	80
Community and charitable giving	Strategic Report	43
Corporate governance	Corporate Governance Report	44-83
Directors' conflicts of interest	Directors' Report	81
Directors' details	Corporate Governance Report	46-47
Directors' indemnity	Directors' Report	81
Directors' responsibility statement	Directors' Report	83
Disclosure of information to auditor	Directors' Report	82
Diversity, equality and inclusion	Strategic Report	40
Employee engagement	Corporate Governance Report	40, 50 and 51
Employee equal opportunities	Strategic Report	40
Employee share plans	Directors' Report	81
Employees with disabilities	Strategic Report	40
Financial instruments	Directors' Report	81
Future developments and strategic priorities	Strategic Report	14-15
Going concern	Directors' Report	81
Greenhouse gas emissions	Strategic Report	42
Ongoing director training and development	Corporate Governance Report	49
Political donations	Directors' Report	81
Powers of Directors	Directors' Report	81
Principal risks and risk management	Strategic Report	31-36
Research and development activities	Strategic Report	6 and 26
Restrictions on transfer of shares	Directors' Report	81
Restrictions on voting rights	Directors' Report	81
Results and dividends	Strategic Report	4
Rights and obligations attaching to shares	Directors' Report	81
Share buyback	Directors' Report	81
Share capital	Directors' Report	81
Substantial share interests	Directors' Report	82
Viability Statement	Strategic Report	37

## 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.

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	4 and 39
		Culture, integrity and commitment to our values	4 and 39
		Ethics hotline	39
		Ethical leadership	39
		Principal risk – Compliance with laws and regulations	33
Business model		Our business model	6-7
Environmental matters	Environmental policy ISO 14001	Environmental management	42-43
		Energy performance	42
		Greenhouse gas emissions (GHG)	42
		KPI – Energy efficiency	17
Employees	Code of Business Ethics Health and safety policy OHSAS 18001 SA 8000	Fair employment and diversity	40
		Board diversity	49
		Employee engagement and Workforce Engagement Director	50-51
		Health, safety and wellbeing at work	41-42
		KPI – Accident incidence rate	17
		Principal risks – Compliance with laws and regulations – People	33 33
Human rights	Human Rights policy Code of Business Ethics	Legal and regulatory compliance	41
		Risk – Compliance with laws and regulation	33
Non-financial KPIs		Energy efficiency	17
		Accident incident rate	17
Social matters		Community involvement	43

## Results and dividends

The results for the year are set out on pages 92 to 162. Adjusted operating profit for the year amounts to £248.3 million (2017: £239.3 million).

An interim dividend of 20.5 pence per share was paid on 9 November 2018 in respect of the half year ended 30 June 2018. The Board is recommending a final dividend of 40.5 pence per share, making the total dividend for the year of 61.0 pence per share (2017: 56.5 pence per share). Dividend details are given in Note 9 to the Financial Statements. Subject to approval of shareholders at the 2019 Annual General Meeting, the final dividend will be paid on 28 June 2019 to those shareholders on the register at 24 May 2019.

## Articles of Association ('Articles')

The Company's Articles contain specific provisions and restrictions regarding the Company's power to borrow money. Powers relating to pre-emptive rights; the allotment of shares; and share buybacks of the Company's 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 Annual General Meeting 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](http://www.spectris.com).

## Annual General Meeting ('AGM')

The AGM will be held at 12.30pm on Friday 24 May 2019 at Great Fosters, Stroude Road, Egham, Surrey TW20 9UR. The notice of the AGM accompanies this Annual Report.

## Auditor's re-appointment and remuneration

In accordance with section 489 of the Companies Act, a resolution for the re-appointment of Deloitte LLP as the Company's auditor is to be proposed at the forthcoming 2019 AGM. A further resolution is to be proposed at that meeting to authorise the Directors to agree the remuneration of the auditor.

## Branches

Spectris Group, through various subsidiaries, has established branches in a number of different countries in which the business operates.

## Change of 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 of 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 46 and 47, other than John O'Higgins who retired from the Board on 28 September 2018. Directors are appointed and replaced in accordance with the Articles, Companies Act, and the UK Corporate Governance Code 2016. The powers of the Directors are set out in the Articles and the Companies Act.

### Directors' conflicts of interest

The Board has an established process to review at least annually, and, if appropriate, authorise conflict or potential 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 interests

Details of Directors' remuneration and their interest in the Company's shares can be found in the Directors' Remuneration Report on pages 60 to 78.

### Directors' and officers' indemnities and insurance

The Spectris Group maintains liability insurance for its Directors and officers. The Directors, Company Secretary and members of the Executive Committee have also been granted a third-party indemnity, under the Companies Act, which remains in force. Neither the Company's indemnity nor insurance provides cover in the event that an indemnified individual is proved to have acted fraudulently or dishonestly.

### Directors' powers

Subject to the Company's Articles, UK legislation and any directions given by special resolution, the business of the Company is managed by the Board, which may exercise all the powers of the Company.

### Borrowing powers

The Directors may exercise all the powers of the Company to borrow money.

### Pre-emptive rights and new issues

Subject to the Articles and applicable laws and regulations, the Directors may allot, grant options over, offer or otherwise deal with or dispose of shares of the Company to such persons at such times and generally on such terms and conditions as they may determine.

### Purchase of own shares and share buybacks

The Company was authorised by shareholders at the 2018 AGM to purchase in the market up to 10% of the Company's issued share capital, as permitted under the Company's Articles.

This standard authority is renewable annually; the Directors will seek to renew this authority at the 2019 AGM.

Following the sale of Microscan in October 2017, which produced post-tax cash proceeds of £91.9 million in March 2018, the Directors commenced a £100 million on-market share buyback programme. The Board considers the buyback process to be a flexible distribution method which provides shareholders with the choice as to whether to participate. The programme was completed on 13 August 2018 and the total number of ordinary shares of 5 pence each purchased amounted to 3,825,802 shares (representing 3.31% of the issued share capital (excluding treasury shares) as at 31 December 2018) at an average price of £24.83 per share. All purchased shares were duly cancelled. Details of the impact of the share buyback on relevant performance metrics related to the Performance Share Plan and Annual Bonus Plan are set out in the Directors' Remuneration Report on pages 67 and 69.

### Employee share plans

Details of employee share plans are set out in the Remuneration Policy summary table on pages 62 and 63 and in Note 23 to the Financial Statements on page 133.

### Financial instruments

Information on the Group's financial risk management objectives and policies, its exposure to foreign currency risk, interest rate risk, liquidity risk, credit risk and capital management is contained in Note 28 to the Financial Statements on pages 144 to 146.

### Going concern and Viability statements

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 37.

### Related party transactions

Related party transactions are set out in Note 32 to the Financial Statements on page 147.

### Political donations

The Group's policy is not to make any political donations and none were made during the financial year (2017: nil).

### Post balance sheet events

There were no post balance sheet events.

### Share capital

The share capital of the Company comprises ordinary shares of 5 pence each; each share carries the right to one vote at general meetings of the Company. The authorised and issued share capital of the Company, together with movements in the Company's issued share capital during the year, is shown in Note 22 to the Financial Statements on page 132. The Articles, available on the Company's website, contain provisions governing the ownership and transfer of shares.

### Shareholders' rights and obligations attaching to shares

#### Restrictions on shareholders' rights

All of the issued and outstanding ordinary shares of the Company have equal voting rights, with one vote per share. There are no special control rights attaching to them.

#### Alteration of share capital and variation of rights

The Company may reduce or vary the rights attaching to its share capital by special resolution. Such matters are subject to the relevant provisions of the Articles and applicable laws and regulations. Further details in relation to rights and restrictions applying to the Company's shares are set out in the Articles.

#### Transfer of shares

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.

#### Voting

Subject to any special rights or restrictions, every shareholder on the Register not less than 48 hours (excluding non-working days) 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 2019 AGM are set out in the Notice of AGM accompanying this Annual Report.

### Substantial share interests

As at 31 December 2018, the Company had received formal notifications of the following holdings in its ordinary shares in accordance with DTR5.

	Shareholding in Spectris shares	Date of notification	Percentage of issued share capital at date of notification
Massachusetts Financial Services Company	12,754,748	12 Oct 2018	11.04%
Fidelity Management & Research Company	6,403,655	23 Nov 2016	5.37%
Oppenheimer Funds, Inc	5,720,217	15 Jun 2018	4.83%

No changes in disclosable holdings under DTR5 have been notified to the Company between 31 December 2018 and 19 February 2019.

An updated list of the Company's major shareholders is available on page 163.

### 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 60 to 78.

### Disclosure of information to auditor

The Directors who held office at the date of approval of the Directors' Report confirm that:

- › 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.

By order of the Board

**Mark Serföző**

**General Counsel and Company Secretary**

19 February 2019

## 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 43 and the Directors' Report on pages 44 to 83 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 2019.

By order of the Board

**Andrew Heath**    **Clive Watson**  
**Chief Executive**    **Group Finance Director**

19 February 2019

## Opinion

### In our opinion:

- › **the Financial Statements of Spectris plc (the 'Company') and its subsidiaries (the 'Group') give a true and fair view of the state of the Group's and of the Company's affairs as at 31 December 2018 and of the Group's profit for the year then ended;**
- › **the Consolidated Financial Statements have been properly prepared in accordance with International Financial Reporting Standards ('IFRS') as adopted by the European Union;**
- › **the Company Financial Statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice, including Financial Reporting Standard 101 'Reduced Disclosure Framework'; and**
- › **the Company Financial Statements have been prepared in accordance with the requirements of the Companies Act 2006 and, as regards the Consolidated 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 related Consolidated Notes 1 to 34 and Company Notes 1 to 15.

The financial reporting framework that has been applied in the preparation of the Consolidated Financial Statements is applicable law and IFRS as adopted by the European Union. The financial reporting framework that has been applied in the preparation of the Company Financial Statements is applicable law and United Kingdom Accounting Standards, including FRS 101 'Reduced Disclosure Framework' (United Kingdom Generally Accepted Accounting Practice).

### 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 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 Company.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Summary of our audit approach

<b>Key audit matters</b>	<p>The key audit matters that we identified in the current year were:</p> <ul style="list-style-type: none"> <li>› Impairment of the carrying value of goodwill and other intangible assets in two of the Group's cash generating units Concept Life Sciences ('CLS') and Millbrook; and</li> <li>› Recognition and valuation of customer relationships intangible assets in the CLS acquisition.</li> </ul>
<b>Materiality</b>	<p>The materiality that we used in the Consolidated Financial Statements was £12.0 million which was determined on the basis of 5% of adjusted profit before tax.</p>
<b>Scoping</b>	<p>Full scope audit work was completed on 47 components and specified audit procedures were undertaken on a further 20 components. Our full scope and specified audit procedures covered 70% (2017: 74%) of total Group revenue and 93% (2017: 91%) of Group statutory profit before tax.</p>
<b>Significant changes in our approach</b>	<p>A significant proportion of the Group's material components are classified as full audit scope components consistent with the previous year.</p> <p>Following changes in the Group structure, risk profile and other qualitative factors we brought two new components into scope for the year ended 31 December 2018. These new components were CLS, which was acquired in January 2018, and Brüel &amp; Kjær EMS, which is a new joint venture entered into in May 2018.</p> <p>Another significant change is the removal of two key audit matters disclosed in our opinion in the year ended 31 December 2017. These were:</p> <ul style="list-style-type: none"> <li>› Override in the application of the Group inventory provision accounting policy for obsolete, excess and slow-moving inventory items; and</li> <li>› Accuracy of provisions for taxation in respect of dividends received from EU based companies.</li> </ul> <p>These are no longer key audit matters as we do not expect that a reasonable probable movement in these provisions is likely to have a material impact in the financial statements.</p>

## Conclusions relating to going concern, principal risks and Viability Statement

### Going concern

We have reviewed the Directors' statement on page 83 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 twelve 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.

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

### 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 32 to 36 that describe the principal risks and explain how they are being managed or mitigated;
- › the Directors' confirmation on page 37 that they have carried out a robust assessment of the principal risks facing the Group, including those that would threaten its business model, future performance, solvency or liquidity; or
- › the Directors' explanation on page 37 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.

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

## 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.

### Impairment of the carrying value of goodwill and other intangible assets

#### Key audit matter description



Total goodwill and intangible assets at 31 December 2018 were £766.3 million (2017: £627.5 million) and £263.3 million (2017: £209.9 million) respectively. We focused our impairment of goodwill and other intangible assets testing on the goodwill in two cash-generating units ('CGUs'), being CLS (£105.5 million) and Millbrook (£58.1 million), based on growth assumptions and levels of headroom.

There is a risk surrounding the recoverability of these balances, as assessed annually by management as part of their goodwill impairment review using discounted cash flows on a value in use basis.

The key judgements in assessing goodwill and intangible assets for impairment are the discount rate, the 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 significant risk to the discount rate and short-term future cash flows in the two CGUs above and material judgements contained therein. This is where the highest degree of sensitivity exists to determining the value in use.

We note that estimating a value in use is inherently judgemental, and a range of assumptions can reasonably be applied in determining the estimates mentioned above.

In respect of CLS, our challenge resulted in changes to management's initial impairment model where certain cash flow assumptions were not deemed to be reasonable from an impairment model perspective. Our challenge was based on historical CLS cash flows achieved, performance in FY18 being adverse to management's expectations, and external market and peer data.

*The Audit Committee Report on page 55 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 intangible assets are allocated are sensitive to changes in the key inputs. We draw attention to the disclosure included within this note of reasonable possible changes that could result in an impairment.*

#### How the scope of our audit responded to the key audit matter



Our procedures for challenging management's methodology and assumptions focused on both cash-generating units discussed above and included:

- › assessing the design and implementation of the controls in the impairment review process;
- › 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 its 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;
- › considered a range of available market data and performed a peer benchmarking exercise to assess and challenge the growth rates forecasted by management in revenue and margins;
- › considered the potential impact of Brexit on the cash flow projections;
- › considered reasonable possible changes in assumptions to challenge the appropriateness of management's assessment of reasonable possible change scenarios; and
- › 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 operates.

#### Key observations



Based on the work performed as outlined above, we consider the key assumptions taken by management to be reasonable and supportable, and therefore we are satisfied that no impairment exists.

In relation to CLS, we were satisfied with management's revised impairment model which shows that the value in use is in line with the carrying value. This was on the basis that the assumptions applied, when taken in aggregate, are within our acceptable range.

## Valuation of the customer relationship intangible asset in the acquisition of Concept Life Sciences

### Key audit matter description



During the year Spectris plc acquired Concept Life Sciences ('CLS') for gross consideration of £166.9 million. In accordance with IFRS 3 'Business Combinations', management has recognised the identifiable assets and the liabilities at their acquisition date fair values.

We have identified a key audit matter specifically in relation to the assumptions applied in respect of the Purchase Price Allocation ('PPA') exercise. This includes identifying where intangible assets arise and the relevant Weighted Average Cost of Capital ('WACC') and forecast cash flow assumptions used in valuing these intangible assets.

The primary intangible asset identified is customer relationships of £36.8m and we pinpointed the risk to the key assumptions in forecast revenue growth, gross profit margin growth, discount rate and customer attrition rates.

*The associated disclosure is included in Note 11. The Audit Committee has included their assessment of this risk on page 55 and it is included within the key sources of estimation uncertainty in Note 1. For specifics of the Group's accounting policy please see page 100.*

### How the scope of our audit responded to the key audit matter



Our procedures for challenging management's key assumptions in relation to the CLS acquisition included:

- › assessing the design and implementation of the controls to address the key audit matter;
- › evaluating the acquisition balance sheet and fair value adjustments including challenging management with regards to the identification and valuation of intangible assets;
- › challenging management's assessment of useful economic life of the customer relationship asset, the reasonableness of the forecast upon which this asset is based and profitability pertaining to this intangible through the use of valuation experts and benchmarking;
- › assessing the methodology used in the excess earnings method used by management to value the intangible asset;
- › incorporating valuation specialists into our team to assess the valuation methodology and certain key assumptions including the discount rate; and
- › reviewing post acquisition trading in conjunction with the risk of impairment as noted in Key Audit Matter description.

### Key observations



Based on the work performed as outlined above, we are satisfied that the acquisition of CLS, and in particular the valuation of the customer relationship intangible asset, has been appropriately accounted for in accordance with IFRS 3 'Business Combinations'.

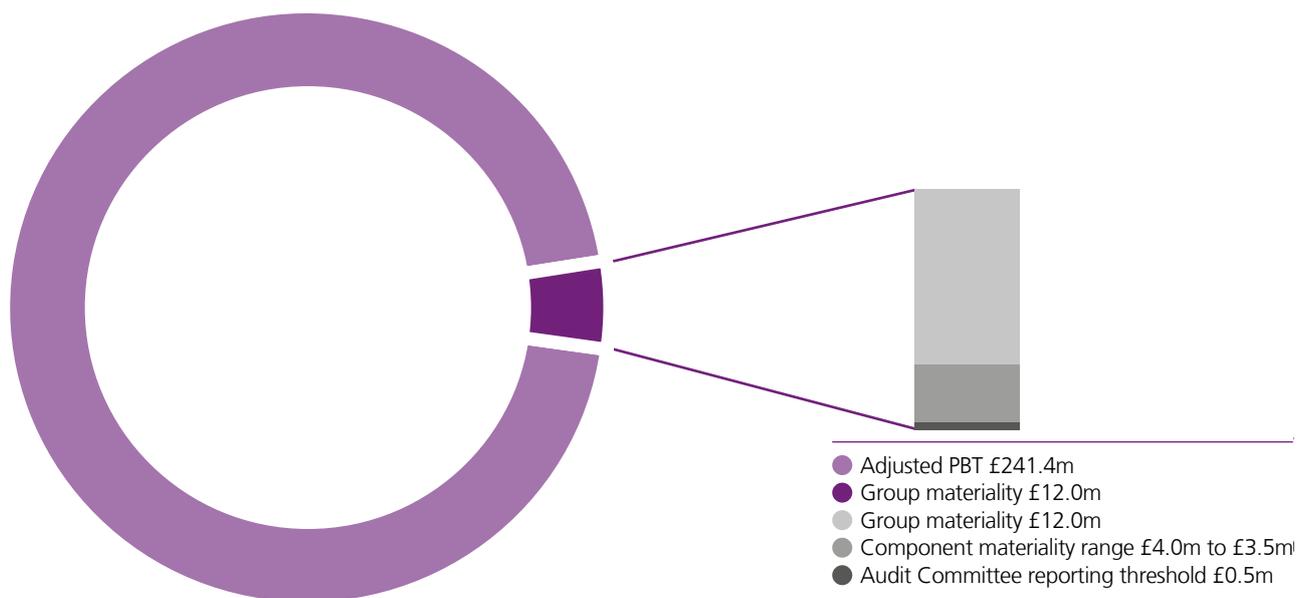
### Our application of materiality

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:

	Consolidated Financial Statements	Company Financial Statements
<b>Materiality</b>	£12.0 million (2017: £9.0 million)	£4.0 million (2017: £3.6 million)
<b>Basis for determining materiality</b>	We have used 5% (2017: 5%) of adjusted profit before tax as the benchmark for determining materiality.	Company materiality was set at approximately 35% (2017: 40%) of Group materiality and equates to 0.5% of the Company's net assets.
<b>Rationale for the benchmark applied</b>	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.	Net assets are considered an appropriate benchmark for the Company given that it is mainly a holding company.

### Materiality



We agreed with the Audit Committee that we would report to the Committee all audit differences in excess of £0.5 million (2017: £0.45 million), 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.

## An overview of the scope of our audit

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, managed via 14 operating companies located and controlled across different geographical regions, and the Group head office function. These 14 operating companies are composed of many individual components, which are the lowest level at which management prepares 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 operating profit, as well as those that require local statutory audits in their jurisdiction. Full scope audit work was completed on 47 components and specified audit procedures were undertaken on a further 20 components. Our full scope and specified audit procedures covered 70% (2017: 74%) of total Group revenue and 93% (2017: 91%) of Group operating profit.

Each component in scope was subject to an audit materiality level between £3.5 million and £4.0 million. 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.



### 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.**

## 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 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 Company or to cease operations, or have no realistic alternative but to do so.

## 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 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](http://www.frc.org.uk/auditorsresponsibilities). This description forms part of our Auditor's Report.

## 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.

### 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, our procedures included the following:

- › enquiring of management, internal audit and the Audit Committee, including obtaining and reviewing supporting documentation, concerning the Group's 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 related to fraud or non-compliance with laws and regulations;
- › discussing among the engagement team including significant component audit 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 part of this discussion, we identified potential for fraud in the following areas:
  - › Impairment of the valuation of goodwill and other intangible assets in two of the Group's cash generating units CLS and Millbrook;
  - › Valuation of the customer relationship intangible asset in the acquisition of Concept Life Sciences; and
  - › Revenue recognition through inappropriate cut-off.
- › obtaining an understanding of the legal and regulatory framework that the Group operates in, focusing on those laws and regulations that had a direct effect on the Financial Statements or that had a fundamental effect on the operations of the Group. The key laws and regulations we considered in this context included the UK Companies Act, Listing Rules, pensions legislation and tax legislation.

### Audit response to risks identified

As a result of performing the above, we identified 'impairment of the valuation of goodwill and other intangible assets in two of the Group's cash generating units CLS and Millbrook', and 'valuation of the customer relationship intangible asset in the acquisition of Concept Life Sciences' as key audit matters. The key audit matters section of our report explains the matters in more detail and describes the specific procedures we performed in response to those key audit matters. More specifically in relation to the revenue recognition risk we performed the following procedures:

- › assessed the design, implementation and in some cases the operating effectiveness of the controls to address the significant risk;
- › traced a sample of revenue recognised over a period in December 2018 to supporting evidence to assess whether appropriate cut-off was applied and that performance obligations have 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 tracing a sample to supporting evidence of work performed; and
- › obtained a schedule of adjusting and manual journals posted in December 2018 with a credit impact on revenue and traced a sample to appropriate evidence in support of the adjustment.

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 relevant laws and regulations discussed above;
- › 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

#### 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 the light of the knowledge and understanding of the Group and of the 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.

#### Matters on which we are required to report by exception

##### 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 Company, or returns adequate for our audit have not been received from branches not visited by us; or
- › the Company Financial Statements are not in agreement with the accounting records and returns.

**We have nothing to report in respect of these matters.**

##### 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 these matters.**

### Other matters

#### 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 reappointments of the firm is two years, covering the years ending 31 December 2017 to 31 December 2018.

#### 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).

#### 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.

#### Mark Mullins FCA

#### Senior Statutory Auditor

for and on behalf of Deloitte LLP  
Statutory Auditor  
London, UK

19 February 2019

## CONSOLIDATED INCOME STATEMENT

For the year ended 31 December 2018

	Note	2018 £m	2017 £m
<b>Continuing operations</b>			
Revenue	2,3,4	1,604.2	1,525.6
Cost of sales		(696.8)	(658.1)
<b>Gross profit</b>		<b>907.4</b>	<b>867.5</b>
Indirect production and engineering expenses		(106.8)	(116.8)
Sales and marketing expenses		(352.1)	(336.4)
Administrative expenses		(272.1)	(231.9)
<b>Adjusted operating profit</b>	2	<b>248.3</b>	<b>239.3</b>
Restructuring costs	2	(15.6)	(15.8)
Net acquisition-related costs and fair value adjustments	2	(12.2)	(0.4)
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	2	(0.8)	(0.7)
Amortisation and impairment of acquisition-related intangible assets	2	(43.3)	(41.9)
Bargain purchase on acquisition	2	–	1.9
<b>Operating profit</b>	2,3,5	<b>176.4</b>	<b>182.4</b>
Share of post-tax results of joint venture	13	(1.2)	–
Profit on disposal of businesses	25	56.3	100.5
Financial income	7	2.5	1.9
Finance costs	7	(16.0)	(6.4)
<b>Profit before tax</b>		<b>218.0</b>	<b>278.4</b>
Taxation charge	8	(32.8)	(43.6)
<b>Profit for the year from continuing operations attributable to owners of the Company</b>		<b>185.2</b>	<b>234.8</b>
Basic earnings per share	10	157.6p	197.0p
Diluted earnings per share	10	156.9p	196.1p
Interim dividends paid and final dividends proposed for the year (per share)	9	61.0p	56.5p
Dividends paid during the year (per share)	9	58.0p	53.0p

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

For the year ended 31 December 2018

	Note	2018 £m	2017 £m
Profit for the year attributable to owners of the Company		185.2	234.8
<b>Other comprehensive income:</b>			
<b>Items that will not be reclassified to the Consolidated Income Statement:</b>			
Re-measurement of net defined benefit obligation, net of foreign exchange	20	5.4	5.9
Tax charge on items above	8	(1.4)	(1.4)
		4.0	4.5
<b>Items that are or may be reclassified subsequently to the Consolidated Income Statement:</b>			
Net (loss)/gain on effective portion of changes in fair value of forward exchange contracts on cash flow hedges		(2.4)	4.0
Foreign exchange movements on translation of overseas operations		27.9	(44.7)
Currency translation differences transferred to profit on disposal of business	25	(5.1)	(4.4)
Tax credit/(charge) on items above	8	0.5	(0.7)
		20.9	(45.8)
Total other comprehensive income		24.9	(41.3)
<b>Total comprehensive income for the year attributable to owners of the Company</b>		<b>210.1</b>	<b>193.5</b>

## CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

For the year ended 31 December 2018

	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
<b>At 1 January 2018</b>	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)
<b>At 1 January 2018 (restated)</b>	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
<b>Total comprehensive income for the year</b>	–	–	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
Utilisation of treasury shares	–	–	0.9	–	–	–	–	0.9
<b>At 31 December 2018</b>	6.0	231.4	828.7	167.1	(3.9)	3.1	0.5	1,232.9

	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
<b>At 1 January 2017</b>	6.2	231.4	638.3	193.4	(5.3)	3.1	0.3	1,067.4
Profit for the year	–	–	234.8	–	–	–	–	234.8
Other comprehensive income	–	–	4.5	(49.1)	3.3	–	–	(41.3)
<b>Total comprehensive income for the year</b>	–	–	239.3	(49.1)	3.3	–	–	193.5
Transactions with owners recorded directly in equity:								
Equity dividends paid by the Company	–	–	(63.2)	–	–	–	–	(63.2)
Share-based payments, net of tax	–	–	5.9	–	–	–	–	5.9
Utilisation of treasury shares	–	–	0.5	–	–	–	–	0.5
<b>At 31 December 2017</b>	6.2	231.4	820.8	144.3	(2.0)	3.1	0.3	1,204.1

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

As at 31 December 2018

	Note	2018 £m	2017 £m
<b>ASSETS</b>			
<b>Non-current assets</b>			
Intangible assets:			
Goodwill	11	766.3	627.5
Other intangible assets	11	263.3	209.9
		1,029.6	837.4
Property, plant and equipment	12	331.5	275.8
Investment in joint venture	13	5.0	–
Other receivable – joint venture	15	38.9	–
Deferred tax assets	21	11.3	10.5
		1,416.3	1,123.7
<b>Current assets</b>			
Inventories	14	216.4	176.0
Current tax assets		1.6	3.5
Trade and other receivables	15	381.5	323.9
Derivative financial instruments	28	0.4	1.4
Cash and cash equivalents	16	73.1	137.9
Assets held for sale	25	3.9	32.5
		676.9	675.2
<b>Total assets</b>		<b>2,093.2</b>	<b>1,798.9</b>
<b>LIABILITIES</b>			
<b>Current liabilities</b>			
Borrowings	17	(23.7)	(1.3)
Derivative financial instruments	28	(2.2)	(0.5)
Trade and other payables	18	(344.1)	(272.5)
Current tax liabilities		(22.5)	(23.6)
Provisions	19	(31.6)	(25.2)
Liabilities directly associated with the assets held for sale		–	(4.8)
		(424.1)	(327.9)
<b>Net current assets</b>		<b>252.8</b>	<b>347.3</b>
<b>Non-current liabilities</b>			
Borrowings	17	(346.5)	(187.2)
Other payables	18	(27.4)	(20.7)
Retirement benefit obligations	20	(32.1)	(34.0)
Deferred tax liabilities	21	(30.2)	(25.0)
		(436.2)	(266.9)
<b>Total liabilities</b>		<b>(860.3)</b>	<b>(594.8)</b>
<b>Net assets</b>		<b>1,232.9</b>	<b>1,204.1</b>
<b>EQUITY</b>			
Share capital	22	6.0	6.2
Share premium		231.4	231.4
Retained earnings		828.7	820.8
Translation reserve	22	167.1	144.3
Hedging reserve	22	(3.9)	(2.0)
Merger reserve	22	3.1	3.1
Capital redemption reserve	22	0.5	0.3
<b>Total equity attributable to owners of the Company</b>		<b>1,232.9</b>	<b>1,204.1</b>

The Financial Statements on pages 92 to 147 were approved by the Board of Directors on 19 February 2019 and were signed on its behalf by:

**Clive Watson**  
Group Finance Director

Company Registration No. 2025003

## CONSOLIDATED STATEMENT OF CASH FLOWS

For the year ended 31 December 2018

	Note	2018 £m	2017 £m
<b>Cash generated from operations</b>	26	215.8	237.6
Net income taxes paid		(37.7)	(47.0)
<b>Net cash inflow from operating activities</b>		178.1	190.6
<b>Cash flows used in investing activities</b>			
Purchase of property, plant and equipment and intangible assets		(97.0)	(74.3)
Proceeds from disposal of property, plant and equipment and software		5.6	0.5
Acquisition of businesses, net of cash acquired	24	(196.4)	(36.5)
Proceeds from disposal of businesses, net of tax paid of £0.6m (2017: £19.0m)	25	43.8	91.9
Loans to joint venture		(0.9)	–
Proceeds from government grants		2.9	1.2
Interest received		0.6	0.6
<b>Net cash flows used in investing activities</b>		(241.4)	(16.6)
<b>Cash flows used in financing activities</b>			
Interest paid		(9.4)	(4.7)
Dividends paid	9	(68.2)	(63.2)
Share buyback purchase of shares		(100.5)	–
Proceeds from exercise of share options		0.7	0.5
Proceeds from borrowings		175.5	–
Repayment of borrowings		–	(41.0)
<b>Net cash flows used in financing activities</b>		(1.9)	(108.4)
<b>Net (decrease)/increase in cash and cash equivalents</b>		(65.2)	65.6
Cash and cash equivalents at beginning of year		136.7	71.2
Effect of foreign exchange rate changes		(4.2)	(0.1)
<b>Cash and cash equivalents at end of year</b>	16	67.3	136.7
<b>Reconciliation of changes in cash and cash equivalents to movements in net debt</b>			
Net (decrease)/increase in cash and cash equivalents	Note	(65.2)	65.6
Proceeds from borrowings		(175.5)	–
Repayment of borrowings		–	41.0
Effect of foreign exchange rate changes		(5.9)	(6.2)
Movement in net debt		(246.6)	100.4
Net debt at beginning of year		(50.5)	(150.9)
<b>Net debt at end of year</b>	2	(297.1)	(50.5)

## 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 92 to 147 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 International Financial Reporting Standards that became applicable in 2018 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 2018 and the Group's financial performance for the year ended 31 December 2018, 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 1 to 43. The financial position of the Group, its cash flows, liquidity position and borrowing facilities are described in the Financial Review on pages 26 to 30. 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 debt balance at 31 December 2018 was £297.1m (2017: £50.5m), with available undrawn committed borrowing facilities of £467.9m (2017: £406.5m).

The Board has reviewed a sensitivity analysis on the Group's forecasts to 31 March 2020, 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 37 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 International Accounting Standards Board. Details of the new standards that have had a material impact on the Group's Statement of Financial Position are set out below.

##### IFRS 15 'Revenue from Contracts with Customers'

The Group has adopted IFRS 15 'Revenue from Contracts with Customers' using the modified retrospective approach, which means that the cumulative impact on adoption has been recognised in retained earnings as of 1 January 2018. Comparatives have not been restated. IFRS 15 provides a single, principles-based, five-step model to be applied to all sales contracts, based on the transfer of control of goods and services to customers, and it replaced the separate model for goods and services of IAS 18 'Revenue'.

Management carried out a comprehensive impact assessment which included scoping the Group's revenues to identify different revenue streams and performing sample contract reviews to determine the appropriate revenue recognition treatment under IFRS 15. To ensure a consistent approach across the Group, the exercise was supported centrally through setting the approach to transition and providing the appropriate tools and guidance. Revenue is derived from a single performance obligation which is either the sale of goods or the provision of services.

Details of the Group's revenue recognition accounting policy are provided in Note 1 section b, 'Summary of significant accounting policies'.

## 1. Basis of preparation and summary of significant accounting policies continued

The overall impact on transition on 1 January 2018 for the Group is as follows:

	Decrease in retained earnings £m	Increase in deferred income £m	Increase in inventories £m	Decrease in current and deferred tax net liabilities £m
<b>Group</b>	<b>(21.0)</b>	<b>(38.2)</b>	<b>10.9</b>	<b>6.3</b>

The £6.3m decrease in net current and deferred tax liabilities consists of a £0.2m increase in current tax assets, a £4.4m decrease in deferred tax liabilities and a £1.7m increase in deferred tax assets.

If IFRS 15 had not been adopted the revenue for the year ending 31 December 2018 would have increased by £1.7m, operating profit would have increased by £0.2m and profit after tax increased by £0.2m.

### IFRS 9 'Financial Instruments'

The date of initial application (i.e. the date on which the Group has assessed its existing financial assets and financial liabilities in terms of the requirements of IFRS 9) is 1 January 2018. There is no requirement to restate comparatives.

IFRS 9 provides a new impairment model for financial assets, which requires the recognition of impairment provisions based on expected credit losses rather than incurred credit losses as is the case under IAS 39. This requires the Group to record expected credit losses on all of its trade receivables, either on a 12-month or lifetime basis. The Group is applying the simplified approach and records lifetime expected losses on all trade receivables.

At 1 January 2018, the Group reviewed and assessed the amounts due from customers for the above changes, which resulted in the following overall impact on transition on 1 January 2018:

	Increase in retained earnings £m	Increase in trade and other receivables £m	Increase in current and deferred tax net liabilities £m
<b>Group</b>	<b>2.4</b>	<b>2.9</b>	<b>(0.5)</b>

The £0.5m increase in current and deferred tax net liabilities consists of a £0.3m increase in deferred tax liabilities and a £0.2m increase in current tax liabilities.

Adoption of IFRS 9 did not have any other material impact on the Group's statement of financial position.

There are no other standards adopted during 2018 that have a material impact on the Group.

### New accounting standards and interpretations not yet adopted

There are a number of new standards, amendments to standards and interpretations that are not yet effective for the year ended 31 December 2018 which, therefore, have not been applied in preparing these Consolidated Financial Statements:

#### IFRS 16 'Leases'

Transition to IFRS 16 for the Group will take effect from 1 January 2019 with the half-year results for June 2019 being IFRS 16 compliant, and the first Annual Report published in accordance with IFRS 16 being for the year ended 31 December 2019. IFRS 16 provides a single model for lessees which recognises a right-of-use asset and lease liability for all leases, with exceptions available for short-term and low-value leases. The impact of IFRS 16 will be to recognise a lease liability and a corresponding asset in the Statement of Financial Position for leases currently classified as operating leases. The most significant impact will be that the Group's land, building and car leases will be recognised on the balance sheet.

The Group plans to apply IFRS 16 retrospectively with the cumulative effect of initially applying the standard recognised at the date of initial application of 1 January 2019. Right-of-use assets for all leases will be measured on transition as if IFRS 16 had always been applied.

The overall impact on transition on 1 January 2019 for the Group is estimated to be as follows:

	Decrease in retained earnings £m	Increase in property, plant and equipment £m	Increase in lease liabilities £m	Decrease in trade and other payables £m	Increase in deferred tax assets £m
<b>Group</b>	<b>(4)</b>	<b>66</b>	<b>(72)</b>	<b>1</b>	<b>1</b>

In 2019, the Group estimates that it expects to incur a finance charge of between £2m to £4m, reflecting the unwinding of the discount on the lease liabilities with depreciation on right-of-use assets of approximately £13m to £15m. These two items effectively replace the operating lease rentals previously charged to profit before taxation under IAS 17 'Leases'. In addition, the Group expects that operating cash flows will increase and financing cash flows decrease by approximately £18m to £20m as repayment of the principal portion of the lease liabilities will be classified as cash flows from financing activities.

The Group's activities as a lessor are not material and hence the Group does not expect any significant impact on the Consolidated Financial Statements.

The Group intends to apply the exemptions available in IFRS 16 for excluding low-value assets and short-term leases from the requirements of the standard.

Further assessment of IFRS 16 is ongoing. From the review work carried out so far, the Group has identified the key judgements in applying IFRS 16 to be selection of an appropriate discount rate and determining whether lease extension and termination options included in the contract are reasonably certain to be exercised.

The Group's future lease commitments for non-cancellable operating leases as at 31 December 2018 are £79.0m (see Note 30). This is higher than the estimated increase in lease liabilities on adoption of IFRS 16, predominantly due to the impact of discounting on lease liabilities and the exclusion of low-value assets and short-term leases from IFRS 16.

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.

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 considers the following to be key areas of uncertainty for the Group due to the possibility of material change in the next year.

In preparing these Financial Statements, no areas of critical accounting judgement or key sources of estimation uncertainty have been identified in relation to Brexit.

### Key sources of estimation uncertainty

#### 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 page 101.

#### 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 103.

#### 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. A reasonably possible change in assumptions used in the impairment review for the Concept Life Sciences CGU over the next 12 months could result in a material impairment of up to £30.0m to the goodwill carrying value of £105.5m. 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 100.

## 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 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 cash-generating unit, including both its operating profit and operating cash flow performance. Where the recoverable amount of the cash-generating unit is less than the carrying amount, an impairment loss is recognised in the Consolidated Income Statement. Where goodwill forms part of a cash-generating unit 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 cash-generating unit 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 5 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.

### Leasing

Rentals payable under operating leases are charged to the Consolidated Income Statement on a straight-line basis over the term of the relevant lease. Benefits received and receivable as an incentive to enter into an operating lease are also spread on a straight-line basis over the lease term.

### 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.

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.

## 1. Basis of preparation and summary of significant accounting policies continued

### 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.

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.

##### 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.

## 1. Basis of preparation and summary of significant accounting policies continued

### 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 (Materials Analysis, Test and Measurement, In-line Instrumentation and Industrial Controls).

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 2018	Revenue derived from			
		Provision of services	Sale of goods without installation	Sale of goods with simple installation	Sale of goods with complex installation
Materials Analysis	34%	✓	✓	✓	✓
Test and Measurement	33%	✓	✓		
In-line Instrumentation	19%		✓	✓	
Industrial Controls	14%		✓		

Further details of the nature of each major revenue stream is provided below.

### Materials Analysis

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 that 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 1% 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 immediately 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.

### Test and Measurement

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 immediately 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.

**In-line Instrumentation**

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 that the customer perceives as a separate performance obligation within the overall contract to deliver 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.

Payment is normally due immediately 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 Controls**

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 immediately 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.

**Interest payable and receivable**

Interest payable comprises the interest payable on borrowings calculated using the effective interest method and the unwinding of the discount factor on deferred or contingent consideration. Interest receivable 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.

**2. Alternative performance measures****Policy**

Spectris uses adjusted figures as key performance measures in addition to those reported under IFRS, as management believes 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;
- › 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;
- › acquisition-related costs, deferred and contingent consideration fair value adjustments;
- › profits or losses on termination or disposal of businesses;
- › 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).

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 Project Uplift and profit improvement programme costs, which have been combined as restructuring for presentation purposes. Adjusted operating profit after Project Uplift costs has been presented for ease of comparability between 2017 and 2018.

## 2. Alternative performance measures continued

### 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.

Within the In-line Instrumentation segment, the BTG business has large functional currency mismatches against its underlying transaction currencies which distort LFL comparison at times of significant currency movements. Accordingly, we have modified the basis on which BTG's LFL results are translated into Sterling by using the actual underlying transaction currency mix for determining transactional gains/losses to provide more accurate and reliable information on BTG's underlying performance.

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. The EMS business was disposed of on 31 May 2018 (see Note 25) and the segmental LFL adjusted sales and adjusted operating profit for 2017 exclude the trading results for the last seven months of 2017.

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.

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

2018 sales by segment	Materials Analysis £m	Test and Measurement £m	In-line Instrumentation £m	Industrial Controls £m	2018 Total £m
Sales	541.1	522.6	312.2	228.3	1,604.2
Constant exchange rate adjustment	7.6	3.6	4.0	7.3	22.5
Acquisitions	(44.5)	(25.9)	(1.7)	–	(72.1)
LFL adjusted sales	504.2	500.3	314.5	235.6	1,554.6

2017 sales by segment	Materials Analysis £m	Test and Measurement £m	In-line Instrumentation £m	Industrial Controls £m	2017 Total £m
Sales	464.9	487.3	310.9	262.5	1,525.6
Disposal of businesses	–	(15.6)	–	(32.9)	(48.5)
LFL adjusted sales	464.9	471.7	310.9	229.6	1,477.1

## b) Adjusted operating profit, operating margin and adjusted EBITDA

	Materials Analysis £m	Test and Measurement £m	In-line Instrumentation £m	Industrial Controls £m	2018 Total £m
<b>2018 adjusted operating profit</b>					
Statutory operating profit	72.1	42.8	32.2	29.3	176.4
Restructuring costs	4.4	5.2	3.0	3.0	15.6
Net acquisition-related costs and fair value adjustments	1.4	6.4	4.2	0.2	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	17.3	12.2	3.2	10.6	43.3
Adjusted operating profit	95.4	67.2	42.6	43.1	248.3
Constant exchange rate adjustment	0.2	(0.7)	(0.7)	1.3	0.1
Acquisitions	1.2	(2.7)	0.3	–	(1.2)
LFL adjusted operating profit	96.8	63.8	42.2	44.4	247.2
	Materials Analysis £m	Test and Measurement £m	In-line Instrumentation £m	Industrial Controls £m	2017 Total £m
<b>2017 adjusted operating profit</b>					
Statutory operating profit	68.6	55.6	29.5	28.7	182.4
Restructuring costs	4.2	5.3	2.8	3.5	15.8
Net acquisition-related costs and fair value adjustments	1.8	(0.1)	0.4	(1.7)	0.4
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	–	0.7	–	–	0.7
Amortisation of acquisition-related intangible assets	12.7	14.6	3.3	11.3	41.9
Bargain purchase on acquisition	–	(1.9)	–	–	(1.9)
Adjusted operating profit	87.3	74.2	36.0	41.8	239.3
Disposals	–	(4.2)	–	(4.5)	(8.7)
LFL adjusted operating profit	87.3	70.0	36.0	37.3	230.6
	Materials Analysis %	Test and Measurement %	In-line Instrumentation %	Industrial Controls %	2018 Total %
<b>2018 operating margin</b>					
Statutory operating margin	13.3	8.2	10.3	12.8	11.0
Adjusted operating margin	17.6	12.9	13.6	18.9	15.5
LFL adjusted operating margin	19.2	12.8	13.4	18.8	15.9
	Materials Analysis %	Test and Measurement %	In-line Instrumentation %	Industrial Controls %	2017 Total %
<b>2017 operating margin</b>					
Statutory operating margin	14.8	11.4	9.5	10.9	12.0
Adjusted operating margin	18.8	15.2	11.6	15.9	15.7
LFL adjusted operating margin	18.8	14.8	11.6	16.2	15.6

## 2. Alternative performance measures continued

	2018 £m	2017 £m
<b>Adjusted operating profit after Project Uplift costs</b>		
Adjusted operating profit	248.3	239.3
Project Uplift costs	(10.8)	(15.8)
<b>Adjusted operating profit after Project Uplift costs</b>	<b>237.5</b>	<b>223.5</b>

	2018 £m	2017 £m
<b>Restructuring costs</b>		
Profit improvement programme	4.8	–
Project Uplift costs	10.8	15.8
<b>Restructuring costs</b>	<b>15.6</b>	<b>15.8</b>

	Note	2018 £m	2017 £m
<b>Adjusted EBITDA</b>			
Statutory operating profit		176.4	182.4
Depreciation	12	30.3	25.6
Amortisation and impairment of intangible assets	11	49.1	47.5
<b>EBITDA</b>		<b>255.8</b>	<b>255.5</b>
Restructuring costs		15.6	15.8
Net acquisition-related costs and fair value adjustments		12.2	0.4
Bargain purchase on acquisition		–	(1.9)
<b>Adjusted EBITDA</b>		<b>283.6</b>	<b>269.8</b>

EBITDA is calculated as statutory operating profit before depreciation and amortisation and impairment of intangible assets. 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	2018 £m	2017 £m
Statutory net finance costs	7	(13.5)	(4.5)
Net loss/(gain) on retranslation of short-term inter-company loan balances	7	7.2	(1.3)
Unwinding of discount factor on deferred and contingent consideration	7	0.6	0.7
<b>Adjusted net finance costs</b>		<b>(5.7)</b>	<b>(5.1)</b>

### d) Adjusted profit before taxation

	Note	2018 £m	2017 £m
Adjusted operating profit	2b	248.3	239.3
Share of post-tax results of joint venture	13	(1.2)	–
Adjusted net finance costs	2c	(5.7)	(5.1)
<b>Adjusted profit before taxation</b>		<b>241.4</b>	<b>234.2</b>

## e) Adjusted earnings per share

	Note	2018 £m	2017 £m
<b>Adjusted earnings</b>			
Statutory profit after tax		185.2	234.8
Adjusted for:			
Restructuring costs		15.6	15.8
Net acquisition-related costs and fair value adjustments		12.2	0.4
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	12	0.8	0.7
Amortisation and impairment of acquisition-related intangible assets		43.3	41.9
Bargain purchase on acquisition		–	(1.9)
Profit on disposal of businesses		(56.3)	(100.5)
Net loss/(gain) on retranslation of short-term inter-company loan balances	7	7.2	(1.3)
Unwinding of discount factor on deferred and contingent consideration	7	0.6	0.7
Tax effect of the above and other non-recurring items	8	(14.8)	(6.3)
<b>Adjusted earnings</b>		<b>193.8</b>	<b>184.3</b>
<b>Adjusted earnings per share</b>	Note	<b>2018</b>	<b>2017</b>
Weighted average number of shares outstanding (millions)	10	117.5	119.2
<b>Adjusted earnings per share (pence)</b>		<b>164.9</b>	<b>154.6</b>

Basic earnings per share in accordance with IAS 33 'Earnings Per Share' are disclosed in Note 10.

## Financial position measures

## f) Net debt

	Note	2018 £m	2017 £m
Bank overdrafts	17	5.8	1.3
Bank loans unsecured	17	364.4	187.2
Total borrowings		370.2	188.5
Cash and cash equivalents including held for sale	16	(73.1)	(138.0)
<b>Net debt</b>		<b>297.1</b>	<b>50.5</b>

## Cash flow measures

## g) Adjusted operating cash flow

	2018 £m	2017 £m
Net cash inflow from operating activities	178.1	190.6
Acquisition-related costs paid	10.8	2.8
Restructuring cash outflow	8.6	16.8
Net income taxes paid	37.7	47.0
Purchase of property, plant and equipment and intangible assets	(97.0)	(74.3)
Proceeds from government grants	2.9	1.2
Proceeds from disposal of property, plant and equipment and software	5.6	0.5
<b>Adjusted operating cash flow</b>	<b>146.7</b>	<b>184.6</b>
<b>Adjusted operating cash flow conversion<sup>1</sup></b>	<b>59%</b>	<b>77%</b>

1. Adjusted operating cash flow conversion is calculated as adjusted operating cash flow as a proportion of adjusted operating profit.

Net acquisition-related costs and fair value adjustments comprise acquisition costs of £7.4m (2017: £3.4m) 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 £4.8m (2017: credit of £3.0m). Net acquisition-related costs and fair value adjustments are included within administrative expenses. Acquisition-related costs have been excluded from the adjusted operating profit and acquisition costs paid of £10.8m (2017: £2.8m) have been excluded from the adjusted operating cash flow.

### 3. Operating segments

The Group has four reportable segments, as described below, which are the Group's strategic business units. These units offer different applications, assist companies at various stages of the production cycle and are focused towards specific industries. These segments reflect 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 segment results include an allocation of head office expenses. The following summary describes the operations in each of the Group's reportable segments:

- › Materials Analysis 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 Concept Life Sciences, Malvern Panalytical and Particle Measuring Systems.
- › Test and Measurement supplies test, measurement and analysis equipment, software and services for product design optimisation, manufacturing control, microseismic monitoring and environmental noise monitoring. The operating companies in this segment are Brüel & Kjær Sound & Vibration, ESG Solutions, HBM, Millbrook and VI-grade.
- › In-line Instrumentation provides process analytical measurement, asset monitoring and online controls as well as associated consumables and services for both primary processing and the converting industries. The operating companies in this segment are Brüel & Kjær Vibro, BTG, NDC Technologies and Servomex.
- › Industrial Controls provides products and solutions that measure, monitor, control, inform, track and trace during the production process. The operating companies in this segment are Omega Engineering, Red Lion Controls and Microscan (disposed 2 October 2017).

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 3 and 18 to 25.

Information about reportable segments	Materials Analysis £m	Test and Measurement £m	In-line Instrumentation £m	Industrial Controls £m	2018 Total £m
Segment revenues	541.4	524.2	312.4	228.4	1,606.4
Inter-segment revenue	(0.3)	(1.6)	(0.2)	(0.1)	(2.2)
External revenue	541.1	522.6	312.2	228.3	1,604.2
Operating profit	72.1	42.8	32.2	29.3	176.4
Share of post-tax results of joint venture <sup>1</sup>					(1.2)
Profit on disposal of businesses <sup>1</sup>					56.3
Financial income <sup>1</sup>					2.5
Finance costs <sup>1</sup>					(16.0)
Profit before tax					218.0
Taxation charge <sup>1</sup>					(32.8)
Profit after tax					185.2

1. Not allocated to reportable segments.

	Materials Analysis £m	Test and Measurement £m	In-line Instrumentation £m	Industrial Controls £m	2017 Total £m
Segment revenues	465.2	487.5	311.1	262.9	1,526.7
Inter-segment revenue	(0.3)	(0.2)	(0.2)	(0.4)	(1.1)
External revenue	464.9	487.3	310.9	262.5	1,525.6
Operating profit	68.6	55.6	29.5	28.7	182.4
Profit on disposal of businesses <sup>1</sup>					100.5
Financial income <sup>1</sup>					1.9
Finance costs <sup>1</sup>					(6.4)
Profit before tax					278.4
Taxation charge <sup>1</sup>					(43.6)
Profit after tax					234.8

1. Not allocated to reportable segments.

Reportable segment profit is consistent with that presented to the Chief Operating Decision Maker. Inter-segment revenue reflects 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	
	2018 £m	2017 £m	2018 £m	2017 £m
Materials Analysis	628.3	408.4	(167.0)	(117.4)
Test and Measurement	725.9	644.4	(146.9)	(123.2)
In-line Instrumentation	279.5	270.9	(59.6)	(54.4)
Industrial Controls	329.2	321.4	(29.6)	(27.4)
Total segment assets and liabilities	1,962.9	1,645.1	(403.1)	(322.4)
Cash and borrowings	73.1	138.0	(370.2)	(188.5)
Derivative financial instruments	0.4	1.4	(2.2)	(0.5)
Other receivable – joint venture	38.9	–	–	–
Investment in joint venture	5.0	–	–	–
Retirement benefit liabilities	–	–	(32.1)	(34.0)
Taxation	12.9	14.4	(52.7)	(49.4)
Consolidated total assets and liabilities	2,093.2	1,798.9	(860.3)	(594.8)

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 and other payables, which can be reasonably attributed to the reported operating segments. Unallocated items represent all components of net debt, derivative financial instruments, 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	
	2018 £m	2017 £m	2018 £m	2017 £m
Materials Analysis	186.6	15.1	26.8	19.6
Test and Measurement	98.7	75.0	28.4	28.0
In-line Instrumentation	7.0	14.0	9.5	9.6
Industrial Controls	13.0	9.9	14.7	15.9
Total segments	305.3	114.0	79.4	73.1
Other receivable – joint venture	38.9	–	–	–
Investment in joint venture	5.0	–	–	–
Consolidated total	349.2	114.0	–	–

### 3. Operating segments continued

#### 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.

	Materials Analysis £m	Test and Measurement £m	In-line Instrumentation £m	Industrial Controls £m	2018 Total £m
UK	50.9	69.3	6.6	6.4	133.2
Germany	29.5	91.1	23.6	7.2	151.4
France	17.7	23.3	7.8	2.4	51.2
Rest of Europe	77.3	76.5	49.8	8.3	211.9
USA	102.1	103.3	85.8	156.5	447.7
Rest of North America	16.6	12.1	11.4	12.3	52.4
Japan	32.9	31.8	14.4	3.3	82.4
China	81.9	69.6	55.2	14.8	221.5
South Korea	25.5	10.8	10.0	4.9	51.2
Rest of Asia	68.4	20.9	29.1	8.9	127.3
Rest of the world	38.3	13.9	18.5	3.3	74.0
	<b>541.1</b>	<b>522.6</b>	<b>312.2</b>	<b>228.3</b>	<b>1,604.2</b>

	Materials Analysis £m	Test and Measurement £m	In-line Instrumentation £m	Industrial Controls £m	2017 Total £m
UK	14.6	62.0	7.5	7.6	91.7
Germany	24.7	82.5	25.4	11.3	143.9
France	15.1	20.6	7.4	3.1	46.2
Rest of Europe	73.2	76.5	51.4	11.2	212.3
USA	97.6	89.2	89.3	169.0	445.1
Rest of North America	13.6	11.7	12.6	13.3	51.2
Japan	33.7	28.3	15.4	3.3	80.7
China	72.8	63.4	43.6	21.8	201.6
South Korea	21.7	14.0	7.9	6.7	50.3
Rest of Asia	61.5	24.3	29.1	11.3	126.2
Rest of the world	36.4	14.8	21.3	3.9	76.4
	<b>464.9</b>	<b>487.3</b>	<b>310.9</b>	<b>262.5</b>	<b>1,525.6</b>

	Non-current assets	
	2018 £m	2017 £m
UK	439.4	207.4
Germany	93.8	68.1
France	1.6	0.1
Rest of Europe <sup>1</sup>	373.1	358.4
USA	444.4	434.5
Rest of North America	26.4	23.2
Japan	5.2	0.5
China	10.8	8.7
South Korea	2.3	3.1
Rest of Asia	4.3	4.6
Rest of the world	3.7	4.6
	<b>1,405.0</b>	<b>1,113.2</b>
Deferred tax assets <sup>2</sup>	11.3	10.5
<b>Total non-current assets</b>	<b>1,416.3</b>	<b>1,123.7</b>

1. Principally in Denmark and Switzerland.

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.

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:

	2018 £m
<b>At a point in time:</b>	
Materials Analysis	480.5
Test and Measurement	446.9
In-line Instrumentation	298.8
Industrial Controls	228.3
	1,454.5
<b>Over time:</b>	
Materials Analysis	60.6
Test and Measurement	75.7
In-line Instrumentation	13.4
Industrial Controls	–
	149.7
Revenue	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 2018 or 2017.

Total revenue for the Group, after including financial income of £2.5m (2017: £1.9m) (see Note 7), was £1,606.7m (2017: £1,527.5m).

## 5. Operating profit

Operating profit is stated after charging/(crediting):

	Note	2018 £m	2017 £m
Net foreign exchange (gains)/losses		(2.1)	2.1
Research and development expense		96.2	105.1
Amortisation of intangible assets	11	47.1	47.5
Impairment of intangible assets	11	2.0	–
Bargain purchase on acquisition		–	(1.9)
Depreciation of property, plant and equipment	12	30.3	25.6
Operating lease rental payments		20.1	18.9
Cost of inventories recognised as expense		402.4	381.9
(Profit)/loss on disposal of property, plant and equipment and software		(1.9)	0.1

	2018 £m	2017 £m
<b>Auditor's remuneration</b>		
Fees payable to the Company's auditor for audit of the Company's annual accounts	0.5	0.5
Fees payable to the Company's auditor for the audit of the Company's subsidiaries, pursuant to legislation	1.4	1.2
Total audit-related fees	1.9	1.7
Fees payable to the Company's auditor for other services:		
› audit-related assurance services <sup>1</sup>	0.1	0.1
	2.0	1.8

1. Review of the half-year Financial Statements

## 6. Employee costs and other information

Employee costs, including Directors' remuneration, comprise:

	Note	2018 £m	2017 £m
Wages and salaries		518.8	494.0
Social security costs		86.2	82.6
Defined benefit pension plans:			
› current service cost	20	2.0	2.2
› past service cost/(credit)	20	2.7	(1.7)
Defined contribution pension plans	20	17.8	15.3
Equity-settled share-based payment expense		5.1	5.4
Cash-settled share-based payment expense		1.1	2.8
		633.7	600.6

	2018 £m	2017 £m
<b>Directors' remuneration</b>		
Short-term benefits	2.8	3.0
Equity-settled share-based payment expense	0.7	0.7
	3.5	3.7

Further details of Directors' remuneration and share options are given in the Directors' Remuneration Report on pages 60 to 78.

	2018 Number	2017 Number
<b>Average number of employees</b>		
Production and engineering	3,814	3,748
Sales, marketing and service	4,786	4,116
Administrative	947	849
	9,547	8,713

## 7. Financial income and finance costs

	2018 £m	2017 £m
<b>Financial income</b>		
Interest receivable	(0.5)	(0.6)
Income on receivable from joint venture	(2.0)	–
Net gain on retranslation of short-term inter-company loan balances	–	(1.3)
	<b>(2.5)</b>	<b>(1.9)</b>
<b>Finance costs</b>		
Interest payable on loans and overdrafts	7.3	4.9
Net loss on retranslation of short-term inter-company loan balances	7.2	–
Unwinding of discount factor on deferred and contingent consideration	0.6	0.7
Net interest cost on pension plan obligations	0.6	0.7
Other finance costs	0.3	0.1
	<b>16.0</b>	<b>6.4</b>
<b>Net finance costs</b>	<b>13.5</b>	<b>4.5</b>

Net interest costs of £6.8m (2017: £4.3m) for the purposes of the calculation of interest cover comprise interest receivable of £0.5m (2017: £0.6m) and interest payable on loans and overdrafts of £7.3m (2017: £4.9m).

**8. Taxation**

	2018			2017		
	UK £m	Overseas £m	Total £m	UK £m	Overseas £m	Total £m
Current tax charge	3.9	37.1	41.0	6.3	58.3	64.6
Adjustments in respect of current tax of prior years	(0.1)	(2.0)	(2.1)	(1.0)	(4.8)	(5.8)
Deferred tax – origination and reversal of temporary differences (Note 21)	(3.3)	(1.9)	(5.2)	(1.1)	(5.3)	(6.4)
Deferred tax – changes in US tax rate (Note 21)	–	(0.9)	(0.9)	–	(8.8)	(8.8)
<b>Taxation charge</b>	<b>0.5</b>	<b>32.3</b>	<b>32.8</b>	<b>4.2</b>	<b>39.4</b>	<b>43.6</b>

The standard rate of corporation tax for the year, based on the weighted average of tax rates applied to the Group's profits, is 26.0% (2017: 28.6%). The tax charge for the year is lower (2017: lower) than the standard rate of corporation tax for the reasons set out in the following reconciliation.

	2018 £m	2017 £m
Profit before taxation	218.0	278.4
Corporation tax charge at standard rate of 26.0% (2017: 28.6%)	56.7	79.6
Profit on disposal of business taxed at lower rate	(16.0)	(17.1)
Net impact of US tax reform measures	(0.9)	(8.0)
Effect of intra-group financing	(4.9)	(5.4)
Other non-deductible expenditure	3.8	3.8
Movements on unrecognised deferred tax assets	0.4	–
Tax credits and incentives	(4.1)	(5.0)
Change in tax rates (excluding US)	0.3	–
Adjustments to prior year current and deferred tax charges	(2.5)	(4.3)
<b>Taxation charge</b>	<b>32.8</b>	<b>43.6</b>

'Net impact of US tax reform measures' above refers to the impact of the US Tax Cuts and Jobs Act of 2017. In 2017, this comprised a credit of £8.8m arising from the re-measurement of net US deferred tax liabilities on the balance sheet at 31 December 2017 at the lower US tax rate, net of a one-off charge of £0.8m on accumulated foreign profits of the Group's US subsidiaries. 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.

'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.

**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.

	2018 £m	2017 £m
<b>Tax on items recognised directly in the Consolidated Statement of Comprehensive Income</b>		
Tax (credit)/charge on net (loss)/gain on effective portion of changes in fair value of forward exchange contracts	(0.5)	0.7
Tax charge on re-measurement of net defined benefit obligations, net of foreign exchange	1.4	1.4
Aggregate current and deferred tax charge relating to items recognised directly in the Consolidated Statement of Comprehensive Income	0.9	2.1

	2018 £m	2017 £m
<b>Tax on items recognised directly in the Consolidated Statement of Changes in Equity</b>		
Tax credit in relation to share-based payments	(0.1)	(0.5)
Aggregate current and deferred tax credit on items recognised directly in the Consolidated Statement of Changes in Equity	(0.1)	(0.5)

The following tax (credits)/charges relate to items of income and expense that are excluded from the Group's adjusted performance measures.

	2018 £m	2017 £m
<b>Tax on items of income and expense that are excluded from the Group's adjusted profit before tax</b>		
Tax credit on amortisation and impairment of acquisition-related intangible assets	(9.6)	(12.9)
Tax credit on depreciation of acquisition-related fair value adjustments to property, plant and equipment	(0.1)	(0.1)
Tax credit arising from net impact of US tax reform measures	(0.9)	(8.0)
Tax credit on net acquisition-related costs and fair value adjustments	(0.6)	(0.1)
Tax (credit)/charge on retranslation of short-term inter-company loan balances	(0.5)	0.3
Tax charge on profit on disposal of businesses	0.4	19.0
Tax credit on restructuring costs	(3.5)	(4.5)
<b>Total tax credit</b>	<b>(14.8)</b>	<b>(6.3)</b>

The effective adjusted tax rate for the year was 19.7% (2017: 21.3%) as set out in the reconciliation below.

	2018 £m	2017 £m
<b>Reconciliation of the statutory taxation charge to the adjusted taxation charge</b>		
Statutory taxation charge	32.8	43.6
Tax credit on items of income and expense that are excluded from the Group's adjusted profit before tax	14.8	6.3
<b>Adjusted taxation charge</b>	<b>47.6</b>	<b>49.9</b>

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.

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 (2017: £8.8m) continues to be held as a current tax liability for the potential tax liabilities arising if the final decision is in HMRC's favour. An amount of £5.4m (2017: £5.1m) relating to accrued interest on the potential tax liabilities is also held as a tax-related provision (see Note 19), and an amount of £1.3m (2017: £1.3m) is held as a deferred tax asset in respect of future tax relief on the accrued interest. The deferred tax asset in respect of future tax relief on the accrued interest has been reclassified from current tax during the current year.

In October 2017, the EU Commission opened a formal State Aid investigation into an exemption within the UK's current Controlled Foreign Company (CFC) regime (introduced in 2013) for certain finance income. The investigation is ongoing, but if the Commission ultimately concludes that the provisions do constitute State Aid then they would require the UK to recover any such aid from affected parties. The Group has claimed the benefit of this exemption, and therefore may be adversely affected by the outcome of the investigation. If the Commission were to conclude that the finance exemption with the UK's CFC regime constitutes State Aid and no other exemptions were available to the Group then, as at 31 December 2018, an additional liability of £18.0m (2017: £14.0m) in respect of tax and £0.5m (2017: £0.3m) in respect of interest would arise unless such a decision could be successfully challenged in the EU courts. However, no provision has been made in respect of this investigation since we believe that it is more likely than not that no additional tax will ultimately be due.

**9. Dividends**

Amounts recognised and paid as distributions to owners of the Company in the year	2018 £m	2017 £m
Final dividend for the year ended 31 December 2017 of 37.5p (2016: 34.0p) per share	44.5	40.5
Interim dividend for the year ended 31 December 2018 of 20.5p (2017: 19.0p) per share	23.7	22.7
	<b>68.2</b>	<b>63.2</b>

Amounts arising in respect of the year	2018 £m	2017 £m
Interim dividend for the year ended 31 December 2018 of 20.5p (2017: 19.0p) per share	23.7	22.7
Proposed final dividend for the year ended 31 December 2018 of 40.5p (2017: 37.5p) per share	46.8	44.7
	<b>70.5</b>	<b>67.4</b>

The proposed final dividend is subject to approval by shareholders at the AGM on 24 May 2019 and has 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.

Basic earnings per share	2018	2017
Profit after tax (£m)	185.2	234.8
Weighted average number of shares outstanding (millions)	117.5	119.2
Basic earnings per share (pence)	157.6	197.0

Diluted earnings per share	2018	2017
Profit after tax (£m)	185.2	234.8
Basic weighted average number of shares outstanding (millions)	117.5	119.2
Weighted average number of dilutive 5p ordinary shares under option (millions)	0.6	0.9
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)	(0.4)
Diluted weighted average number of shares outstanding (millions)	118.0	119.7
Diluted earnings per share (pence)	156.9	196.1

## 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 2017		805.9	221.4	251.3	59.7	1,338.3
Additions – separately acquired		–	–	–	12.7	12.7
Additions – business combinations	24	16.8	5.6	10.3	–	32.7
Transfers to assets held for sale		(22.2)	(6.4)	(8.9)	–	(37.5)
Disposals		–	–	–	(1.2)	(1.2)
Disposal of business	25	(4.1)	(6.3)	(1.3)	–	(11.7)
Foreign exchange difference		(24.5)	(12.5)	(15.3)	(1.1)	(53.4)
<b>At 31 December 2017</b>		<b>771.9</b>	<b>201.8</b>	<b>236.1</b>	<b>70.1</b>	<b>1,279.9</b>
Additions – separately acquired		–	2.6	–	15.4	18.0
Additions – internal development		–	4.7	–	–	4.7
Additions – business combinations	24	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
<b>At 31 December 2018</b>		<b>915.1</b>	<b>227.8</b>	<b>306.0</b>	<b>85.9</b>	<b>1,534.8</b>
<b>Accumulated amortisation and impairment</b>						
At 1 January 2017		151.6	131.8	114.3	41.1	438.8
Charge for the year		–	22.3	19.6	5.6	47.5
Transfers to assets held for sale		–	(5.7)	(7.8)	–	(13.5)
Disposals		–	–	–	(1.2)	(1.2)
Disposal of business	25	–	(5.7)	(0.5)	–	(6.2)
Foreign exchange difference		(7.2)	(7.6)	(7.7)	(0.4)	(22.9)
<b>At 31 December 2017</b>		<b>144.4</b>	<b>135.1</b>	<b>117.9</b>	<b>45.1</b>	<b>442.5</b>
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
<b>At 31 December 2018</b>		<b>148.8</b>	<b>153.6</b>	<b>152.7</b>	<b>50.1</b>	<b>505.2</b>
<b>Carrying amount</b>						
<b>At 31 December 2018</b>		<b>766.3</b>	<b>74.2</b>	<b>153.3</b>	<b>35.8</b>	<b>1,029.6</b>
At 31 December 2017		627.5	66.7	118.2	25.0	837.4

Goodwill is allocated to the cash-generating units that are anticipated to benefit from the acquisition.

The Group's identified cash-generating units are smaller than the four reportable segments, being the 14 operating companies. 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.

## 11. Goodwill and other intangible assets continued

The most significant amounts of goodwill are as follows:

	2018		2017	
	Goodwill £m	Pre-tax discount rate %	Goodwill £m	Pre-tax discount rate %
Malvern Panalytical	140.1	11.5	139.2	10.7
Omega Engineering	115.3	15.5	109.0	12.8
HBM	106.1	11.7	103.4	11.8
Concept Life Sciences	105.5	13.4	–	–
BTG	69.5	13.5	68.1	11.1
Brüel & Kjær Sound & Vibration	66.4	11.7	65.0	11.2
Millbrook	58.1	12.7	54.1	12.1
Red Lion Controls	41.6	15.8	39.6	13.8
Servomex	25.4	13.2	24.8	12.3
Other	38.3	12.9-17.9	24.3	13.1-13.8
	<b>766.3</b>		<b>627.5</b>	

Included within 'Other' are four (2017: three) 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 on 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% (2017: 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 11.5% and 17.9% (2017: 10.7% and 13.8%). 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. As a result of the annual impairment review, no goodwill impairment charge has been recognised within operating profit in the Consolidated Income Statement (2017: nil).

### Sensitivity analysis

For all cash-generating units, except Concept Life Sciences ('CLS'), 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.

Performance at CLS was below expectations due to a range of factors including a reduction in project work from two major clients, delays in gaining new laboratory and manufacturing accreditations (GLP and GMP), as well as a period of sub-optimal performance at one of its analytical laboratories. These internal issues largely reflected the state of the business on acquisition, which was in the process of integrating previous acquisitions into two divisions, as well as distraction and disruption caused to the commercial organisation triggered by the acquisition. Remedial action to improve operational effectiveness is already having an impact; the preparatory work for the manufacturing accreditations has progressed well and the funnel of opportunities across the business has developed strongly. Management believes that the end markets for CLS are still very strong as customers continue to look to outsource analytical services and pharmaceutical development work. Due to the under-performance, and as a result of its recent addition to the Group, the value in use approximates to the carrying value.

This means that any change in the key assumptions in isolation, assuming unchanged values for the other assumptions, would cause an impairment loss to be recognised in respect of the CLS cash-generating unit.

The key assumptions are:

- › 2019 CLS operating performance includes revenue growth of 25% compared to 2018 (on a 12-month comparable basis) with a gross margin improvement of 9pp compared to 2018 (6pp compared to the recent run-rate in gross margin achieved by the business);
- › over the period 2020 to 2023, annual growth in organic revenue is assumed to be 12%; gross margin increases by 3pp;
- › long-term growth rate of 2%; and
- › pre-tax discount rate of 13.4% which includes 3pp specific company risk premium.

The following table represents the impact of changes in the key assumptions noted above:

Change in key assumption	Impairment loss £m
Revenue growth and gross margin lower than expected (see below)	Up to 30.0
A 1pp increase in the pre-tax discount rate from 13.4% to 14.4%	19.0
A 1pp reduction in the long-term growth rate from 2% to 1%	18.0

Forecast cash flows for CLS are dependent upon an improvement in gross margin for the operating company over the five-year forecast period reflecting double digit revenue growth over the same period. Whilst performance in 2018 has been behind expectations, management considers that the improvement in the gross margin is anticipated to be 12 percentage points over the five-year period, supported by the recovery of performance in 2019 and the change in mix as the business moves towards higher value integrated drug discovery and development services, which yield a higher gross margin.

On the assumption that 2019 performance is delivered as forecast, and the pre-tax discount rate and long-term growth rate are maintained at 13.4% and 2%, respectively, from the value in use model, management considers the following represents a reasonably possible range of performance outcome, based on market and peer data combined with historic performance information:

- › annual organic revenue growth over the 2020 to 2023 period could reduce by up to 3pp per annum from 12% to 9%;
- › gross margin declines by 2pp.

The above reasonably possible change in assumptions relating to forecast cash flows would lead to an impairment of up to £30.0 million including the consequential effect of the containment of overhead costs following lower revenue growth.

#### Other intangible assets

Of the total amortisation charge of £47.1m (2017: £47.5m), the amount attributable to the amortisation of acquisition-related intangible assets was £41.3m (2017: £41.9m).

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 £4.7m of internally-generated intangible assets from development expenditure in 2018 (2017: £nil).

The trade names and technology assets recognised on the acquisition of Omega Engineering in 2011, and included within the Industrial Controls reportable segment, are considered significant by the Directors as they represent 32% (2017: 43%) of total customer-related and trade names, and 14% (2017: 19%) of total patents, contractual rights and technology, respectively. The carrying amount of customer-related and trade name intangible assets at 31 December 2018 is £49.3m (2017: £50.3m) and is being amortised over 20 years with the remaining amortisation period being 13 years. The carrying amount of patents, contractual rights and technology intangible assets at 31 December 2018 is £10.1m (2017: £12.4m) and is being amortised over ten years with the remaining amortisation period being three years.

The customer-related and technology assets recognised on the acquisition of CLS in 2018, and included within the Materials Analysis reportable segment, are considered significant by the Directors as they represent 24% of total customer-related and trade names, and 14% of total patents, contractual rights and technology, respectively. The carrying amount of customer-related and trade name intangible assets at 31 December 2018 is £36.8m and is being amortised over 15 years with the remaining amortisation period being 14 years. The carrying amount of patents, contractual rights and technology intangible assets at 31 December 2018 is £10.2m and is being amortised over ten years, with the remaining amortisation period being nine years.

## 12. Property, plant and equipment

Cost	Note	Freehold property £m	Leasehold property £m	Plant and equipment £m	Total £m
At 1 January 2017		203.5	16.4	221.9	441.8
Additions – separately acquired		10.1	2.1	53.3	65.5
Additions – business combinations	24	–	–	3.1	3.1
Transfer to assets held for sale		(1.6)	(0.1)	(3.3)	(5.0)
Disposals		–	(0.4)	(8.7)	(9.1)
Disposal of business	25	–	(0.1)	(5.1)	(5.2)
Foreign exchange difference		(1.1)	(0.8)	(3.9)	(5.8)
<b>At 31 December 2017</b>		<b>210.9</b>	<b>17.1</b>	<b>257.3</b>	<b>485.3</b>
Additions – separately acquired		30.2	1.5	41.6	73.3
Additions – business combinations	24	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)
Disposals		(2.5)	(0.9)	(11.3)	(14.7)
Adjustments to assets held for sale		0.5	–	(0.6)	(0.1)
Foreign exchange difference		3.5	0.4	3.9	7.8
<b>At 31 December 2018</b>		<b>247.9</b>	<b>18.9</b>	<b>295.8</b>	<b>562.6</b>
<b>Accumulated depreciation and impairment</b>					
At 1 January 2017		53.3	11.4	138.3	203.0
Charge for the year		5.6	1.3	18.7	25.6
Transfer to assets held for sale		(1.1)	–	(2.5)	(3.6)
Disposals		–	(0.4)	(8.1)	(8.5)
Disposal of business	25	–	(0.1)	(4.3)	(4.4)
Foreign exchange difference		0.3	(0.5)	(2.4)	(2.6)
<b>At 31 December 2017</b>		<b>58.1</b>	<b>11.7</b>	<b>139.7</b>	<b>209.5</b>
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
<b>At 31 December 2018</b>		<b>64.2</b>	<b>12.5</b>	<b>154.4</b>	<b>231.1</b>
<b>Carrying amount</b>					
<b>At 31 December 2018</b>		<b>183.7</b>	<b>6.4</b>	<b>141.4</b>	<b>331.5</b>
At 31 December 2017		152.8	5.4	117.6	275.8

The amount included in the cost of plant and equipment of assets in the course of construction was £47.9m (2017: £38.8m).

No borrowing costs were capitalised during either year.

Of the total depreciation charge of £30.3m (2017: £25.6m), the amount attributable to the depreciation on fair value adjustments to acquisition-related property, plant and equipment was £0.8m (2017: £0.7m).

Additions are net of £2.9m (2017: £1.2m) relating to the receipt of government grants.

### 13. Investment in joint venture

The Group has one joint venture at 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.

	2018 £m
At 1 January 2018	–
Addition (see Note 25)	6.0
Share of post-tax results	(1.2)
Foreign exchange difference	0.2
<b>At 31 December 2018</b>	<b>5.0</b>

The Group did not receive dividends from its joint venture during the year.

Summarised financial information in respect of the Group's joint venture is set out below. The summarised information below has been presented on a 100% basis in accordance with IFRS (after adjustments by the Group for equity accounting purposes and to comply with the Group's accounting policies).

	2018 £m
Current assets	10.9
Non-current assets	17.5
Current liabilities	(6.7)
Non-current liabilities (including 9% preference shares of £70.8m)	(71.8)
<b>Net liabilities of joint venture</b>	<b>(50.1)</b>

Income statement information: 1 June 2018 to 31 December 2018:

Revenue	16.1
Loss from continuing operations	(2.7)

Reconciliation of the above summarised financial information to the carrying amount of the interest recognised in the Consolidated Financial Statements:

	2018 £m
Net liabilities of joint venture	(50.1)
Proportion of the Group's ownership interest in the joint venture (45%)	(22.5)
Goodwill	27.5
<b>Carrying amount of the Group's interest in the joint venture</b>	<b>5.0</b>

The Group does not have any other joint ventures or associates.

### 14. Inventories

	2018 £m	2017 £m
Raw materials	78.2	66.4
Work in progress	53.8	39.4
Finished goods and goods held for resale	84.4	70.2
	<b>216.4</b>	<b>176.0</b>

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 £7.4m (2017: £9.9m).

Finished goods and goods held for resale expected to be utilised after 12 months amounted to £1.5m (2017: £3.7m).

## 15. Trade and other receivables

	2018 £m	2017 £m
<b>Current</b>		
Trade receivables	311.8	269.2
Prepayments	20.7	14.2
VAT and similar taxes receivable	11.8	10.7
Other receivables	21.5	24.5
Contract assets (accrued revenue)	15.7	5.3
	<b>381.5</b>	<b>323.9</b>
<b>Non-current</b>		
Other receivable – joint venture	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 £4.6m (2017: £7.0m).

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.

The maximum exposure to credit risk for trade receivables at 31 December by geographic region was:

	2018 £m	2017 £m
UK	23.5	15.6
Germany	27.7	22.7
France	13.5	12.0
Rest of Europe	53.3	52.9
USA	83.6	68.4
Rest of North America	13.9	16.6
Japan	17.5	14.2
China	29.9	23.0
South Korea	8.3	7.1
Rest of Asia	25.1	21.1
Rest of the world	15.5	15.6
	<b>311.8</b>	<b>269.2</b>

### 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:

	2018		2017	
	Gross £m	Impairment £m	Gross £m	Impairment £m
Not past due	199.7	0.2	188.4	0.3
One month past due	55.4	0.1	47.3	–
Two months past due	21.5	0.1	16.8	0.1
Three months past due	12.7	0.1	8.2	–
Four months past due	7.2	0.1	4.3	–
More than four months past due	19.9	4.0	11.2	6.6
	<b>316.4</b>	<b>4.6</b>	<b>276.2</b>	<b>7.0</b>

The movement in the provision for impairment in respect of trade receivables during the year was as follows:

	2018 £m	2017 £m
At 1 January	7.0	13.2
Adoption of IFRS 9	(2.9)	–
At 1 January (restated)	4.1	13.2
Provision for impairment of receivables	1.1	(4.5)
Impairment loss utilised	(0.7)	(0.8)
Disposal of business	–	(0.4)
Foreign exchange difference	0.1	(0.5)
At 31 December	4.6	7.0

All of the above impairment losses relate to receivables arising from contracts with customers.

## 16. Cash and cash equivalents

	Note	2018 £m	2017 £m
Cash and cash equivalents included in current assets		73.1	137.9
Cash and cash equivalents included in assets held for sale		–	0.1
Bank overdrafts included in current borrowings	17	(5.8)	(1.3)
Cash and cash equivalents in the Consolidated Statement of Cash Flows		67.3	136.7

The Group's exposure to interest rate risk and a sensitivity analysis for financial assets and liabilities is disclosed in Note 28.

Cash and cash equivalents at 31 December 2017 included £2.4m of restricted cash which was held in escrow relating to the acquisition of Millbrook in 2016. This was paid during the year.

## 17. Borrowings

Current	Interest rate	Repayable date	2018 £m	2017 £m
Bank overdrafts		on demand	5.8	1.3
Bank loans unsecured – £20.0m uncommitted facility	Relevant LIBOR +50bps	on demand	17.9	–
Total current borrowings			23.7	1.3

Non-current	Interest rate	Maturity date	2018 £m	2017 £m
Bank loans unsecured – €94.8m	Fixed 2.56%	14 October 2020	84.8	84.1
Bank loans unsecured – €116.2m	Fixed 1.15%	9 September 2022	104.0	103.1
Bank loans unsecured – \$800.0m revolving credit facility	Relevant LIBOR +55bps	31 July 2023	157.7	–
Total non-current borrowings			346.5	187.2

Total current and non-current borrowings	370.2	188.5
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Total unsecured borrowings	364.4	187.2
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At 31 December 2018, the Group had available £467.9m of undrawn committed borrowing facilities in respect of its US Dollar \$800m revolving credit facility (2017: £406.5m of \$550m), of which all conditions precedent had been met.

Movements in total unsecured borrowings are reconciled as follows:

	2018 £m	2017 £m
At 1 January	187.2	222.1
Proceeds from borrowings	175.5	–
Repayment of borrowings	–	(41.0)
Effect of foreign exchange rates	1.7	6.1
At 31 December	364.4	187.2

## 18. Trade and other payables

	2018 £m	2017 £m
<b>Current</b>		
Trade payables	70.5	59.7
Accruals	106.4	105.6
Customer advances	27.1	21.4
Contract liabilities	74.9	38.7
Deferred and contingent consideration on acquisitions and disposals	9.7	6.3
VAT and similar taxes payable	11.1	12.3
Other payables	44.4	28.5
	<b>344.1</b>	<b>272.5</b>
<b>Non-current</b>		
Contract liabilities	2.8	2.3
Deferred and contingent consideration on acquisitions and disposals	9.1	4.8
Other payables	15.5	13.6
	<b>27.4</b>	<b>20.7</b>

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:

	2018 £m
Materials Analysis	46.9
Test and Measurement	26.1
In-line Instrumentation	4.5
Industrial Controls	0.2
	<b>77.7</b>

### Significant changes in contract liabilities during the year

The Group recognised £38.2m of additional deferred income as a result of adopting IFRS 15 at 1 January 2018 (see Note 1 for further details), bringing the total contract liability balance to £79.2m. Of this balance, £78.7m has been recognised as revenue during 2018.

The contract liability balance at 31 December 2018 includes £6.0m arising from businesses acquired during 2018 (business combinations), of which £2.8m is in Materials Analysis and £3.2m in Test and Measurement.

There were no other significant changes in contract liability balances during the year.

## 19. Provisions

	Reorganisation £m	Product warranty £m	Legal, contractual and other £m	Total £m
At 1 January 2018	2.0	11.7	11.5	25.2
Provision during the year	5.6	9.1	3.9	18.6
Recognised on acquisitions	–	0.4	0.4	0.8
Utilised during the year	(1.9)	(7.4)	(1.4)	(10.7)
Released during the year	(0.3)	(1.2)	(1.1)	(2.6)
Foreign exchange difference	–	0.2	0.1	0.3
At 31 December 2018	5.4	12.8	13.4	31.6

Provisions are all presented as current liabilities.

### Reorganisation

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.

### 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 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 interest related to tax provisions of £5.4m (2017: £5.1m).

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

The Group operates funded defined benefit and defined contribution pension plans for the Group's qualifying employees in the UK. In addition, 14 overseas subsidiaries (2017: 14) in three overseas countries provide defined benefit plans. 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 held in the Swiss plans, which are not matching in nature. The UK plan is managed by a Board of Trustees that represents both employees and employer, who are required to act in the best interest of the plan's participants and are 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 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 2018.

The last full actuarial valuation for the UK plan was 31 December 2017, and for the overseas plans was 31 December 2018. Where applicable, the valuations were updated to 31 December 2018 for IAS 19 (Revised) 'Employee Benefits' purposes by qualified independent actuaries.

The Group's contributions to overseas defined benefit plans during the year ended 31 December 2018 were £2.2m (2017: £2.2m). Contributions for 2019 are expected to be £2.3m 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.

## 20. Retirement benefit plans continued

The assumptions used by the actuary to value the liabilities of the defined benefit plans were:

	2018		2017	
	UK plan % p.a.	Overseas plans % p.a.	UK plan % p.a.	Overseas plans % p.a.
Discount rate	2.7	0.95 – 2.1	2.4	0.7 – 2.0
Salary increases	n/a	1.0 – 3.0	n/a	1.0 – 3.0
Pension increases in payment	2.2 – 3.7	0.0 – 2.0	2.1 – 3.7	0.0 – 2.0
Pension increases in deferment	2.4 – 3.3		2.3 – 3.2	
Inflation assumption	2.4 – 3.3	1.0 – 2.0	2.3 – 3.2	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 2018 was approximately 14 years (2017: 17 years) for the UK plan and 18.3 years (2017: 18.6 years) for the overseas plans.

Pensioner life expectancy assumed in the 31 December 2018 valuation is based on the following tables:

UK plan	92% S1PMA/96% S1PFA centred in 2006, future improvements in line with CMI_2017 with a long-term rate of improvement of 1.25% per annum and a smoothing parameter of 8
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 that pensioners are assumed to live to are as follows:

	Male	Female
Pensioners aged 65 in 2018	85.1 – 87.1	88.1 – 89.0
Pensioners aged 65 in 2028	86.5 – 87.8	89.3 – 89.9

	UK plan		Overseas plans		Total	
	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
Amounts recognised in the Consolidated Income Statement						
Current service cost	–	–	2.0	2.2	2.0	2.2
Net interest cost	0.3	0.4	0.3	0.3	0.6	0.7
Administrative cost	0.3	0.3	0.1	0.2	0.4	0.5
Past service cost/(credit)	2.5	–	0.2	(1.7)	2.7	(1.7)
	3.1	0.7	2.6	1.0	5.7	1.7

The current service cost and past service cost/(credit) 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. Actuarial gains and losses are recognised in the Consolidated Statement of Comprehensive Income.

During the year, insurance premiums for death-in-service benefits amounting to £0.3m (2017: £0.3m) were paid.

There was a negative total return on plan assets in the year of £4.4m (2017: a positive return of £7.7m).

	UK plan		Overseas plans		Total	
	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
Amounts recognised in the Consolidated Statement of Comprehensive Income						
Actuarial gains	3.9	2.9	2.1	2.6	6.0	5.5
Foreign exchange losses	–	–	(0.6)	0.4	(0.6)	0.4
Net gains	3.9	2.9	1.5	3.0	5.4	5.9

	UK plan		Overseas plans		Total	
	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
Amounts recognised in the Consolidated Statement of Financial Position						
Present value of defined benefit obligations	(125.7)	(137.4)	(57.4)	(54.7)	(183.1)	(192.1)
Fair value of plan assets	113.2	124.1	37.8	34.0	151.0	158.1
Retirement benefit obligations	(12.5)	(13.3)	(19.6)	(20.7)	(32.1)	(34.0)

	UK plan		Overseas plans		Total	
	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
<b>Reconciliation of movement in retirement benefit obligations</b>						
At 1 January	(13.3)	(15.5)	(20.7)	(24.8)	(34.0)	(40.3)
Current service cost	–	–	(2.0)	(2.2)	(2.0)	(2.2)
Net interest cost	(0.3)	(0.4)	(0.3)	(0.3)	(0.6)	(0.7)
Plan administrative cost	(0.3)	(0.3)	(0.1)	(0.2)	(0.4)	(0.5)
Past service (cost)/credit	(2.5)	–	(0.2)	1.7	(2.7)	1.7
Contributions from sponsoring company and plan members	–	–	1.6	1.5	1.6	1.5
Benefits paid	–	–	0.6	0.6	0.6	0.6
Actuarial gains	3.9	2.9	2.1	2.6	6.0	5.5
Foreign exchange difference	–	–	(0.6)	0.4	(0.6)	0.4
At 31 December	(12.5)	(13.3)	(19.6)	(20.7)	(32.1)	(34.0)

	UK plan		Overseas plans		Total	
	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
<b>Analysis of movement in the present value of the defined benefit obligation</b>						
At 1 January	137.4	138.4	54.7	59.2	192.1	197.6
Current service cost	–	–	2.0	2.2	2.0	2.2
Interest cost	3.2	3.5	0.7	0.6	3.9	4.1
Past service cost/(credit)	2.5	–	0.2	(1.7)	2.7	(1.7)
Contributions from plan members	–	–	1.2	1.3	1.2	1.3
Actuarial (gains)/losses – financial	(4.1)	0.6	(1.8)	(0.7)	(5.9)	(0.1)
Actuarial (gains)/losses – demographic	(8.6)	–	0.1	(1.3)	(8.5)	(1.3)
Actuarial (gains)/losses – experience	0.7	(0.3)	–	0.5	0.7	0.2
Benefits paid	(5.4)	(4.8)	(1.6)	(4.0)	(7.0)	(8.8)
Foreign exchange difference	–	–	1.9	(1.4)	1.9	(1.4)
At 31 December	125.7	137.4	57.4	54.7	183.1	192.1

Analysed as:

Present value of unfunded defined benefit obligation	–	–	7.6	7.9	7.6	7.9
Present value of funded defined benefit obligation	125.7	137.4	49.8	46.8	175.5	184.2

	UK plan		Overseas plans		Total	
	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
<b>Reconciliation of movement in fair value of plan assets</b>						
At 1 January	124.1	122.9	34.0	34.4	158.1	157.3
Interest income on assets	2.9	3.1	0.4	0.3	3.3	3.4
Plan administration cost	(0.3)	(0.3)	(0.1)	(0.2)	(0.4)	(0.5)
Contributions from sponsoring company	–	–	1.6	1.6	1.6	1.6
Contributions from plan members	–	–	1.2	1.2	1.2	1.2
Actuarial (losses)/gains	(8.1)	3.2	0.4	1.1	(7.7)	4.3
Benefits paid	(5.4)	(4.8)	(1.0)	(3.4)	(6.4)	(8.2)
Foreign exchange difference	–	–	1.3	(1.0)	1.3	(1.0)
At 31 December	113.2	124.1	37.8	34.0	151.0	158.1

## 20. Retirement benefit plans continued

	UK plan		Overseas plans		Total	
	2018 £m	2017 £m	2018 £m	2017 £m	2018 £m	2017 £m
<b>Fair value of assets</b>						
Equity instruments	5.3	8.9	–	–	5.3	8.9
Corporate bonds	94.0	106.4	–	–	94.0	106.4
Government bonds	10.3	6.6	–	–	10.3	6.6
Cash and financial derivatives (net)	3.6	2.2	–	–	3.6	2.2
Insurance policies	–	–	37.8	34.0	37.8	34.0
	<b>113.2</b>	<b>124.1</b>	<b>37.8</b>	<b>34.0</b>	<b>151.0</b>	<b>158.1</b>

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:

	Change in assumption	Impact on retirement benefit obligations as at 31 December 2018	
		UK plan	Overseas plans
Discount rate	Increase by 1%	Decrease by £16.7m	Decrease by £8.1m
Rate of price inflation (RPI)	Increase by 1%	Increase by £11.6m	Increase by £2.1m
Assumed life expectancy at age 65	Increase by 1 year	Increase by £4.1m	Increase by £1.5m

### Defined contribution plans

The total cost of the defined contribution plans for the year was £17.8m (2017: £15.3m). There were no outstanding or prepaid contributions to these plans as at 31 December 2018 or 31 December 2017.

## 21. Deferred tax

The movement in the net deferred tax liability/(asset) is shown below.

	Note	2018 £m	2017 £m
At 1 January		14.5	27.8
Adoption of IFRS 9 and IFRS 15		(5.8)	–
At 1 January (restated)		8.7	27.8
Foreign exchange difference		0.1	(2.4)
Acquisition of subsidiary undertakings	24	13.8	0.3
Disposal of businesses		1.0	2.0
Reclassified as assets held for sale		–	0.4
Deferred tax on changes in fair value of forward exchange contracts recognised in the Consolidated Statement of Comprehensive Income		(0.1)	0.3
Deferred tax on re-measurement of net defined benefit liability 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)
Credited to the Consolidated Income Statement	8	(6.1)	(15.2)
At 31 December		<b>18.9</b>	<b>14.5</b>
Comprising:			
Deferred tax liabilities		30.2	25.0
Deferred tax assets		(11.3)	(10.5)
		<b>18.9</b>	<b>14.5</b>

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	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

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	2017 Total £m
At 1 January 2017	5.1	(19.6)	(2.4)	(5.7)	(9.3)	58.9	0.8	27.8
Foreign exchange difference	–	–	–	–	–	(2.4)	–	(2.4)
Acquisition of subsidiary undertakings	–	–	–	–	–	0.3	–	0.3
Disposal of business	–	–	–	–	–	0.6	1.4	2.0
Transfer to assets held for sale	–	0.6	–	–	–	(0.2)	–	0.4
Deferred tax on changes in fair value of forward exchange contracts recognised in the Consolidated Statement of Comprehensive Income	–	–	–	–	–	–	0.3	0.3
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)
(Credited)/charged to the Consolidated Income Statement	(1.4)	8.0	0.2	0.4	0.2	(21.0)	(1.6)	(15.2)
At 31 December 2017	3.7	(11.0)	(2.2)	(5.3)	(7.7)	36.2	0.8	14.5

## 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. £1.7m will expire between 2026 and 2028. There is no expiry date associated with the remaining tax losses of £46.5m.

	2018 £m	2017 £m
Tax losses	48.2	48.0
Other temporary differences	1.1	0.4
	<b>49.3</b>	<b>48.4</b>

Phased reductions in the UK corporation tax rate to 19% effective from 1 April 2017 and 17% from 1 April 2020 were substantively enacted in the UK Finance (No. 2) Act 2015 and UK Finance Act 2016, respectively.

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, £67.5m (2017: £54.7m) 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 £3.8m (2017: £3.2m), of which only £1.9m (2017: £1.4m) 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

	2018		2017	
	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	125.0	6.2

No ordinary shares were issued upon exercise under share option schemes during the year (2017: nil).

During the year, 3,825,802 ordinary shares were repurchased and cancelled by the Group (2017: nil) as part of the share buyback programme announced on 5 March 2018, which concluded on 13 August 2018.

At 31 December 2018, the Group held 5,636,153 treasury shares (2017: 5,747,360). During the year, 111,207 (2017: 93,153) 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.

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 2018, the EBT held 11,353 shares which were purchased from the market during the year. 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. During the year, 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 2017 onwards, 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.

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. For 2017 onwards, the performance conditions have been two-thirds operating company profit targets 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 give flexibility as to whether any 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 2018 was less than £0.1m.

### 23. Share-based payments continued

The number of outstanding share incentives are summarised below:

Incentive plan	2018 Number thousands	2017 Number thousands
Equity-settled:		
Performance Share Plan	1,615	1,576
Performance Share Plan (Linked tax-advantaged)	113	97
SAYE	45	86
Total equity-settled	1,773	1,759
Cash-settled: Performance Share Plan (Phantom allocations) and Restricted Share Plan	374	370
Total outstanding	2,147	2,129

#### Share options outstanding at the end of the year (equity-settled)

Performance Share Plan Year of grant	Remaining contractual life of options	2018		2017	
		Number thousands	Weighted average exercise price £	Number thousands	Weighted average exercise price £
2008	–	–	–	1	0.04
2009	1 year	13	0.04	20	0.04
2010	2 years	27	0.04	33	0.04
2011	3 years	31	0.04	42	0.04
2012	4 years	2	0.04	3	0.04
2013	5 years	2	0.04	2	0.05
2014	6 years	2	0.05	3	0.05
2015	7 years	16	0.05	421	0.05
2016	8 years	531	0.05	569	0.05
2017	9 years	441	0.05	482	0.05
2018	10 years	550	0.05	–	–
		1,615	0.05	1,576	0.05

The weighted average remaining contractual life of the PSP awards is 8.68 years (2017: 8.67 years).

Performance Share Plan (share options)	2018			2017		
	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	1,576	0.05		1,653	0.05	
Granted	580	0.05	24.74	493	0.05	25.28
Addition of reinvested dividends	8	0.00		1	0.00	
Exercised	(68)	0.05		(66)	0.04	
Forfeited	(481)	0.05		(505)	0.05	
At 31 December	1,615	0.05		1,576	0.05	
Exercisable at 31 December	94	0.04		103	0.04	

Performance Share Plan (Linked tax-advantaged) Year of grant	Remaining contractual life of options	2018		2017	
		Number thousands	Weighted average exercise price £	Number thousands	Weighted average exercise price £
2011	3 years	1	11.30	2	11.30
2012	4 years	2	17.31	2	17.31
2013	5 years	–	24.10	–	24.10
2015	7 years	5	21.97	34	21.94
2016	8 years	16	17.29	20	17.27
2017	9 years	36	26.00	39	26.02
2018	10 years	53	26.63	–	–
		113	24.61	97	22.31

The weighted average remaining contractual life of the PSP (Linked tax-advantaged) awards is 9.11 years (2017: 8.84 years).

Performance Share Plan (Linked tax-advantaged)	2018		2017	
	Number thousands	Weighted average exercise price £	Number thousands	Weighted average fair value at grant date £
At 1 January	97	22.31	86	20.44
Granted	57	26.64	39	26.02
Exercised	(5)	19.11	–	–
Forfeited	(36)	22.37	(28)	21.82
At 31 December	113	24.61	97	22.31
Exercisable at 31 December	8	19.83	4	14.65

SAYE Year of grant	Exercise price £	Expected remaining life of options	2018		2017	
			Number thousands	Number thousands		
2014	20.15	–	–	6		
2015	17.37	1 year	19	52		
2016	19.38	2 years	26	28		
			45	86		

The weighted average remaining contractual life of the SAYE options is 1.57 years (2017: 2.26 years).

SAYE	2018		2017	
	Number thousands	Weighted average exercise price £	Number thousands	Weighted average exercise price £
At 1 January	86	18.22	126	18.93
Exercised	(36)	17.82	(26)	20.61
Forfeited	(5)	18.44	(14)	20.08
At 31 December	45	18.51	86	18.22
Exercisable at 31 December	20	17.38	7	19.93

#### 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	2018		2017	
		Number thousands	Weighted average exercise price £	Number thousands	Weighted average exercise price £
2015	–	–	–	89	0.05
2016	1 year	133	0.05	162	0.05
2017	2 years	109	0.05	119	0.05
2018	3 years	132	0.05	–	–
		374	0.05	370	0.05

The weighted average remaining contractual life of the PSP/RSP awards is 2.00 years (2017: 2.08 years).

### 23. Share-based payments continued

Performance Share Plan (Phantom allocations) and Restricted Shares Plan	2018		2017			
	Number thousands	Exercise price £	Weighted average fair value at grant date £	Number thousands	Exercise price £	Weighted average fair value at grant date £
At 1 January	370	0.05		347	0.05	
Granted	140	0.05	26.45	124	0.05	26.10
Addition of reinvested dividends	4	0.00		4	0.00	
Exercised	(61)	0.05		(53)	0.05	
Forfeited	(79)	0.05		(52)	0.05	
At 31 December	374	0.05		370	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 2017 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	
	2018	2017	2018	2017	2018	2017
Weighted average share price at date of grant (£)	26.81	26.24	26.85	26.05	26.50	26.25
Weighted average exercise price (£)	0.05	0.05	26.64	26.05	0.05	0.05
Expected volatility	24.66%	25.59%	24.65%	25.55%	24.73%	25.59%
Expected life (years)	3.07	3.00	3.04	3.00	3.00	3.00
Risk-free rate	0.86%	0.09%	0.86%	0.10%	0.84%	0.09%
Expected dividends (expressed as a yield)	–	–	2.11%	2.03%	–	–
<b>Weighted average fair values at date of grant (£):</b>						
TSR condition	15.30	14.847	3.73	–	–	–
Profit condition	26.54	25.99	3.99	3.72	26.96	26.22
EPS condition	26.09	25.72	3.94	3.78	26.96	26.22
Economic profit condition	26.46	25.29	4.00	3.03	–	–
Service condition	26.57	25.78	3.99	3.55	26.96	26.06
<b>Weighted average fair values at 31 December (£):</b>						
TSR condition (cash-settled)					–	–
Profit condition (cash-settled)					21.50	23.56
EPS condition (cash-settled)					21.50	23.56
Service condition (cash-settled)					21.46	23.56

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 2018 was £26.11 (2017: £25.00). The weighted average fair value of cash-settled options outstanding at 31 December 2018 is £21.98 (2017: £24.03) for the EPS condition.

The Group recognised a total share-based payment charge of £6.2m (2017: £8.2m) in the Consolidated Income Statement, of which £5.1m (2017: £5.4m) related to equity-settled share-based payment transactions.

## 24. Acquisitions

### Concept Life Sciences

On 26 January 2018, the Group acquired 100% of Concept Life Sciences (Holdings) Limited ('CLS') for a gross consideration of £166.9m. CLS is a UK-based group providing integrated drug discovery, development, analytical testing and environmental consultancy services, mainly in the pharmaceutical, biotechnology, agrochemical and environmental sectors. This acquisition adds to the Group's capabilities in test services in the Materials Analysis segment. The excess of the fair value of consideration paid over the fair value of the net tangible assets acquired is represented by the following intangible assets: customer-related (relationships), technology and goodwill. Goodwill arising is attributable to the acquired workforce, expected future customer relationships and synergies from cross-selling instruments and services, as well as the development of novel analytical methods and assays based on the combination of technical knowhow from CLS and instrumentation technology from Malvern Panalytical.

### Other acquisitions

The Group completed the acquisition of 100% of Revolutionary Engineering, Inc. on 3 April 2018 for a gross consideration of £8.7m. Revolutionary Engineering, Inc. is an automotive test system and service provider based in the USA. This acquisition complements existing test capabilities of Millbrook and is included in the Test and Measurement segment. The provisional fair value of net assets acquired is £5.4m, including £3.8m of intangible assets, which generated provisional goodwill of £3.3m. 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 Group completed the acquisition of 100% of VI-grade Group on 30 August 2018 for a gross consideration of £28.3m. VI-grade is a leading global provider of vehicle simulation solutions and services, primarily to automotive customers. This acquisition adds to the Group's capabilities in test services in the Test and Measurement segment. The provisional fair value of net assets acquired is £15.5m, including £15.8m of customer-related and technology intangible assets, which generated provisional goodwill of £12.8m. 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 fair values included in the table below relate to the acquisition of Concept Life Sciences and other acquisitions during the year. The fair values in respect of Concept Life Sciences are final. The fair values in respect of other acquisitions are provisional, reflecting the timing of the acquisitions, and are expected to be finalised within 12 months of the acquisition date:

			2018
	Concept Life Sciences £m	Other acquisitions £m	Total fair value £m
Intangible assets	52.4	19.6	72.0
Property, plant and equipment	13.0	2.5	15.5
Inventories	7.0	1.1	8.1
Trade and other receivables	11.3	5.5	16.8
Cash and cash equivalents	1.5	6.7	8.2
Trade and other payables	(14.6)	(9.1)	(23.7)
Provisions	(0.3)	(0.5)	(0.8)
Deferred tax liabilities	(8.9)	(4.9)	(13.8)
Net assets acquired	61.4	20.9	82.3
Goodwill	105.5	16.1	121.6
Gross consideration	166.9	37.0	203.9
Adjustment for cash acquired	(1.5)	(6.7)	(8.2)
<b>Net consideration</b>	<b>165.4</b>	<b>30.3</b>	<b>195.7</b>

There are no material contingent liabilities recognised in accordance with IFRS 3 (Revised).

Analysis of cash outflow in Consolidated Statement of Cash Flows	£m
Net consideration in respect of 2018 acquisitions	195.7
Deferred and contingent consideration on 2018 acquisitions to be paid in future years	(6.0)
Cash paid in 2018 in respect of 2018 acquisitions including deferred consideration in the year	189.7

### Acquisitions prior to 2018

Cash paid in 2018 in respect of prior years' acquisitions	6.7
<b>Net cash outflow relating to acquisitions</b>	<b>196.4</b>

## 24. Acquisitions continued

In the Consolidated Income Statement for the year ended 31 December 2018, sales of £62.9m and operating profit of £1.5m have been included for all acquisitions in the year. Group revenue and operating profit for the year ended 31 December 2018 would have been £1,619.2m and £177.3m, respectively, had each of these acquisitions taken place on the first day of the financial year.

Where appropriate, a detailed exercise has been undertaken to assess the fair value of assets acquired and liabilities assumed, supported by the use of third-party experts. The valuation of the above intangible and tangible assets requires the use of assumptions and estimates. Intangible asset assumptions consist of future growth rates, expected inflation and attrition rates, discount rates used and useful economic lives.

The fair value of contingent consideration on the 2018 acquisitions amounts to £6.0m.

The contingent consideration payable on financial milestones on 2018 acquisitions could range from £nil to £6.7m, dependent on incremental future revenues, and the total contingent consideration is sensitive to risk-adjusted discount rates. Deferred and contingent consideration included in 2018 purchase consideration is not linked to future employment.

Due to their contractual due dates, the fair value of receivables approximates to the gross contractual amounts receivable. The amount of gross contractual receivables not expected to be recovered is immaterial. There are no material contingent liabilities recognised in accordance with IFRS 3 (Revised).

The following tables represent the fair values relating to the 2017 acquisitions:

	2017 Total fair value £m
Intangible assets	15.9
Property, plant and equipment	3.1
Inventories	0.1
Trade and other receivables	1.9
Cash and cash equivalents	0.8
Trade and other payables	(1.8)
Deferred tax liabilities	(0.3)
Net assets acquired	19.7
Goodwill	16.8
Bargain purchase on acquisition	(1.9)
Total consideration in respect of 2017 acquisitions	34.6
Total consideration	34.6
Adjustment for cash acquired	(0.8)
Total consideration in respect of 2017 acquisitions	33.8
<b>Analysis of cash outflow in Consolidated Statement of Cash Flows</b>	
Total consideration in respect of 2017 acquisitions	34.6
Adjustment for net cash acquired on 2017 acquisitions	(0.8)
Deferred and contingent consideration on 2017 acquisitions to be paid in future years	(1.4)
Cash paid in 2017 in respect of 2017 acquisitions	32.4
<b>Acquisitions prior to 2017</b>	
Cash paid in 2017 in respect of prior years' acquisitions	4.1
Net cash outflow relating to acquisitions	36.5

## 25. Disposal of businesses

### a) Profit on disposal of businesses

2018

#### EMS Brüel & Kjær

The Group completed the disposal of 100% of its environmental monitoring business, EMS Brüel & Kjær ('EMS B&K') on 31 May 2018 into a joint venture with Macquarie Capital in exchange for cash consideration of £45.1m and a 45% interest in the joint venture. This generated a profit on disposal of £56.3m which included £44.4m arising as a result of measuring to fair value the Group's retained 45% interest in the EMS B&K business, transaction expenses of £6.5m and a contingent deferred payment to Macquarie Capital estimated at £2.9m which is dependent upon the delivery of certain objectives.

	2018 £m
Goodwill and other intangible assets	23.4
Property, plant and equipment	1.4
Net deferred and current tax assets	0.5
Inventory	1.7
Trade and other receivables	6.1
Cash and cash equivalents	0.2
Trade and other payables	(4.4)
<b>Net assets disposed</b>	<b>28.9</b>
Consideration received, satisfied in cash	45.1
Consideration received, satisfied in equity in the joint venture	6.0
Consideration received, satisfied in other receivables from the joint venture	38.4
Contingent deferred payment	(2.9)
Transaction costs	(6.5)
Net proceeds from disposal of business	80.1
Net assets disposed of	(28.9)
Currency translation differences transferred from translation reserve	5.1
<b>Profit on disposal of business</b>	<b>56.3</b>

The sale of EMS B&K did not meet the definition of a discontinued operation given in IFRS 5 'Non-Current Assets Held for Sale and Discontinued Operations' and, therefore, no disclosures in relation to discontinued operations were made.

The Consolidated Statement of Cash Flows includes £41.8m of net proceeds from the sale of EMS B&K, which consists of £45.1m of consideration received in cash less £2.5m of transaction fees paid, £0.6m of tax paid on disposal and £0.2m of cash and cash equivalents disposed.

#### Microscan

During 2018, £2.0m was received in respect of deferred consideration for the disposal of Microscan.

**25. Disposal of businesses continued**

2017

**Microscan**

The profit on disposal of business wholly relates to the disposal of 100% of Microscan on 2 October 2017, which resulted in a profit on disposal of £100.5m.

	2017 £m
Goodwill and other intangible assets	5.5
Property, plant and equipment	0.8
Deferred tax assets	2.0
Inventory	5.9
Trade and other receivables	7.0
Cash and cash equivalents	0.4
Trade and other payables	(4.0)
Provisions	(0.1)
<b>Net assets disposed</b>	<b>17.5</b>
Consideration received, satisfied in cash	114.6
Cash disposed of	(0.4)
Transaction expenses	(3.3)
<b>Net proceeds from disposal of business</b>	<b>110.9</b>
Contingent consideration	2.3
Cash disposed of	0.4
<b>Net assets disposed of</b>	<b>(17.5)</b>
Currency translation differences transferred from translation reserve	4.4
<b>Profit on disposal of business</b>	<b>100.5</b>

The sale of Microscan did not meet the definition of a discontinued operation given in IFRS 5 'Non-Current Assets Held for Sale and Discontinued Operations' and, therefore, no disclosures in relation to discontinued operations were made.

**b) Assets and liabilities held for sale**

Assets classified as held for sale at 31 December 2018 include freehold property, which was sold in January 2019.

The assets and liabilities classified as held for sale at 31 December 2017 were comprised of the assets and liabilities of the EMS Brüel & Kjær business, which was sold on 31 May 2018.

## 26. Cash generated from operations

	Note	2018 £m	2017 £m
<b>Cash flows from operating activities</b>			
Profit after tax		185.2	234.8
Adjustments for:			
Taxation charge	8	32.8	43.6
Profit on disposal of businesses		(56.3)	(100.5)
Share of post-tax results of joint venture		1.2	–
Finance costs	7	16.0	6.4
Financial income	7	(2.5)	(1.9)
Depreciation	12	30.3	25.6
Amortisation and impairment of intangible assets	11	49.1	47.5
Bargain purchase on acquisition	5	–	(1.9)
Acquisition-related fair value adjustments		4.8	(3.0)
(Profit)/loss on disposal of property, plant and equipment and software	5	(1.9)	0.1
Equity-settled share-based payment transactions	6	5.1	5.4
<b>Operating cash flow before changes in working capital and provisions</b>		<b>263.8</b>	<b>256.1</b>
Increase in trade and other receivables		(30.4)	(34.3)
Increase in inventories		(17.4)	(0.6)
(Decrease)/increase in trade and other payables		(3.6)	17.5
Increase/(decrease) in provisions and retirement benefits		3.4	(1.1)
<b>Cash generated from operations</b>		<b>215.8</b>	<b>237.6</b>

## 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, Swiss Franc 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 Consolidated Statement of Financial Position.

### Hedging instruments – outstanding contracts

	Change in fair value for recognising hedge ineffectiveness		Carrying amount of the hedging instruments	
	2018 £m	2017 £m	2018 £m	2017 £m
<b>Cash flow hedges</b>				
<b>Currency risk – forward exchange contracts</b>				
Less than 6 months	(1.0)	0.8	(1.0)	0.8
6 to 12 months	(0.7)	0.1	(0.7)	0.1
12 to 18 months	(0.1)	–	(0.1)	–
	<b>(1.8)</b>	<b>0.9</b>	<b>(1.8)</b>	<b>0.9</b>

### 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	
	2018 £m	2017 £m	2018 £m	2017 £m
<b>Currency risk</b>				
Forecast sales	1.8	(0.9)	(3.8)	(1.8)

### 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 2018 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 committed debt facilities, as capital for the purposes of funding the Group's operations. Total managed capital at 31 December is:

	2018 £m	2017 £m
Equity shareholders' funds	1,232.9	1,204.1
Committed debt facilities	814.4	593.7
	<b>2,047.3</b>	<b>1,797.8</b>

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 2018, 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.

During the year, 3,825,802 ordinary shares were repurchased and cancelled by the Group as part of the share buyback programme announced on 5 March 2018 (2017: nil). There were no other changes to the Group's approach to capital management during the year.

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.

	2018		
Fair value and carrying amount of financial instruments	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)

	2017		
Fair value and carrying amount of financial instruments	Level 2 fair value £m	Level 3 fair value £m	Carrying amount £m
Trade and other receivables excluding prepayments and accrued income	–	–	318.3
Trade and other payables excluding deferred income	–	(11.1)	(222.0)
Forward exchange contracts	1.4	–	1.4
Cash and cash equivalents	138.0	–	138.0
Floating rate borrowings (including bank overdrafts)	(1.3)	–	(1.3)
Fixed rate borrowings	(193.3)	–	(187.2)
Forward exchange contracts	(0.5)	–	(0.5)
			46.7

There were no movements between the different levels of the fair value hierarchy in the year.

The fair value of cash and cash equivalents including held for sale, 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 2018 is a net liability of £1.8m (2017: net asset of £0.9m), of which £1.6m has been charged to the hedging reserve (2017: £0.7m credited) and £0.2m charged to the Consolidated Income Statement (2017: £0.2m credited). 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 2018 and 2017 were deemed to be effective.

	2018 £m	2017 £m
<b>Analysis of movements in hedging reserve net of tax</b>		
At 1 January	(2.0)	(5.3)
Amounts removed from the Consolidated Statement of Changes in Equity and included in the Consolidated Income Statement during the year	1.4	1.1
Amounts recognised in the Consolidated Statement of Changes in Equity during the year	(3.3)	2.2
At 31 December	(3.9)	(2.0)

The amount included in the Consolidated Income Statement is split between revenue and administrative expenses depending on the nature of the hedged item.

	2018 £m	2017 £m
<b>Reconciliation of level 3 fair value for deferred and contingent consideration payable on acquisitions and disposals</b>		
At 1 January	(11.1)	(16.2)
Deferred and contingent consideration arising from acquisitions payable in future years	(6.0)	(1.4)
Deferred and contingent consideration payable arising from disposals	(5.0)	–
Deferred and contingent consideration paid in the current year relating to previous years' acquisitions	8.7	4.1
Costs charged to the Consolidated Income Statement:		
Subsequent adjustments	(4.8)	3.0
Unwinding of discount factor on deferred and contingent consideration	(0.6)	(0.7)
Foreign exchange difference	–	0.1
At 31 December	(18.8)	(11.1)

The fair value of deferred and contingent consideration is determined by considering the performance expectations of the acquired 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 in the period that the change occurs.

Deferred and contingent consideration relates to financial (2018: £7.1m, 2017: £4.6m) and non-financial (2018: £11.7m, 2017: £6.5m) 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.

	2018	2017
<b>Forward exchange contracts at 31 December</b>		
Foreign currency sale amount (£m)	154.6	154.6
<b>Percentage of total:</b>		
US Dollar	31%	44%
Euro	26%	23%
Japanese Yen	21%	19%
Other	22%	14%

A maturity profile of the gross cash flows related to financial liabilities is:

	2018			2017		
	Bank loans and overdrafts £m	Unsecured loans £m	Total £m	Bank loans and overdrafts £m	Unsecured loans £m	Total £m
<b>Maturity of financial liabilities</b>						
Due within one year	5.8	23.1	28.9	1.3	3.3	4.6
Due between one and two years	–	90.2	90.2	–	3.3	3.3
Due between two and five years	–	267.5	267.5	–	193.0	193.0
	5.8	380.8	386.6	1.3	199.6	200.9

## 28. Financial instruments continued

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			
	Fixed rate £m	Floating rate £m	Non-interest bearing £m	Total £m	Fixed rate £m	Floating rate £m	Total £m	2018 Net financial assets/ (liabilities)
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)

Interest rate exposure of financial assets and liabilities by currency	Financial assets				Financial liabilities			
	Fixed rate £m	Floating rate £m	Non-interest bearing £m	Total £m	Fixed rate £m	Floating rate £m	Total £m	2017 Net financial assets/ (liabilities)
Sterling	23.8	–	5.1	28.9	–	–	–	28.9
Euro	0.3	2.5	10.7	13.5	(187.2)	–	(187.2)	(173.7)
US Dollar	46.6	20.4	7.9	74.9	–	(0.4)	(0.4)	74.5
Other	–	6.2	14.5	20.7	–	(0.9)	(0.9)	19.8
	70.7	29.1	38.2	138.0	(187.2)	(1.3)	(188.5)	(50.5)

### Sensitivity analysis

The tables below show the Group's sensitivity to foreign exchange rates and interest rates. The US Dollar, Euro, Danish Krone and Swiss Franc represent the main foreign exchange translational exposures for the Group. The Group's borrowings are primarily in US Dollars and Euros.

Impact on foreign exchange translational exposures against Sterling	2018			2017
	Decrease in equity £m	Decrease in profit before tax £m	Decrease/(increase) in equity £m	Decrease/(increase) in profit before tax £m
10% weakening in the US Dollar	98.1	6.0	96.8	5.6
10% weakening in the Euro/Danish Krone	70.8	6.7	55.0	5.8
10% weakening in the Swiss Franc	3.5	1.5	3.5	1.6

### Impact of interest rate movements

1pp increase in interest rates	1.7	1.7	(0.1)	(0.1)
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## 29. Contingent liabilities

In the normal course of business, Group companies have provided bonds and guarantees through local banking arrangements amounting to £20.3m (2017: £20.0m). Contingent liabilities in respect of taxation are disclosed in Note 8.

## 30. Operating leases

Total commitments under non-cancellable operating leases expiring:	2018			2017		
	Property £m	Other £m	Total £m	Property £m	Other £m	Total £m
Within one year	14.8	5.5	20.3	12.4	4.8	17.2
More than one year but less than five years	34.0	6.2	40.2	26.3	5.5	31.8
Greater than five years	18.4	0.1	18.5	18.5	–	18.5
	67.2	11.8	79.0	57.2	10.3	67.5

Group companies are party to a number of operating leases for plant and machinery, motor vehicles and property rentals. The arrangements do not impose any significant restrictions on the Group.

## 31. Capital commitments

At 31 December 2018, the Group had entered into contractual commitments for the purchase of property, plant and equipment and software amounting to £31.0m (2017: £18.2m) 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 158 to 162), 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:

	2018 £m	2017 £m
Short-term benefits	5.2	6.1
Post-employment benefits	0.6	0.6
Equity-settled share-based payment expense	1.6	1.8
	<b>7.4</b>	<b>8.5</b>

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 60 to 78.

#### Transactions with joint venture

	2018 £m	2017 £m
Sales	1.2	–
Income on receivable (see Note 7)	(2.0)	–
Loan receivable	0.9	–
Other receivable	38.9	–
Trade receivables	1.7	–
Trade payables	(2.7)	–

There were no other related party transactions in either 2018 or 2017.

### 33. Subsidiary undertakings

The table below lists the Group's principal subsidiary undertakings at 31 December 2018. 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
Concept Life Sciences Analytical & Development Services Limited	England & Wales
Concept Life Sciences Integrated Discovery & Development Services Limited	England & Wales
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
VI-grade GmbH	Germany
BTG Eclépens S.A.	Switzerland
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 158 to 162.

### 34. Events after the balance sheet date

There were no post balance sheet events.

## SPECTRIS PLC STATEMENT OF FINANCIAL POSITION

As at 31 December 2018

	Note	2018 £m	2017 £m
<b>ASSETS</b>			
<b>Non-current assets</b>			
Intangible assets	4	3.5	2.2
Property, plant and equipment	5	2.4	2.5
Investments in subsidiary undertakings	6	1,070.2	1,068.6
Deferred tax assets		3.9	3.7
		<b>1,080.0</b>	<b>1,077.0</b>
<b>Current assets</b>			
Current tax assets		3.6	4.8
Other receivables (due after more than one year: £417.9m (2017: £334.1m))	7	785.1	602.9
Derivative financial instruments		2.8	3.1
Cash and cash equivalents		20.7	107.5
		<b>812.2</b>	<b>718.3</b>
<b>Total assets</b>		<b>1,892.2</b>	<b>1,795.3</b>
<b>LIABILITIES</b>			
<b>Current liabilities</b>			
Borrowings	8	(30.3)	(15.5)
Derivative financial instruments		(2.8)	(3.0)
Other payables	9	(521.9)	(501.8)
Provisions	10	(1.2)	–
		<b>(556.2)</b>	<b>(520.3)</b>
<b>Net current assets</b>		<b>256.0</b>	<b>198.0</b>
<b>Non-current liabilities</b>			
Borrowings	8	(346.5)	(187.2)
Other payables	9	(190.6)	(146.6)
Retirement benefit obligations	12	(12.5)	(13.4)
		<b>(549.6)</b>	<b>(347.2)</b>
<b>Total liabilities</b>		<b>(1,105.8)</b>	<b>(867.5)</b>
<b>Net assets</b>		<b>786.4</b>	<b>927.8</b>
<b>EQUITY</b>			
Share capital	11	6.0	6.2
Share premium		231.4	231.4
Retained earnings		511.3	652.7
Merger reserve	11	3.1	3.1
Capital redemption reserve	11	0.5	0.3
Special reserve	11	34.1	34.1
<b>Total equity</b>		<b>786.4</b>	<b>927.8</b>

The Company's profit for the year was £18.5m (2017: £23.1m).

The Financial Statements on pages 148 to 162 were approved by the Board of Directors on 19 February 2019 and were signed on its behalf by:

**Clive Watson**  
Group Finance Director

Company Registration No. 2025003

## SPECTRIS PLC STATEMENT OF CHANGES IN EQUITY

For the year ended 31 December 2018

	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 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
<b>At 31 December 2018</b>		<b>6.0</b>	<b>231.4</b>	<b>511.3</b>	<b>3.1</b>	<b>0.5</b>	<b>34.1</b>	<b>786.4</b>

	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 2017		6.2	231.4	684.5	3.1	0.3	34.1	959.6
Profit for the year		-	-	23.1	-	-	-	23.1
Other comprehensive income:								
Re-measurement of net defined benefit obligations, net of tax		-	-	2.3	-	-	-	2.3
Total comprehensive income for the year		-	-	25.4	-	-	-	25.4
Transactions with owners recorded directly in equity:								
Equity dividends paid	14	-	-	(63.2)	-	-	-	(63.2)
Capital contribution relating to share-based payments		-	-	3.3	-	-	-	3.3
Share-based payments, net of tax		-	-	2.2	-	-	-	2.2
Utilisation of treasury shares		-	-	0.5	-	-	-	0.5
<b>At 31 December 2017</b>		<b>6.2</b>	<b>231.4</b>	<b>652.7</b>	<b>3.1</b>	<b>0.3</b>	<b>34.1</b>	<b>927.8</b>

## 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, tangible fixed assets 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 92 to 147) 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 s408 of the Companies Act 2006, the Company has elected not to present its own profit and loss account or statement of comprehensive income for the year. The profit attributable to the Company is disclosed in the footnote to the Company's balance sheet.

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 considers 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 to the Group Consolidated Financial Statements, 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 152.

## 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 5 years.

### Property, plant and equipment

Property, plant and equipment are 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 – 25 years.
- › Office equipment – 3 to 5 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.

## 1. Basis of preparation and summary of significant accounting policies continued

### 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 balance sheet 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.

### 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 Balance Sheet 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 Balance Sheet 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 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 Balance Sheet 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 Balance Sheet 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 balance sheet 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:

	2018 Number	2017 Number
Administrative	86	67

Employee costs, including Directors' remuneration, are as follows:

	2018 £m	2017 £m
Wages and salaries	16.6	13.8
Social security costs	2.6	2.5
Defined contribution pension plans	0.5	0.4
Equity-settled share-based payment expense	3.2	2.2
Cash-settled share-based payment expense	0.1	0.1
	<b>23.0</b>	<b>19.0</b>

### 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 60 to 78.

### Tax losses

As at 31 December 2018, the Company had capital tax losses of £16.4m (2017: £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.

### Cash and cash equivalents

Cash and cash equivalents at 31 December 2017 included £2.4m of restricted cash which was held in escrow relating to the acquisition of Millbrook in 2016. This was paid during the year.

#### 4. Intangible assets

Cost	Software £m
At 1 January 2018	5.7
Additions	1.8
<b>At 31 December 2018</b>	<b>7.5</b>
Accumulated amortisation and impairment	
At 1 January 2018	3.5
Charge for the year	0.5
<b>At 31 December 2018</b>	<b>4.0</b>
Carrying amount	
<b>At 31 December 2018</b>	<b>3.5</b>
At 31 December 2017	2.2

#### 5. Property, plant and equipment

Cost	Freehold property £m	Office equipment £m	Total £m
At 1 January 2018	3.4	0.8	4.2
Additions	–	0.1	0.1
Disposals	–	(0.1)	(0.1)
<b>At 31 December 2018</b>	<b>3.4</b>	<b>0.8</b>	<b>4.2</b>
Accumulated depreciation and impairment			
At 1 January 2018	1.0	0.7	1.7
Charge for the year	0.1	0.1	0.2
Disposals	–	(0.1)	(0.1)
<b>At 31 December 2018</b>	<b>1.1</b>	<b>0.7</b>	<b>1.8</b>
Carrying amount			
<b>At 31 December 2018</b>	<b>2.3</b>	<b>0.1</b>	<b>2.4</b>
At 31 December 2017	2.4	0.1	2.5

#### 6. Investments in subsidiary undertakings

Cost and carrying amount	Investments in subsidiary undertakings £m
At 1 January 2018	1,068.6
Movements relating to share options granted to subsidiary employees	1.6
<b>At 31 December 2018</b>	<b>1,070.2</b>

Details of the Company's subsidiaries are given in Note 15.

## 7. Other receivables

	2018 £m	2017 £m
<b>Current</b>		
Amounts owed by Group undertakings	5.9	6.5
Loans owed by Group undertakings	357.4	255.1
Loans owed by indirectly held joint venture	0.9	–
Prepayments	2.2	4.2
Other receivables	0.8	3.0
	<b>367.2</b>	<b>268.8</b>
<b>Non-current</b>		
Loans owed by Group undertakings	415.8	333.7
Prepayments	2.1	0.4
	<b>417.9</b>	<b>334.1</b>
<b>Total other receivables</b>	<b>785.1</b>	<b>602.9</b>

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	2018 £m	2017 £m
<b>Current</b>				
Bank overdrafts		on demand	12.4	15.5
Bank loans unsecured – £20.0m uncommitted facility	Relevant LIBOR +50bps	on demand	17.9	–
<b>Total current borrowings</b>			<b>30.3</b>	<b>15.5</b>
<b>Non-current</b>				
Bank loans unsecured – €94.8m	Fixed 2.56%	14 Oct 2020	84.8	84.1
Bank loans unsecured – €116.2m	Fixed 1.15%	9 Sept 2022	104.0	103.1
Bank loans unsecured – \$800.0m revolving credit facility	Relevant LIBOR +55bps	31 July 2023	157.7	–
<b>Total non-current borrowings</b>			<b>346.5</b>	<b>187.2</b>
<b>Total current and non-current borrowings</b>			<b>376.8</b>	<b>202.7</b>

Further details of borrowings are provided in Note 17 to the Group Consolidated Financial Statements.

## 9. Other payables

	2018 £m	2017 £m
<b>Current</b>		
Amounts owed to Group undertakings	0.5	0.7
Loans owed to Group undertakings	510.7	490.5
Accruals	10.7	10.6
	<b>521.9</b>	<b>501.8</b>
<b>Non-current</b>		
Loans owed to Group undertakings	190.6	146.6

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.

## 10. Provisions

	Reorganisation £m
At 1 January 2018	–
Provision during the year	1.2
<b>At 31 December 2018</b>	<b>1.2</b>

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

	2018		2017	
Allotted, called-up and fully paid	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	125.0	6.2

No ordinary shares were issued upon exercise under share option schemes during the year (2017: 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.

During the year, 3,825,802 ordinary shares were repurchased and cancelled by the Group as part of the share buyback programme announced on 5 March 2018 (2017: nil).

At 31 December 2018, the Company held 5,636,153 treasury shares (2017: 5,747,360). During the year, 111,207 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 (2017: 93,153).

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 2018, the EBT held 11,353 shares which were purchased from the market during the year. 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 the year, as a result of the share buyback programme, the capital redemption reserve increased by £0.2 million, 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 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 new members.

In accordance with IAS 19 (Revised 2011), there were no Company contributions made to the defined benefit plan during the year (2017: 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 27 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 £19.6m (2017: £19.6m).

### 14. Dividends

	2018 £m	2017 £m
<b>Amounts recognised and paid as distributions</b>		
Final dividend for the year ended 31 December 2017 of 37.5p (2016: 34.0p) per share	44.5	40.5
Interim dividend for the year ended 31 December 2018 of 20.5p (2017: 19.0p) per share	23.7	22.7
	<b>68.2</b>	<b>63.2</b>
<b>Amounts arising in respect of the year</b>		
Interim dividend for the year ended 31 December 2018 of 20.5p (2017: 19.0p) per share	23.7	22.7
Proposed final dividend for the year ended 31 December 2018 of 40.5p (2017: 37.5p) per share	46.8	44.7
	<b>70.5</b>	<b>67.4</b>

The proposed final dividend is subject to approval by shareholders at the AGM on 24 May 2019 and has not been included as a liability in these Financial Statements.

## 15. Group companies

In accordance with Section 409 of the Companies Act 2006, detailed below is a full list of related undertakings as at 31 December 2018.

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.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
Brüel & Kjær España, S.L.	Calle Teide número 5, San Sebastián de los Reyes, Madrid	Spain
Brüel & Kjær France SAS	46 rue du Champoreux, F-91540 Mennecey, Cedex	France
Brüel & Kjær GmbH	Linzerstrasse 3, Bremen, D-28359	Germany
Brüel & Kjær Italia SRL	Viale Milanofiori, Strada 4, Palazzo Q5, I-20089 Rozzano, Milano	Italy
Brüel & Kjær North America Inc.	2985 Gordy Parkway, 1st Floor, Marietta, 30066	USA
Brüel & Kjær Polska Sp z.o.o.	ul. Goraszewska 12, PL-02-910 Warszawa	Poland
Brüel & Kjær Sound & Vibration Measurement A/S	Skodsborgvej 307, DK-2850, Naerum	Denmark
Brüel & Kjær UK Limited (i)	Jarman Way, Royston, Hertfordshire, SG8 5BQ	England & Wales
Brüel & Kjær Vibro A/S	Skodsborgvej 307B, Naerum, 2850	Denmark
Brüel & Kjær Vibro GmbH	Leydheckerstrasse 10, D-64293, Darmstadt	Germany
Brüel & Kjær VTS Limited (iii)	Jarman Way, Royston, Hertfordshire, SG8 5BQ	England & Wales
BTG Americas Inc.	2985 Gordy Parkway, 1st Floor, Marietta, 30066	USA
BTG Eclépens S.A.	ZI Village, 1312 Eclépens	Switzerland
BTG Holding Inc.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
BTG Instruments AB	Box 602, S-66129 Saffle	Sweden
BTG Instruments GmbH	Argelsreider Feld 10, Weßling, 82234	Germany
BTG IPI LLC (ii)	4650 W. Spencer Street, Appleton, 54914	USA
BTG Southern Europe Sarl	46 Rue de Champoreux, Mennecey, 91540	France
Burnfield Limited	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Capstone Technology Asia Pte Ltd	51 Godhill Plaza, #15-06, Singapore, 308900	Singapore
Capstone Technology Corporation	West 505 Riverside Avenue #500, Spokane, 99201	USA
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 (iii)	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	Neustadt 10-12, Gottingen, 37073	Germany

Name	Registered address	Country of incorporation
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.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
HBM Danmark ApS	Nydamsvej 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 (ii)	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
HBM Netherlands B.V.	Schutweg 15a, Waalwijk, 5145 NP	Netherlands
HBM Norge AS	Rosenholmveien 25, Trollasen, 1414	Norway
HBM Prensicia Inc.	3260 N. Hayden Road #210, Scottsdale, 85251	USA
HBM Prensicia Pte. Ltd	2 Bukit Merah Central, #14-02, Spring Singapore, 159835	Singapore
HBM Prensicia 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
Hottinger Baldwin Measurements Inc.	225 Cedar Hill Street #200, Marlborough, 01752	USA
Hottinger Baldwin Messtechnik AG	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 Baldwin Messtechnik Iberica SL	Plaza de la Encina 10-11, Nucleo 3, 1A, E-28760 Tres Cantos (Madrid)	Spain
International Applied Reliability Symposium LLC (ii)	3260 N. Hayden Road #210, Scottsdale, 85251	USA
LLC Spectris CIS (ii)	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	Rigipsstrasse 19, 71083 Herrenberg	Germany
Malvern Panalytical Inc.	225 Cedar Hill Street #200, Marlborough, 01752	USA
Malvern Panalytical Limited	Enigma Business Park, Grovewood Road, Malvern, Worcestershire, WR14 1XZ	England & Wales
Malvern Panalytical Nordic AB	Lokkeasveien 22A, 3138 Skallestad, 0722 Notteroy	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-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.	28175 Haggerty Road, Novi, 48377	USA
Millbrook Special Vehicles Limited	Millbrook, Bedford, MK45 2JQ	England & Wales
Millbrook US Inc.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
MPG Finland Oy	c/o Tilisakut Oy, Kauppakatu 12, Kuopio, 70100	Finland

**15. Group companies continued**

Name	Registered address	Country of incorporation
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.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
Newport Electronics Limited	One Omega Drive, Northbank, Irlam, Manchester, M44 5BD	England & Wales
Noble Asbestos Consultancy Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Noble Health & Safety Training Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Novisim Limited	Jarman Way, Royston, Hertfordshire, SG8 5BQ	England & Wales
Omega Engineering GmbH	Daimlerstrasse 26, Deckenpfronn, 75392	Germany
Omega Engineering Limited (iv)	One Omega Drive, Northbank, Irlam, Manchester, M44 5BD	England & Wales
Omega Engineering Inc.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
Omega Group Inc.	6 Landmark Square, 4th Floor, Stamford, 06901	USA
Omega Technologies Limited (iv)	One Omega Drive, Riverbend Technology Centre, Northbank, Irlam, Manchester, M44 5BD	England & Wales
Omega Inc.	310 K Street #200, Anchorage, 99501	USA
PANalytical (Proprietary) Limited	Private Bag 4015, Ferndale, 2160	South Africa
PANalytical Limited (i)	Jarman Way, Royston, Hertfordshire, SG8 5BQ	England & Wales
Particle Measuring Systems Germany GmbH	Im Tiefen See 45, Darmstadt, D-64293	Germany
Particle Measuring Systems Limited (i) (v)	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Particle Measuring Systems S.R.L.	Via di Grotte Portella, Frascati, Rome, 34-00044	Italy
Particle Measuring Systems Inc.	155 E. Boardwalk #490, Fort Collins, 80525	USA
Peakdale Chemistry Services Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Peakdale Inc.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	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
REC Asbestos (South) Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
REC Environmental Monitoring Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Red Lion Controls B.V.	Softwareweg 9, 3821 BN Amersfoort	Netherlands
Red Lion Controls Inc.	1001 State Street #1400, Erie, 16501	USA
ReliaSoft India Private Limited	New No.16, Old No.21, Cenotaph 1st Street, Alwarpet, Chennai, 600 018	India
Resource & Environmental Consultants (Asbestos) Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Resource & Environmental Consultants Limited	One St Peter's Square, Manchester, M2 3DE	England & Wales
Revolutionary Engineering (Shangjai) Co Ltd	500 Zhangheng Road, Zhangjiang Hi-Tech Park, Rm407, Bldg 1, Shanghai, 201204	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	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA

Name	Registered address	Country of incorporation
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.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
Spectraseis ISM LLC (ii)	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
Spectris Australia Pty Ltd	Suite 2, 6-10 Talavera Road, PO Box 349, North Ryde, New South Wales 2113	Australia
Spectris Canada Inc.	4995 Levy Street, Montreal, Quebec, H4R 2N9	Canada
Spectris China Limited	Office A 11/F, Billion Plaza II, No.10 Cheung Yue Street, Cheung Sha Wan, Kowloon	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 (iv)	12 Merrion Square, Dublin 2	Ireland
Spectris Finance UK Limited	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 (i) (iv)	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Spectris Holdings Inc.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	USA
Spectris Inc.	3411 Silverside Road Tatnall Building #104, Wilmington, 19810	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. (i) (ii)	Lelyweg 1, 7602 EA Almelo	Netherlands
Spectris Pension Trustees Limited (i)	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, Jhandelwala Extension, Opp Videcon Tower, New Delhi 110 055	India
Spectris UK Holdings Limited (iii)	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Spectris US Holdings Limited	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Test World Holding Oy	Nellimintie 569, Ivalo, 99800	Finland
Test World Oy	PL 167, Nellimintie 569, Ivalo, 99801	Finland
The Omnicon Group Inc.	15 North Mill Street, Nyack, 10960	USA
VI-grade AG	Neustrasse 2, 8590 Romanshorn	Switzerland
VI-grade GmbH	Zum Rosenmorgen 1a, 35043 Marburg	Germany
VI-grade Inc.	4640 Admiralty Way, 5th Floor, Bakersfield, CA 93301	USA
VI-grade Japan Ltd	3-9-1, Shinjuku, Shinjuku-ku, 160-0022 Tokyo	Japan
VI-grade Ltd	Brook House, 37 Church Road, Ryton On Dunsmore, Warwickshire, CV8 3ET	England & Wales

## 15. Group companies continued

Name	Registered address	Country of incorporation
VI-grade s.r.l.	Via Galileo Galilei 42, 33010 Tavagnacco (Udine)	Italy
VI-grade Systems GmbH	Zum Rosenmorgen 1a, 35043 Marburg	Germany
Viscotek Europe Limited	Heritage House, Church Road, Egham, Surrey, TW20 9QD	England & Wales
Zhuhai Omecc 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

- (i) wholly owned by Spectris plc.
- (ii) all LLC, Cooperatief and other non-equity owned entities listed are wholly owned and controlled by Spectris plc directly or indirectly through intermediate holding companies.
- (iii) share capital consists of ordinary shares and deferred shares.
- (iv) share capital consists of ordinary shares and redeemable shares.
- (v) in liquidation.

### Joint venture

Spectris shares joint control of the EMS Brüel & Kjær joint venture with Macquarie Capital under a shareholders' agreement. Voting interests in Soundwave 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 does entitle the holder to receive dividends or other distributions.

Name	Registered address	Country of incorporation
Soundwave Holdings Pte 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 2018 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 £13.7m (2017: £7.8m) in accordance with section 479C of the Companies Act 2006. The Company has assessed the probability of loss under the guarantee as remote.

Name	Company number
Agenda 1 Analytical Services Ltd	05903736
Aquila Biomedical Limited	SC393914
Brüel & Kjær UK Limited	04066051
Brüel & Kjær VTS Limited	01539186
Burnfield Limited	01522736
Concept Life Sciences (Discovery) Limited	09046575
Concept Life Sciences (Environmental Consulting) Limited	09046580
Concept Life Sciences (Holdings) Limited	09046553
Concept Life Sciences (Laboratories) Limited	09046586
Concept Life Sciences (Midco) Limited	09046568
CXR Biosciences Limited	SC211745
HBM United Kingdom Limited	01589921
Millbrook European Holdings Limited	09657741
Nanosight Limited	04599525
NDC Technologies Limited	00630998
Newport Electronics Limited	01457039
Novisim Ltd	05269664
Omega Engineering Limited	02564017
Omega Technologies Limited	02775272
PANalytical Limited	01005071
Resource and Environmental Consultants Limited	03133832
Spectris UK Holdings Limited	04451903
Spectris US Holdings Limited	04451883
VI-grade Limited	08245242

**Financial calendar**

Trading update	24 May 2019
AGM	24 May 2019
Record date for 2018 final dividend	24 May 2019
2018 final dividend payable	28 June 2019
2019 half-year results	30 July 2019
Trading update	21 November 2019
2019 full-year results	February 2020

**Company Secretary**

Mark Serfözö

**Head of Corporate Affairs**

Siobhán Andrews  
Email: [investor.relations@spectris.com](mailto:investor.relations@spectris.com)

**Registered office**

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Company registered in England and Wales, No. 2025003

**Auditor**

Deloitte LLP

**Solicitors**

Slaughter and May

**Brokers**

Jefferies Hoare Govett  
J P Morgan Cazenove

**Financial PR advisers**

FTI Consulting

**Registrars**

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](http://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](http://www.spectris.com).

**Major shareholders**

	Shareholding in Spectris shares	Percentage of issued share capital at 31 December 2018
MFS Investment Management	13,238,345	11.46
FMR LLC	10,650,622	9.22
Marathon Asset Management LLP	6,256,780	5.42
BlackRock Inc	5,397,210	4.67
Sprucegrove Investment Management	4,917,950	4.26
Liontrust Investment Partners LLP	4,741,296	4.10
Vanguard Group	4,176,693	3.61
UBS Asset Management	3,676,092	3.18
Royal London Asset Management	3,647,367	3.16
Schroder Investment Management	3,516,080	3.04

**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](http://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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**spectris**

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