Press
Release

Spectris plc
Heritage House
Church Road
Egham, Surrey
England
TW20 9QD
T: +44 (0)1784 470470
F: +44 (0)1784 470848
info@spectris.com
www.spectris.com

2019 full year results

20 February 2020 – Spectris plc (SXS: LSE), the expert in providing insight through precision measurement, announces full year results for the twelve months ended 31 December 2019.

Executing our Strategy for Profitable Growth

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

	2019	2018	Change	Like-for-like change[1]
Adjusted[1]				
Sales (£m)	**1,632.0**	1,604.2	1.7%	0.4%
Operating profit (£m)	**258.1**	248.3	3.9%	3.7%
Operating margin (%)	**15.8%**	15.5%	30bps	50bps
Profit before tax (£m)	**247.4**	241.4	2.5%	
Earnings per share (pence)	**168.0p**	164.9p	1.9%	
Adjusted cash flow conversion (%)	**91%**	59%	32pp	
Return on gross capital employed (%)	**13.5%**	13.7%	(20bps)	
Statutory				
Sales (£m)	**1,632.0**	1,604.2	1.7%	
Operating profit (£m)	**84.3**	176.4	(52.2%)	
Operating margin (%)	**5.2%**	11.0%	(580bps)	
Profit before tax[2] (£m)	**259.3**	218.0	18.9%	
Basic earnings per share (pence)	**202.2p**	157.6p	28.3%	
Dividend per share for the year (pence)	**65.1p**	61.0p	6.7%	

1. Alternative performance measures ('APMs') are used consistently throughout this press release and are referred to as 'adjusted' or 'like-for-like' ('LFL'). These are defined in full and reconciled to the reported statutory measures in Note 2 to the Financial Statements.
2. The main adjusting items to statutory profit before tax in 2019 and 2018 were profits on disposal of businesses of £204.7 million and £56.3 million, respectively.

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

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

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

Contacts:

Spectris plc

Siobhán Andrews
Head of Corporate Affairs
+44 1784 485325

FTI Consulting

Richard Mountain/Susanne Yule
+44 203 727 1340

A meeting with analysts will be held at 8:30am GMT today at the offices of FTI Consulting. This will be available as a live webcast on the company’s website at www.spectris.com and a recording will be posted on the website after the meeting.

Copies of this press release are available to the public from the registered office at Heritage House, Church Road, Egham, Surrey TW20 9QD and on the Company’s website at www.spectris.com.

About Spectris

Spectris’ global group of businesses are focused on delivering value beyond measure for all our stakeholders. We target global, attractive and sustainable markets, where growth and high returns are supported by long-term drivers. Precision is at the heart of what we do. We provide customers with expert insight through our advanced instruments and test equipment, augmented by the power of our software and services. This equips customers with the ability to reduce time to market, improve processes, quality and yield. In this way, Spectris know-how creates value for our wider society, as our customers design, develop, test and manufacture their products to make the world a cleaner, healthier and more productive place. Headquartered in Egham, Surrey, United Kingdom, the Company employs approximately 9,000 people located in more than 30 countries. For more information, visit www.spectris.com.

Chief Executive's review

Financial performance

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

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

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

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

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

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

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

At **Omega**, LFL sales were 9.1% lower, impacted by USA-China tariffs and slowing US industrial production, with sales weaker in both these regions. The outsourcing of a significant product line and the launch of the new digital platform also impacted sales, as customers transitioned to the new website. As a result of the decline in sales and the increased overheads incurred in developing the website, LFL adjusted operating profit and margin both contracted, by 39% and 600bps, respectively.

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

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

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

Capital allocation

As part of the strategic review, the capital allocation framework was refreshed in 2019. Our strategy will result in the Group being a highly cash-generative business. We will invest in R&D and capital expenditure to maintain and grow the business, supplemented by acquisitions, while maintaining an efficient balance sheet, with target leverage between 1-2x EBITDA. In 2019, the Group's adjusted cash flow conversion rate was 91%, an improvement from the 59% recorded in 2018. We invested £100.9 million (6.2% of sales) in R&D (2018: £103.4 million, 6.4% of sales). Capex totalled £81.6 million (2018: £94.1 million) following the peak investment in Millbrook in the prior year. With the net cash inflow from the divestment of BTG, the Group ended the year with net cash of £33.5 million (2018: net debt £297.1 million).

The Board is proposing to pay a final dividend of 43.2 pence per share which, combined with the interim dividend of 21.9 pence, gives a total of 65.1 pence per share for the year, an increase of 6.7%. This is consistent with our policy of making progressive dividend payments based upon affordability and sustainability and represents the 30th year in succession of dividend growth. The dividend will be paid on 22 June 2020 to shareholders on the register at the close of business on 22 May 2020. The ex-dividend date is 26 May 2020.

In addition, Spectris is proposing to return £175 million to shareholders via a special dividend, combined with a share consolidation. A special dividend of 150 pence per existing ordinary share is proposed, and in order to maintain the comparability of the Group's share price and per-share metrics before and after the special dividend, the Group plans to undertake a supporting share consolidation, which will be subject to shareholder approval. The payment and record dates for the special dividend will be aligned with those for the full-year dividend.[1] Further information regarding the special dividend, share consolidation and related resolutions will be set out in the Company's Notice of Annual General Meeting, which will be published in due course.

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

Delivering value beyond measure for all our stakeholders

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

This work has further clarified our purpose; the role that Spectris currently plays, and where we want to progress in terms of our proposition to customers. Precision is at the heart of what we do. Our businesses provide global customers with specialist insight through our high-tech instruments and test equipment, augmented by the power of our software. We are well positioned in our markets

[1] The Group has taken the decision that its Dividend Reinvestment Plan will apply to the payment of the special dividend, in accordance with the terms and conditions of the Dividend Reinvestment Plan.

with compelling and differentiated offerings that our customers value highly. We ensure our customers get the measurements and insights they need to meet their challenges and this, in turn, enables them to deliver significant benefits to their own consumers.

We can see how this is being delivered in our key end markets, where there is rapid change underway. In pharmaceutical, the ever-increasing demand for better healthcare continues to drive the development of sophisticated new drugs and generic versions. In automotive, new hybrid, electric and autonomous technologies are rapidly being developed, and safety, environmental and sustainability concerns are driving lower emissions, yield improvements and compliance. There is also a digital revolution in the home as well as the workplace. Each advance in technology, or tightening of regulations, or certifications sets new challenges for measurement, data gathering, modelling, simulation and interpretation. In addition, we help our customers become more effective and more productive in their existing operations or in meeting higher regulatory, certification or quality demands.

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

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

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

Profit improvement programme and Spectris Business System

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

The gross recurring benefit exceeded our original targets, totalling £25.5 million, with a further £10 million still to be delivered in 2020. The one-off restructuring costs totalled £52.2 million which were higher than the anticipated £45 million, with the increase reflecting further restructuring action which has been taken against the backdrop of slowing sales growth. We also took decisive action in restructuring CLS. The total cash cost was £34.3 million. Against the current lower growth backdrop, further activities under the profit improvement programme will continue in 2020 as we embed our platform strategy. We anticipate further costs in the range of £20-25 million with incremental benefits of £10 million. This predominantly relates to additional costs that are being incurred to support the ongoing merger activity at HBK.

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

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

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

Our people deliver the strategy

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

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

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

Coronavirus

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

Summary and outlook

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

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

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

Andrew Heath
Chief Executive

Financial review

Financial performance

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

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

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

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

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

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

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

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

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

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

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

Acquisitions and disposals

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

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

On 17 January 2020, as part of the plan to simplify the Group's portfolio, an announcement was made that agreement had been reached for the sale of our interest in the EMS B&K joint venture for consideration of £17.9 million in cash and approximately £1.2 million in shares in Envirosuite Limited. The closing of the deal is subject to approval by Envirosuite's shareholders at a meeting to be held on 24 February 2020 and the conditional placement of shares by Envirosuite required to fund the consideration for the transaction, with completion expected to take place shortly thereafter. As a result, the receivable from the joint venture has been impaired by £21.3 million to the expected recoverable amount and the remaining balance of £18.9 million has been included within assets held for sale at 31 December 2019 (see note 9).

Restructuring costs

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

Impairments

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

Cash flow

Adjusted cash flow	2019 £m	2018 £m
Adjusted operating profit	**258.1**	248.3
Adjusted depreciation and software amortisation[1]	**58.3**	35.3
Working capital and other non-cash movements	**(0.6)**	(42.8)
Capital expenditure, net of grants	**(81.6)**	(94.1)
Adjusted cash flow[2]	**234.2**	146.7
Adjusted cash flow conversion	**91%**	59%

1. Adjusted depreciation and software amortisation represents depreciation of property, plant and equipment, software and internal development amortisation, adjusted for depreciation of acquisition-related fair value adjustments to property, plant and equipment.
2. Adjusted cash flow excludes cash outflows of £20.5 million associated with IFRS 16 (see note 2).

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

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

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

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

Financing and treasury

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

As at 31 December 2019, the Group had £786.0 million of committed facilities denominated in different currencies, consisting of an $800.0 million (£606.4 million) revolving credit facility maturing in July 2024 with a one-year extension option, subject to approval by the lenders, a seven-year €94.8 million

(£80.7 million) term loan maturing in October 2020, and a seven-year €116.2 million (£98.9 million) term loan maturing in September 2022. The revolving credit facility was undrawn at the year end. In addition, at 31 December 2019, the Group had a cash balance of £213.1 million and various uncommitted facilities and bank overdraft facilities available.

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

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

Currency

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

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

The largest translational exposures during the year were to the US Dollar, Euro, Danish Krone, Chinese Yuan Renminbi and Swiss Franc, although since the disposal of BTG the Group no longer has a significant translational exposure to the Swiss Franc. Translational exposures are not hedged. The table below shows the average and closing key exchange rates compared to Sterling.

	2019 (average)	2018 (average)	Change	**2019 (closing)**	2018 (closing)	Change
US Dollar (USD)	**1.28**	1.34	(4%)	**1.32**	1.28	3%
Euro (EUR)	**1.14**	1.13	1%	**1.17**	1.12	4%
Chinese Yuan Renminbi (CNY)	**8.82**	8.83	–	**9.18**	8.80	4%
Swiss Franc (CHF)	**1.27**	1.31	(3%)	**1.28**	1.26	2%

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

Brexit

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

Dividends and Annual Report

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

The Annual Report will be made available to shareholders on 26 March 2020, either by post or online, and will be available to the general public on the Company's website at www.spectris.com or on written request to the registered office at Heritage House, Church Road, Egham, Surrey TW20 9QD.

Operating review

	Malvern Panalytical		HBK		Omega		Industrial Solutions		Total	
	2019	2018	**2019**	2018	**2019**	2018	**2019**	2018	**2019**	2018
Sales (£m)	**448.2**	436.7	**429.0**	426.5	**138.3**	147.2	**616.5**	593.8	**1,632.0**	1,604.2
LFL sales growth (%)	**1%**		**(1%)**		**(9%)**		**3%**		**–%**	
Adjusted operating profit (£m)	**76.2**	73.0	**60.4**	56.6	**16.9**	26.8	**104.6**	91.9	**258.1**	248.3
LFL adjusted operating profit growth (%)	**5%**		**8%**		**(39%)**		**13%**		**4%**	
Adjusted operating margin (%)	**17.0%**	16.7%	**14.1%**	13.3%	**12.2%**	18.2%	**17.0%**	15.5%	**15.8%**	15.5%
LFL adjusted operating margin change (bps)	**60bps**		**130bps**		**(600bps)**		**150bps**		**50bps**	
Statutory operating (loss)/profit (£m)	**(17.7)**[1]	52.9	**18.1**[2]	43.1	**12.0**	18.0	**71.9**	62.4	**84.3**	176.4
Statutory operating margin (%)	**(3.9%)**	12.1%	**4.2%**	10.1%	**8.7%**	12.2%	**11.7%**	10.5%	**5.2%**	11.0%

Sales % of Group sales	**27%**	27%	**26%**	27%	**9%**	9%	**38%**	37%	**100%**	100%

1. The statutory operating loss of £17.7 million was largely impacted by the £67.5 million impairment of goodwill and intangible assets in CLS.
2. The statutory operating profit of £18.1 million was largely impacted by the costs of restructuring and impairment of intangible assets as a result of the strategic review.

Throughout this Operating Review, all commentary refers to the adjusted LFL measures unless otherwise stated. A reconciliation of adjusted measures to statutory measures for all segments can be found in Note 2.

Malvern Panalytical

	2019	2018	Change	LFL change
Sales (£m)	**448.2**	436.7	3%	1%
Adjusted operating profit[1] (£m)	**76.2**	73.0	4%	5%
Adjusted operating margin[1] (%)	**17.0%**	16.7%	30bps	60bps

1. This is an alternative performance measure ('APM'). APMs are defined in full and reconciled to the reported statutory measures in Note 2 to the Financial Statements.

Financial performance

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

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

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

Product launches

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

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

Market trends and outlook

Pharma and food

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

Food is, traditionally, a lower growth market, being driven by consumer spending. However, there are higher growth niches, such as confectionery products and beverages, where we have realised opportunities in 2019. A continued focus on food safety, and the need for sustainable sourcing and manufacture, represent further opportunities relevant to our solution portfolio moving forward.

Primary materials

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

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

Advanced materials

Sales into the advanced materials industries have been strong, particularly in North America and Asia, driven by China, with a strong growth in aftermarket sales across all territories. From an industry standpoint, the main growth drivers have been in academia and the electronics, batteries, additive layer manufacturing and catalysts markets. Demand is being driven by new product development. For example, innovations in mobile devices, electric cars and intelligent power management solutions are driving significant growth in the research and development of batteries. This includes Li-ion batteries as well as new emerging battery technologies, such as Na-ion, Li-sulphur and zinc-air. Malvern Panalytical instruments help customers control the quality and function of battery materials, to enhance battery performance and improve the cycle life. For example, a partnership was established with the Next-Generation Energy Conversion and Storage Technologies Lab at the University of Pittsburgh’s Energy Innovation Center to monitor the chemistry of what is happening inside a battery while it is in use, which could provide opportunities for identifying new materials as well as improving the battery itself.

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

HBK

	2019	2018	Change	LFL change
Sales (£m)	**429.0**	426.5	1%	(1%)
Adjusted operating profit[1] (£m)	**60.4**	56.6	7%	8%
Adjusted operating margin[1] (%)	**14.1%**	13.3%	80bps	130bps

1. This is an alternative performance measure ('APM'). APMs are defined in full and reconciled to the reported statutory measures in Note 2 to the Financial Statements.

Financial performance

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

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

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

HBK merger

During the year, work continued on the merger. The new senior leadership team is now established and the strategy execution plan is being implemented. Combining the sales and marketing teams led to some disruption to sales activities earlier in the year, but the integrated, global, go-to-market model is now in place and delivering improved order flow, despite a more challenging market environment. VI-grade is now part of the HBK platform and will lead the development of an expanded simulation offering for customers. Restructuring associated with the merger will continue into 2020, to further bring down overhead costs, through additional headcount reductions, site consolidations and closures. Further restructuring costs will be incurred in 2020. These projects, will further harmonise processes and systems across the business, bringing additional benefits from the merger.

Product launches

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

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

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

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

Market trends and outlook

Automotive

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

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

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

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

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

Machine manufacturing
A significant portion of our sales in machine manufacturing are for the automotive supply chain, where LFL sales rose year-on-year in our two key regions, Europe and Asia. LFL sales were lower in North America. While activity is expected to remain soft into 2020, machine building fundamentals continue to make this an attractive market for HBK.

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

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

Omega

	2019	2018	Change	LFL change
Sales (£m)	**138.3**	147.2	(6%)	(9%)
Adjusted operating profit[1] (£m)	**16.9**	26.8	(37%)	(39%)
Adjusted operating margin[1] (%)	**12.2%**	18.2%	(600bps)	(600bps)

1. This is an alternative performance measure ('APM'). APMs are defined in full and reconciled to the reported statutory measures in Note 2 to the Financial Statements.

Financial performance

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

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

New e-commerce platform

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

Product launches

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

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

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

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

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

Market trends

LFL sales growth was down in North America, Omega's main market, reflecting slowing US industrial production. Growth is expected to be modest in 2020, with recovery starting in the second half. In Asia, LFL sales decreased, particularly in China and South Korea, reflecting a tough comparator, weaker macroeconomic conditions in China and lower semiconductor demand globally. The semiconductor market improved in the second half, with stronger growth projected in 2020. Omega also felt the impact of tariffs in its Chinese market as many of the components Omega sells there are incorporated into OEM products destined for the USA. This impact is expected to continue into 2020.

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

Industrial Solutions

	2019	2018	Change	LFL change
Sales (£m)	**616.5**	593.8	4%	3%
Adjusted operating profit[1] (£m)	**104.6**	91.9	14%	13%
Adjusted operating margin[1] (%)	**17.0%**	15.5%	150bps	150bps

1. This is an alternative performance measure ('APM'). APMs are defined in full and reconciled to the reported statutory measures in Note 2 to the Financial Statements.

Financial performance

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

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

Divisional strategy

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

In December, the divestment of BTG was completed, in line with the strategy to simplify and focus the portfolio on high-growth end markets. Given BTG's presence in the pulp and paper industry, Spectris believed its next stage of development would be better fulfilled under different ownership. In January 2020, the sale of the EMS Brüel & Kjær joint venture was announced. During 2020, the ISD operating companies will be assessed continually for either investment or potential disposal in line with Spectris' strategy.

Market trends and outlook

Semiconductor and electronics

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

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

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

Pharmaceutical and life sciences

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

Energy and utilities

In energy and utilities, environmental monitoring is also becoming more stringent and this is where Servomex's gas analysers play a critical role. This position underpinned strong sales into the hydrocarbon processing and petrochemicals sectors across all regions. Servomex has been realigning its organisational structure around its core customer markets and expanding its sales and customer service infrastructure into under-represented markets. In addition, it is simplifying and expanding its product portfolio to develop modular sensor and analyser products. These initiatives should help underpin further growth in 2020 and beyond.

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

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

Automotive

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

Other

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

Derek Harding
Chief Financial Officer

Consolidated Income Statement

For the year ended 31 December 2019

Continuing operations	Note	2019 £m	2018 £m
Revenue	3	**1,632.0**	1,604.2
Cost of sales		**(717.8)**	(696.8)
Gross profit		**914.2**	907.4
Indirect production and engineering expenses		**(108.2)**	(106.8)
Sales and marketing expenses		**(345.7)**	(352.1)
Administrative expenses		**(376.0)**	(272.1)
Adjusted operating profit	2	**258.1**	248.3
Restructuring costs	2	**(52.2)**	(15.6)
Net transaction-related costs and fair value adjustments	2	**(6.1)**	(12.2)
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	2	**(1.0)**	(0.8)
Profit on disposal of property	2	**5.2**	–
Impairment of goodwill	2	**(35.1)**	–
Amortisation and impairment of acquisition-related intangible assets	2	**(84.6)**	(43.3)
Operating profit	2,3	**84.3**	176.4
Share of post-tax results of joint venture	2, 9	**(4.9)**	(1.2)
Impairment of non-current receivable from joint venture	2, 9	**(21.3)**	–
Profit on disposal of businesses	13	**204.7**	56.3
Financial income	4	**7.9**	2.5
Finance costs	4	**(11.4)**	(16.0)
Profit before tax		**259.3**	218.0
Taxation charge	5	**(25.2)**	(32.8)
Profit for the year from continuing operations attributable to owners of the Company		**234.1**	185.2
Basic earnings per share	7	**202.2p**	157.6p
Diluted earnings per share	7	**201.6p**	156.9p
Interim dividend paid and final dividend proposed for the year (per share)	6	**65.1p**	61.0p
Special dividend proposed (per share)	6	**150.0p**	-
Dividends paid during the year (per share)	6	**62.4p**	58.0p

Consolidated Statement of Comprehensive Income

For the year ended 31 December 2019

	2019 £m	2018 £m
Profit for the year attributable to owners of the Company	**234.1**	185.2
Other comprehensive income:		
Items that will not be reclassified to the Consolidated Income Statement:		
Re-measurement of net defined benefit obligation, net of foreign exchange	**(10.6)**	5.4
Tax credit/(charge) on items above	**1.7**	(1.4)
	(8.9)	4.0
Items that are or may be reclassified subsequently to the Consolidated Income Statement:		
Net gain/(loss) on effective portion of changes in fair value of forward exchange contracts on cash flow hedges	**3.1**	(2.4)
Foreign exchange movements on translation of overseas operations	**(32.7)**	27.9
Currency translation differences transferred to profit on disposal of business	**(35.8)**	(5.1)
Tax (charge)/credit on items above	**(0.6)**	0.5
	(66.0)	20.9
Total other comprehensive income	**(74.9)**	24.9
Total comprehensive income for the year attributable to owners of the Company	**159.2**	210.1

Consolidated Statement of Changes in Equity

For the year ended 31 December 2019

	Share capital £m	Share premium £m	Retained earnings £m	Translation reserve £m	Hedging reserve £m	Merger reserve £m	Capital redemption reserve £m	Total equity £m
At 1 January 2019	**6.0**	**231.4**	**828.7**	**167.1**	**(3.9)**	**3.1**	**0.5**	**1,232.9**
Adoption of IFRS 16 and IFRIC 23	**–**	**–**	**(2.9)**	**–**	**–**	**–**	**–**	**(2.9)**
At 1 January 2019 (restated)	**6.0**	**231.4**	**825.8**	**167.1**	**(3.9)**	**3.1**	**0.5**	**1,230.0**
Profit for the year	**–**	**–**	**234.1**	**–**	**–**	**–**	**–**	**234.1**
Other comprehensive income	**–**	**–**	**(8.9)**	**(68.5)**	**2.5**	**–**	**–**	**(74.9)**
Total comprehensive income for the year	**–**	**–**	**225.2**	**(68.5)**	**2.5**	**–**	**–**	**159.2**
Transactions with owners recorded directly in equity:								
Equity dividends paid by the Company	**–**	**–**	**(72.3)**	**–**	**–**	**–**	**–**	**(72.3)**
Share-based payments, net of tax	**–**	**–**	**3.6**	**–**	**–**	**–**	**–**	**3.6**
Proceeds from exercise of equity-settled share options	**–**	**–**	**1.0**	**–**	**–**	**–**	**–**	**1.0**
At 31 December 2019	**6.0**	**231.4**	**983.3**	**98.6**	**(1.4)**	**3.1**	**0.5**	**1,321.5**

	Share capital £m	Share premium £m	Retained earnings £m	Translation reserve £m	Hedging reserve £m	Merger reserve £m	Capital redemption reserve £m	Total equity £m
At 1 January 2018	6.2	231.4	820.8	144.3	(2.0)	3.1	0.3	1,204.1
Adoption of IFRS 9 and IFRS 15	–	–	(18.6)	–	–	–	–	(18.6)
At 1 January 2018 (restated)	6.2	231.4	802.2	144.3	(2.0)	3.1	0.3	1,185.5
Profit for the year	–	–	185.2	–	–	–	–	185.2
Other comprehensive income	–	–	4.0	22.8	(1.9)	–	–	24.9
Total comprehensive income for the year	–	–	189.2	22.8	(1.9)	–	–	210.1
Transactions with owners recorded directly in equity:								
Equity dividends paid by the Company	–	–	(68.2)	–	–	–	–	(68.2)
Own shares acquired for share buyback programme	(0.2)	–	(100.5)	–	–	–	0.2	(100.5)
Share-based payments, net of tax	–	–	5.1	–	–	–	–	5.1
Proceeds from exercise of equity-settled options	–	–	0.9	–	–	–	–	0.9
At 31 December 2018	6.0	231.4	828.7	167.1	(3.9)	3.1	0.5	1,232.9

Consolidated Statement of Financial Position

As at 31 December 2019

	Note	2019 £m	2018 £m
ASSETS			
Non-current assets			
Intangible assets:			
Goodwill	8	**646.8**	766.3
Other intangible assets	8	**178.5**	263.3
		825.3	1,029.6
Property, plant and equipment		**369.0**	331.5
Investment in joint venture	9	**–**	5.0
Other receivable – joint venture	9	**–**	38.9
Deferred tax assets		**9.0**	11.3
		1,203.3	1,416.3
Current assets			
Inventories		**197.2**	216.4
Current tax assets		**4.1**	1.6
Trade and other receivables		**335.7**	381.5
Derivative financial instruments		**1.5**	0.4
Cash and cash equivalents		**213.1**	73.1
Assets held for sale	9	**18.9**	3.9
		770.5	676.9
Total assets		**1,973.8**	2,093.2
LIABILITIES			
Current liabilities			
Borrowings		**(80.7)**	(23.7)
Derivative financial instruments		**(0.1)**	(2.2)
Trade and other payables		**(296.8)**	(344.1)
Lease liabilities		**(15.1)**	–
Current tax liabilities		**(20.8)**	(22.5)
Provisions		**(27.3)**	(31.6)
		(440.8)	(424.1)
Net current assets		**329.7**	252.8
Non-current liabilities			
Borrowings		**(98.9)**	(346.5)
Other payables		**(21.3)**	(27.4)
Lease liabilities		**(45.4)**	–
Provisions		**(5.6)**	–
Retirement benefit obligations		**(27.5)**	(32.1)
Deferred tax liabilities		**(12.8)**	(30.2)
		(211.5)	(436.2)
Total liabilities		**(652.3)**	(860.3)
Net assets		**1,321.5**	1,232.9
EQUITY			
Share capital		**6.0**	6.0
Share premium		**231.4**	231.4
Retained earnings		**983.3**	828.7
Translation reserve		**98.6**	167.1
Hedging reserve		**(1.4)**	(3.9)
Merger reserve		**3.1**	3.1
Capital redemption reserve		**0.5**	0.5
Total equity attributable to owners of the Company		**1,321.5**	1,232.9

Consolidated Statement of Cash Flows

For the year ended 31 December 2019

	Note	2019 £m	2018 £m
Cash generated from operations	10	**277.8**	215.8
Net income taxes paid		**(37.0)**	(37.7)
Net cash inflow from operating activities		**240.8**	178.1
Cash flows used from/(used in) investing activities			
Purchase of property, plant and equipment and intangible assets		**(86.6)**	(97.0)
Proceeds from disposal of property, plant and equipment and software		**11.2**	5.6
Acquisition of businesses, net of cash acquired	12	**(9.7)**	(196.4)
Proceeds from disposal of businesses, net of tax paid of £1.2m (2018: £0.6m)		**260.1**	43.8
Proceeds from government grants		**5.0**	2.9
Interest received		**0.7**	0.6
Net cash flows from/(used in) investing activities		**180.7**	(240.5)
Cash flows used in financing activities			
Interest paid on borrowings		**(7.0)**	(9.4)
Interest paid on lease liabilities		**(2.9)**	–
Dividends paid	6	**(72.3)**	(68.2)
Share buyback purchase of shares		**–**	(100.5)
Net proceeds from exercise of share options		**1.0**	0.7
Payments on principal portion of lease liabilities		**(17.6)**	–
Loan to joint venture		**(2.2)**	(0.9)
Proceeds from borrowings		**193.2**	175.5
Repayment of borrowings		**(363.5)**	–
Net cash flows used in financing activities		**(271.3)**	(2.8)
Net increase/(decrease) in cash and cash equivalents		**150.2**	(65.2)
Cash and cash equivalents at beginning of year		**67.3**	136.7
Effect of foreign exchange rate changes		**(4.4)**	(4.2)
Cash and cash equivalents at end of year		**213.1**	67.3

	Note	2019 £m	2018 £m
Reconciliation of changes in cash and cash equivalents to movements in net cash/(debt)			
Net increase/(decrease) in cash and cash equivalents		**150.2**	(65.2)
Proceeds from borrowings		**(193.2)**	(175.5)
Repayment of borrowings		**363.5**	–
Effect of foreign exchange rate changes		**10.1**	(5.9)
Movement in net cash/(debt)		**330.6**	(246.6)
Net debt at beginning of year		**(297.1)**	(50.5)
Net cash/(debt) at end of year	2	**33.5**	(297.1)

Notes to the accounts

1. Basis of preparation and accounting policies

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 ('adopted IFRS'), and in accordance with the provisions of the Companies Act 2006. The Consolidated Financial Statements have been prepared on a going concern basis. The full year results announcement is presented in millions of pounds Sterling rounded to the nearest one decimal place, which is the Group's presentational currency.

The Consolidated Financial Statements have been prepared using consistent accounting policies with those of the previous financial year. The Group has adopted IFRS 16 and IFRIC 23 in 2019 and details of the impact on adoption are presented in the Consolidated Statement of Changes in Equity.

The financial information included in the full year results announcement does not constitute statutory accounts of the Company for the years ended 31 December 2019 and 2018. Statutory accounts for the year ended 31 December 2018 have been reported on by the Company's auditor and delivered to the Registrar of Companies. Statutory accounts for the year ended 31 December 2019 have been audited and will be delivered to the Registrar of Companies following the Company's Annual General Meeting. The report of the auditors for both years was (i) unqualified, (ii) did not include a reference to any matters to which the auditors drew attention by way of emphasis without qualifying their report, and (iii) did not contain a statement under Section 498 (2) or (3) of the Companies Act 2006.

These results were approved by the Board of Directors on 19 February 2020.

2. Alternative performance measures

Policy

Spectris uses adjusted figures as key performance measures in addition to those reported under IFRS, as management believe these measures enable management and stakeholders to better assess the underlying trading performance of the businesses as they exclude certain items that are considered to be significant in nature and/or quantum, foreign exchange movements and the impact of acquisitions and disposals.

The alternative performance measures ('APMs') are consistent with how the businesses' performance is planned and reported within the internal management reporting to the Board and Operating Committees. Some of these measures are used for the purpose of setting remuneration targets. The key APMs that the Group uses include like-for-like ('LFL') organic performance measures and adjusted measures for the income statement together with adjusted financial position and cash flow measures. Explanations of how they are calculated and how they are reconciled to an IFRS statutory measure are set out below.

2. Alternative performance measures (continued)

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 assess the period-on-period trading performance of the Group. The Group excludes such items which management have defined as:

- restructuring costs from significant programmes;
- amortisation and impairment of acquisition-related goodwill and other intangible assets;
- bargain purchase on acquisition;
- depreciation of acquisition-related fair value adjustments to property, plant and equipment;
- transaction-related costs, deferred and contingent consideration fair value adjustments;
- profits or losses on termination or disposal of businesses;
- impairment of non-current receivable from joint venture and share of impairment of investment in joint venture;
- unwinding of the discount factor on deferred and contingent consideration;
- unrealised changes in the fair value of financial instruments;
- gains or losses on retranslation of short-term inter-company loan balances; and
- related tax effects on the above and other tax items which do not form part of the underlying tax rate (see Note 5).

During 2019, a profit on disposal of property of £5.2m in Omega was treated as an adjusting item since it was significant in quantum and would distort the underlying trading performance if included.

In November 2018, the Group announced the implementation of a Group-wide profit improvement programme. The total costs of implementation of this programme are considered to be significant in both nature and amount. On this basis the costs of the implementation of this programme are excluded from adjusted operating profit. Adjusted operating profit (including on a LFL basis) is therefore presented before the impact of the Group profit improvement programme costs. The ongoing benefits arising from this programme are considered to be part of underlying trading.

LFL measures

The Board reviews and compares current and prior year segmental sales and adjusted operating profit at constant exchange rates and excludes the impact of acquisitions and disposals during the year.

The constant exchange rate comparison uses the current year segmental information, stated in each entity's functional currency, and translates the results into its presentation currency using the prior year's monthly exchange rates, irrespective of the underlying transactional currency.

The incremental impact of business acquisitions is excluded for the first twelve months of ownership from the month of purchase. For business disposals, comparative figures for segmental sales and adjusted operating profit are adjusted to reflect the comparable periods of ownership. Due to the change in ownership structure the EMS B&K business was deconsolidated on 31 May 2018 and the segmental LFL adjusted sales and adjusted operating profit for HBK for 2018 exclude the trading results of EMS B&K for the first five months of 2018. BTG was disposed of on 1 December 2019 and the segmental LFL adjusted sales and adjusted operating profit for Industrial Solutions for 2018 exclude BTG for the month of December 2018.

The LFL measure is presented as a means of eliminating the effects of exchange rate fluctuations on the period-on-period statutory results as well as allowing the Board to assess the underlying trading performance of the businesses on a LFL basis for both sales and operating profit.

2. Alternative performance measures (continued)

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

2019 sales by segment	**Malvern Panalytical £m**	**HBK £m**	**Omega £m**	**Industrial Solutions £m**	**2019 Total £m**
Sales	**448.2**	**429.0**	**138.3**	**616.5**	**1,632.0**
Constant exchange rate adjustment	**(3.5)**	**(2.8)**	**(4.5)**	**(12.9)**	**(23.7)**
Acquisitions	**(3.8)**	**(13.3)**	**–**	**(3.4)**	**(20.5)**
LFL adjusted sales	**440.9**	**412.9**	**133.8**	**600.2**	**1,587.8**

2018 sales by segment	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2018 Total £m
Sales	436.7	426.5	147.2	593.8	1,604.2
Disposal of businesses	(1.9)	(8.8)	–	(12.4)	(23.1)
LFL adjusted sales	434.8	417.7	147.2	581.4	1,581.1

b) Adjusted operating profit, operating margin and adjusted EBITDA

2019 adjusted operating profit	**Malvern Panalytical £m**	**HBK £m**	**Omega £m**	**Industrial Solutions £m**	**2019 Total £m**
Statutory operating (loss)/profit	**(17.7)**	**18.1**	**12.0**	**71.9**	**84.3**
Restructuring costs	**16.4**	**17.7**	**2.2**	**15.9**	**52.2**
Net transaction-related costs and fair value adjustments	**(0.3)**	**3.1**	**–**	**3.3**	**6.1**
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	**0.4**	**–**	**–**	**0.6**	**1.0**
Profit on disposal of property	**–**	**–**	**(5.2)**	**–**	**(5.2)**
Impairment of goodwill	**35.1**	**–**	**–**	**–**	**35.1**
Amortisation and impairment of acquisition-related intangible assets	**42.3**	**21.5**	**7.9**	**12.9**	**84.6**
Adjusted operating profit	**76.2**	**60.4**	**16.9**	**104.6**	**258.1**
Constant exchange rate adjustment	**0.3**	**0.6**	**(0.6)**	**(3.3)**	**(3.0)**
Acquisitions	**0.5**	**0.4**	**–**	**(0.9)**	**–**
LFL adjusted operating profit	**77.0**	**61.4**	**16.3**	**100.4**	**255.1**

2018 adjusted operating profit	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2018 Total £m
Statutory operating profit	52.9	43.1	18.0	62.4	176.4
Restructuring costs	3.6	4.3	1.6	6.1	15.6
Net transaction-related costs and fair value adjustments	1.3	1.4	–	9.5	12.2
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	0.2	–	–	0.6	0.8
Amortisation of acquisition-related intangible assets	15.0	7.8	7.2	13.3	43.3
Adjusted operating profit	73.0	56.6	26.8	91.9	248.3
Disposals	0.4	0.4	–	(3.2)	(2.4)
LFL adjusted operating profit	73.4	57.0	26.8	88.7	245.9

2. Alternative performance measures (continued)

2019 operating margin	Malvern Panalytical %	HBK %	Omega %	Industrial Solutions %	2019 Total %
Statutory operating margin	**(3.9)**	**4.2**	**8.7**	**11.7**	**5.2**
Adjusted operating margin	**17.0**	**14.1**	**12.2**	**17.0**	**15.8**
LFL adjusted operating margin	**17.5**	**14.9**	**12.2**	**16.7**	**16.1**

2018 operating margin	Malvern Panalytical %	HBK %	Omega %	Industrial Solutions %	2018 Total %
Statutory operating margin	12.1	10.1	12.2	10.5	11.0
Adjusted operating margin	16.7	13.3	18.2	15.5	15.5
LFL adjusted operating margin	16.9	13.6	18.2	15.3	15.6

Restructuring costs	2019 £m	2018 £m
Profit improvement programme	**52.2**	4.8
Project Uplift costs	**–**	10.8
Restructuring costs	**52.2**	15.6

Adjusted EBITDA	2019 £m	2018 £m
Statutory operating profit	**84.3**	176.4
Depreciation and impairment of owned assets	**35.5**	30.3
Depreciation and impairment of right-of-use assets	**22.1**	–
Amortisation and impairment of intangible assets	**95.2**	49.1
Impairment of goodwill	**35.1**	–
EBITDA	**272.2**	255.8
Restructuring costs excluding impairment of owned and right-of-use property, plant and equipment and intangible assets	**43.4**	15.6
Profit on disposal of property classified as an adjusting item	**(5.2)**	–
Net transaction-related costs and fair value adjustments	**6.1**	12.2
Adjusted EBITDA	**316.5**	283.6

EBITDA is calculated as statutory operating profit before depreciation, amortisation and impairment of property, plant and equipment, intangible assets and goodwill. Adjusted EBITDA is calculated as EBITDA excluding other adjusting items as defined previously. This measure is used for the purpose of assessing capital management and covenant compliance and is reported to the Group Executive Committee.

c) Adjusted net finance costs

	2019 £m	2018 £m
Statutory net finance costs	**(3.5)**	(13.5)
Net (gain)/loss on retranslation of short-term inter-company loan balances	**(4.0)**	7.2
Unwinding of discount factor on deferred and contingent consideration	**0.7**	0.6
Adjusted net finance costs	**(6.8)**	(5.7)

2. Alternative performance measures (continued)

d) Adjusted profit before taxation

	2019 £m	2018 £m
Adjusted operating profit	**258.1**	248.3
Adjusted share of post-tax results of joint venture	**(3.9)**	(1.2)
Adjusted net finance costs	**(6.8)**	(5.7)
Adjusted profit before taxation	**247.4**	241.4

Share of post-tax results of the joint venture has been adjusted to exclude £1.0m of impairment of acquisition-related intangible assets consistent with the Group's treatment of adjusted operating profit measures.

e) Adjusted earnings per share

Adjusted earnings	2019 £m	2018 £m
Statutory profit after tax	**234.1**	185.2
Adjusted for:		
Restructuring costs	**52.2**	15.6
Net transaction-related costs and fair value adjustments	**6.1**	12.2
Depreciation of acquisition-related fair value adjustments to property, plant and equipment	**1.0**	0.8
Profit on disposal of property	**(5.2)**	–
Impairment of goodwill	**35.1**	–
Amortisation and impairment of acquisition-related intangible assets	**84.6**	43.3
Profit on disposal of businesses	**(204.7)**	(56.3)
Impairment of non-current receivable from joint venture	**21.3**	–
Share of impairment of acquisition-related intangible in joint venture	**1.0**	–
Net (gain)/loss on retranslation of short-term inter-company loan balances	**(4.0)**	7.2
Unwinding of discount factor on deferred and contingent consideration	**0.7**	0.6
Tax effect of the above and other non-recurring items	**(27.7)**	(14.8)
Adjusted earnings	**194.5**	193.8

Adjusted earnings per share	2019	2018
Weighted average number of shares outstanding (millions)	**115.8**	117.5
Adjusted earnings per share (pence)	**168.0**	164.9

Basic earnings per share in accordance with IAS 33 'Earnings Per Share' are disclosed in Note 7.

Financial position measures
f) Net cash/(debt)

	2019 £m	2018 £m
Bank overdrafts	**–**	(5.8)
Bank loans unsecured	**(179.6)**	(364.4)
Total borrowings	**(179.6)**	(370.2)
Cash and cash equivalents	**213.1**	73.1
Net cash/(debt)	**33.5**	(297.1)

Net cash/(debt) excludes lease liabilities arising under IFRS 16 as this aligns with the definition of net debt under the Group's bank covenants.

2. Alternative performance measures (continued)

Cash flow measures

g) Adjusted cash flow

	2019 £m	2018 £m
Net cash inflow from operating activities	**240.8**	178.1
Transaction-related costs paid	**1.6**	10.8
Restructuring cash outflow	**34.3**	8.6
Net income taxes paid	**37.0**	37.7
Purchase of property, plant and equipment and intangible assets	**(86.6)**	(97.0)
Proceeds from government grants	**5.0**	2.9
Proceeds from disposal of property, plant and equipment and software[2]	**2.1**	5.6
Adjusted cash flow	**234.2**	146.7
Adjusted cash flow conversion[1]	**91%**	59%

1. Adjusted cash flow conversion is calculated as adjusted cash flow as a proportion of adjusted operating profit.

2. Excludes the proceeds from disposal of property of £9.1m in 2019 classified as an adjusting item.

The net cash inflow from operating activities in 2019 excludes cash flows of £20.5m arising from lease and associated interest payments as a result of the implementation of IFRS 16 from 1 January 2019 which requires these cash flows to be treated as a financing cash flow. Prior to 1 January 2019, these cash flows were included in the net cash inflow from operating activities.

Other measures

h) Return on gross capital employed (ROGCE)

The return on gross capital employed is calculated as adjusted operating profit for the last 12 months divided by the average of opening and closing gross capital employed. Gross capital employed is calculated as net assets excluding net debt and excluding accumulated amortisation and impairment of acquisition-related intangible assets including goodwill.

	31 December 2019 £m	31 December 2018 £m	31 December 2017 £m
Net (cash)/debt (see note 2f)	**(33.5)**	297.1	50.5
Accumulated impairment losses on goodwill (see note 8)	**179.4**	148.8	144.4
Accumulated amortisation and impairment of acquisition-related intangible assets	**366.3**	306.1	253.0
Shareholders' equity	**1,321.5**	1,232.9	1,204.1
Gross capital employed	**1,833.7**	1,984.9	1,652.0
Average gross capital employed (current and prior year)	**1,909.4**	1,818.5	
Adjusted operating profit for year (see note 2b)	**258.1**	248.3	
Return on gross capital employed	**13.5%**	13.7%	

i) Net transaction-related costs and fair value adjustments

Net transaction-related costs and fair value adjustments comprise transaction costs of £2.1m (2018: £7.4m) that have been recognised in the Consolidated Income Statement under IFRS 3 (Revised) 'Business Combinations' and other fair value adjustments relating to deferred and contingent consideration comprising a charge of £4.0m (2018: £4.8m). Net transaction-related costs and fair value adjustments are included within administrative expenses. Transaction-related costs have been excluded from the adjusted operating profit and transaction costs paid of £1.6m (2018: £10.8m) have been excluded from the adjusted cash flow.

3. Operating segments

The Group has four reportable segments, as described below. From 1 July 2019, the Group's operating segments have changed following the strategic review which commenced in November 2018. The new segmental platform structure reflects the internal reporting provided to the Chief Operating Decision Maker (considered to be the Board) on a regular basis to assist in making decisions on capital allocated to each segment and to assess performance. The tables below show restated comparative figures for the operating segments for the year ended 31 December 2018, reflecting the impact of changes the Group made to its operating segments during the year ended 31 December 2019. The operating segment results include an allocation of head office costs. The following summarises the operations in each of the Group's reportable segments:

- The Malvern Panalytical platform provides products and services that enable customers to determine structure, composition, quantity and quality of particles and materials during their research and product development processes, when assessing materials before production, or during the manufacturing process. The operating companies in this segment are Malvern Panalytical and Concept Life Sciences (acquired January 2018). Concept Life Sciences was merged into Malvern Panalytical as of 1 July 2019.
- The HBK platform supplies test, measurement and analysis equipment, software and services for product design optimisation, and manufacturing control. The operating companies in this segment are Hottinger, Brüel & Kjær and VI-grade (acquired August 2018). VI-grade was merged into HBK as of 1 July 2019.
  The Omega platform is a global leader in the technical marketplace, offering products for measurement and control of temperature, humidity, pressure, strain, force, flow, level, pH and conductivity. Omega also provides a complete line of data acquisition, electric heating and custom-engineered products. The operating company in this segment is Omega Engineering.
- The Industrial Solutions division ('ISD') comprises a portfolio of high-value, niche businesses. A number of ISD companies have platform potential, with strong market positions, growth prospects and margins. The operating companies in this segment are Brüel & Kjær Vibro, ESG Solutions, Millbrook, NDC Technologies, Particle Measuring Systems, Red Lion Controls, Servomex and BTG (disposed on 1 December 2019).

Information about reportable segments	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2019 Total £m
Segment revenues	**448.4**	**430.7**	**138.5**	**616.7**	**1,634.3**
Inter-segment revenue	**(0.2)**	**(1.7)**	**(0.2)**	**(0.2)**	**(2.3)**
External revenue	**448.2**	**429.0**	**138.3**	**616.5**	**1,632.0**
Operating (loss)/profit	**(17.7)**	**18.1**	**12.0**	**71.9**	**84.3**
Share of post-tax results of joint venture[1]					**(4.9)**
Impairment of non-current receivable from joint venture[1]					**(21.3)**
Profit on disposal of businesses[1]					**204.7**
Financial income[1]					**7.9**
Finance costs[1]					**(11.4)**
Profit before tax[1]					**259.3**
Taxation charge[1]					**(25.2)**
Profit after tax[1]					**234.1**

1. Not allocated to reportable segments

3. Operating segments (continued)

	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2018 Total £m
Segment revenues	436.7	428.1	147.3	594.3	1,606.4
Inter-segment revenue	–	(1.6)	(0.1)	(0.5)	(2.2)
External revenue	436.7	426.5	147.2	593.8	1,604.2
Operating profit	52.9	43.1	18.0	62.4	176.4
Share of post-tax results of joint venture[1]					(1.2)
Profit on disposal of businesses[1]					56.3
Financial income[1]					2.5
Finance costs[1]					(16.0)
Profit before tax[1]					218.0
Taxation charge[1]					(32.8)
Profit after tax[1]					185.2

1. Not allocated to reportable segments

Geographical segments

The Group's operating segments are each located in several geographical locations and sell to external customers in all parts of the world. No individual country amounts to more than 3% of revenue by location of customer, other than those noted below. The following is an analysis of revenue by geographical destination.

	Malvern Panalytical £m	**HBK £m**	**Omega £m**	**Industrial Solutions £m**	**2019 Total £m**
UK	**42.7**	**13.4**	**4.0**	**64.7**	**124.8**
Germany	**25.9**	**80.4**	**5.4**	**30.8**	**142.5**
France	**16.0**	**25.4**	**1.1**	**10.9**	**53.4**
Rest of Europe	**60.9**	**79.1**	**5.3**	**76.2**	**221.5**
USA	**84.9**	**88.3**	**89.9**	**195.3**	**458.4**
Rest of North America	**14.7**	**5.6**	**7.7**	**20.9**	**48.9**
Japan	**31.2**	**32.3**	**2.5**	**23.3**	**89.3**
China	**70.9**	**60.8**	**9.9**	**76.5**	**218.1**
South Korea	**12.4**	**10.1**	**4.1**	**27.4**	**54.0**
Rest of Asia	**50.9**	**20.1**	**6.0**	**60.6**	**137.6**
Rest of the world	**37.7**	**13.5**	**2.4**	**29.9**	**83.5**
	448.2	**429.0**	**138.3**	**616.5**	**1,632.0**

	Malvern Panalytical £m	HBK £m	Omega £m	Industrial Solutions £m	2018 Total £m
UK	50.4	13.0	4.1	65.7	133.2
Germany	26.5	88.7	6.1	30.1	151.4
France	16.1	22.5	1.2	11.4	51.2
Rest of Europe	57.3	72.4	5.8	76.4	211.9
USA	84.1	81.4	94.2	188.0	447.7
Rest of North America	15.9	6.1	8.3	22.1	52.4
Japan	26.6	31.6	3.1	21.1	82.4
China	65.7	68.5	11.5	75.8	221.5
South Korea	11.3	10.7	4.6	24.6	51.2
Rest of Asia	48.6	19.3	6.0	53.4	127.3
Rest of the world	34.2	12.3	2.3	25.2	74.0
	436.7	426.5	147.2	593.8	1,604.2

4. Financial income and finance costs

Financial income	2019 £m	2018 £m
Interest receivable	**(0.7)**	(0.5)
Income on receivable from joint venture	**(3.2)**	(2.0)
Net gain on retranslation of short-term inter-company loan balances	**(4.0)**	–
	(7.9)	(2.5)

Finance costs	2019 £m	2018 £m
Interest payable on loans and overdrafts	**7.1**	7.3
Net loss on retranslation of short-term inter-company loan balances	**–**	7.2
Unwinding of discount factor on lease liabilities	**2.9**	–
Unwinding of discount factor on deferred and contingent consideration	**0.7**	0.6
Net interest cost on pension plan obligations	**0.6**	0.6
Other finance costs	**0.1**	0.3
	11.4	16.0

Net finance costs	**3.5**	13.5

5. Taxation

	2019			2018		
	UK £m	Overseas £m	Total £m	UK £m	Overseas £m	Total £m
Current tax charge	**2.1**	**36.7**	**38.8**	3.9	37.1	41.0
Adjustments in respect of current tax of prior years	**–**	**(1.7)**	**(1.7)**	(0.1)	(2.0)	(2.1)
Deferred tax – origination and reversal of temporary differences	**(7.4)**	**(4.5)**	**(11.9)**	(3.3)	(1.9)	(5.2)
Deferred tax – changes in US tax rate	**–**	**–**	**–**	–	(0.9)	(0.9)
Taxation charge	**(5.3)**	**30.5**	**25.2**	0.5	32.3	32.8

The standard rate of corporation tax for the year, based on the weighted average of tax rates applied to the Group's profits, is 18.6% (2018: 26.0%). The tax charge for the year is lower (2018: lower) than the standard rate of corporation tax for the reasons set out in the following reconciliation.

	2019 £m	2018 £m
Profit before taxation	**259.3**	218.0
Corporation tax charge at standard rate of 18.6% (2018: 26.0%)	**48.2**	56.7
Profit on disposal of business taxed at lower rate	**(29.8)**	(16.0)
Non-deductible impairments	**9.9**	–
Net impact of US tax reform measures	**–**	(0.9)
Effect of intra-group financing	**–**	(4.9)
Other non-deductible expenditure	**3.3**	3.8
Movements on unrecognised deferred tax assets	**0.5**	0.4
Tax credits and incentives	**(5.1)**	(4.1)
Change in tax rates (excluding US)	**–**	0.3
Adjustments to prior year current and deferred tax charges	**(1.8)**	(2.5)
Taxation charge	**25.2**	32.8

The Group's standard rate of corporation tax of 18.6% is lower than the prior year rate (26%), principally due to the profit on disposal of BTG arising in countries with lower tax rates. The standard rate of corporation tax applying to the profit on disposal of BTG has been calculated by using a weighted average of the rates in the main countries in which BTG operates.

5. Taxation (continued)

'Profit on disposal of business taxed at a lower rate' above, in the current year principally refers to the benefit of tax exemptions for the sale of shares in certain countries.

'Tax credits and incentives' above refers principally to research and development tax credits and other reliefs for innovation such as the UK Patent Box regime and Dutch Innovation Box regime, as well as tax reliefs available for Foreign Derived Intangible Income in the US.

'Net impact of US tax reform measures' above refers to the impact of the US Tax Cuts and Jobs Act of 2017. In 2018, this comprises a credit of £0.9m arising as a prior year adjustment in respect of remeasuring the prior year net deferred tax liabilities.

The following tax (credits)/charges relate to items of income and expense that are excluded from the Group's adjusted performance measures.

	2019 £m	2018 £m
Tax credit on amortisation and impairment of acquisition-related intangible assets	**(16.9)**	(9.6)
Tax credit on depreciation of acquisition-related fair value adjustments to property, plant and equipment	**(0.2)**	(0.1)
Tax credit arising from net impact of US tax reform measures	**–**	(0.9)
Tax credit on net transaction-related costs and fair value adjustments	**(0.8)**	(0.6)
Tax charge on profit on disposal of property	**1.2**	–
Tax credit on retranslation of short-term inter-company loan balances	**(0.1)**	(0.5)
Tax charge on profit on disposal of businesses	**3.2**	0.4
Tax credit relating to prior year adjustments	**(2.2)**	–
Tax credit on restructuring costs	**(11.9)**	(3.5)
Total tax credit	**(27.7)**	(14.8)

The effective adjusted tax rate for the year was 21.4% (2018: 19.7%) as set out in the reconciliation below:

Reconciliation of the statutory taxation charge to the adjusted taxation charge	2019 £m	2018 £m
Statutory taxation charge	**25.2**	32.8
Tax credit on items of income and expense that are excluded from the Group's adjusted profit before tax	**27.7**	14.8
Adjusted taxation charge	**52.9**	47.6

The UK's dividend taxation regime prior to July 2009 is the subject of long-running litigation between HMRC and other taxpayers in relation to the tax charge on dividends received from EU-based companies. The outcome of this dispute is likely to be relevant to the Group in respect of certain dividends received by UK Group companies before that date. Pending resolution in the courts, an amount of £8.8m (2018: £8.8m) continues to be held as a tax creditor for the potential tax liabilities arising if the final decision is in HMRC's favour. An amount of £5.5m (2018: £5.4m) relating to accrued interest on the potential tax liabilities is also held as a tax-related provision and an amount of £0.9m (2018: £1.4m) has been booked as a deferred tax asset in respect of future tax relief on the accrued interest.

In October 2017, the EU Commission opened a formal State Aid investigation into an exemption within the UK's Controlled Foreign Company regime for certain finance income. A final decision was published by the Commission during 2019, concluding that certain aspects of the exemption (as it was implemented in UK law for the years 2013-2018) constituted State Aid and requiring the UK to recover such aid from affected parties. Spectris is impacted by this decision since we have claimed the benefit of the group finance exemption during the period in question.

5. Taxation (continued)

The Group, along with the UK government and a number of other affected taxpayers, has sought annulment of the EU Commission's decision through the EU Courts. No provision has been made in respect of this matter since we believe that it is more likely than not that the decision will subsequently be annulled and no additional tax will be due. In the event that the Commission's decision is upheld then, as at 31 December 2019, the Group's maximum estimated exposure is £19.0m (2018: £18.0m) in respect of tax and £1.0m (2018: £0.5m) in respect of interest. However, quantification of the liability in accordance with the Commission's judgement is complex and depends on the facts of each individual case, and therefore the Group's liability may ultimately be determined to be less than this amount.

6. Dividends

Amounts recognised and paid as distributions to owners of the Company in the year	2019 £m	2018 £m
Final dividend for the year ended 31 December 2018 of 40.5p (2017: 37.5p) per share	**46.9**	44.5
Interim dividend for the year ended 31 December 2019 of 21.9p (2018: 20.5p) per share	**25.4**	23.7
	72.3	68.2

Amounts arising in respect of the year	2019 £m	2018 £m
Interim dividend for the year ended 31 December 2018 of 21.9p (2018: 20.5p) per share	**25.4**	23.7
Proposed final dividend for the year ended 31 December 2019 of 43.2p (2018: 40.5p) per share	**50.1**	46.8
	75.5	70.5

In addition, subject to shareholder approval, a special dividend of 150.0 pence per existing ordinary share is proposed, totalling £175 million. In order to maintain the comparability of the Group's share price and per-share metrics before and after the special dividend, the Group plans to undertake a share consolidation, which will be subject to shareholder approval.

The proposed final and special dividends are subject to approval by shareholders at the AGM on 22 May 2020 and have not been included as a liability in these Financial Statements.

7. 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.

Basic earnings per share	2019	2018
Profit after tax (£m)	**234.1**	185.2
Weighted average number of shares outstanding (millions)	**115.8**	117.5
Basic earnings per share (pence)	**202.2**	157.6

Diluted earnings per share	2019	2018
Profit after tax (£m)	**234.1**	185.2
Basic weighted average number of shares outstanding (millions)	**115.8**	117.5
Weighted average number of dilutive 5p ordinary shares under option (millions)	**0.4**	0.6
Weighted average number of 5p ordinary shares that would have been issued at average market value from proceeds of dilutive share options (millions)	**(0.1)**	(0.1)
Diluted weighted average number of shares outstanding (millions)	**116.1**	118.0
Diluted earnings per share (pence)	**201.6**	156.9

8. Goodwill and other intangible assets

Cost	Goodwill £m	Other intangible assets £m	Total £m
At 1 January 2019	**915.1**	**619.7**	**1,534.8**
Additions	**2.4**	**21.8**	**24.2**
Disposals	**(66.7)**	**(29.7)**	**(96.4)**
Foreign exchange difference	**(24.6)**	**(14.0)**	**(38.6)**
At 31 December 2019	**826.2**	**597.8**	**1,424.0**
Accumulated amortisation and impairment			
At 1 January 2019	**148.8**	**356.4**	**505.2**
Charge for the period	**–**	**48.1**	**48.1**
Impairment	**35.1**	**47.1**	**82.2**
Disposals	**(0.2)**	**(22.8)**	**(23.0)**
Foreign exchange difference	**(4.3)**	**(9.5)**	**(13.8)**
At 31 December 2019	**179.4**	**419.3**	**598.7**
Carrying amount			
At 31 December 2019	**646.8**	**178.5**	**825.3**
At 1 January 2019	766.3	263.3	1,029.6

Millbrook

Since its acquisition in 2016, Spectris has made significant capital investment in Millbrook alongside two bolt-on acquisitions in Leyland and Millbrook Revolutionary Engineering. Given the early programme life cycle stage, the headroom between the recoverable amount (determined based on a value-in-use model) and the carrying value of the Millbrook CGU is modest at £17m. We expect the headroom to increase in future periods as the recent capital investments depreciate and the expected returns on these assets are realised. We have considered reasonably possible changes in key assumptions that could cause an impairment at
31 December 2019, and have identified two key assumptions as follows:

- Discount rate applied to future cashflows – our assessment of impairment assumes a pre-tax discount rate of 12.1% based on our determination of Group WACC and risks specific to the Millbrook CGU cashflows. An increase to 12.8% would see the headroom reduced to nil.
- Years 1 to 5 cashflows – our assessment of impairment assumes a CAGR of 14% after year 1. A decrease in the CAGR by 2%, equivalent to a 7% reduction in years 2 to 5 cashflows, would see the headroom reduced to nil.

Impairment of goodwill

Results at Concept Life Sciences ('CLS'), which was acquired in January 2018, were below expectations during the initial period of ownership to 31 December 2018. Performance was impacted by a reduction in project work from two major customers, delays in gaining accreditations and sub-optimal performance at the environmental laboratories. This was partly attributable to internal issues reflecting the state of the business on acquisition by the Group, which was in the process of integrating previous acquisitions into two divisions, as well as distraction and disruption caused by the acquisition. In February 2019, management considered that remedial action was having a positive impact, progress was being made and that the end markets for CLS were still strong as customers look to outsource analytical services and pharmaceutical development.

8. Goodwill and other intangible assets (continued)

During the first six months of 2019, performance had not improved as anticipated, with sales declining by 9% on a LFL basis and resulting gross margin lower than 2018. This under-performance was attributable to the exit of its major customer in the pharmaceutical development/integrated drug development services business as well as continued sub-optimal performance in the environmental analytical services division. The analytical services division, where continued focus on on-time delivery was impacted by high staff attrition rates and a deterioration in customer relationships. New senior management for CLS were in place by June and a detailed strategic review of the CLS businesses was undertaken. In agreement with the Spectris Group Executive, it was proposed, subject to consultation and legal requirements, that the environmental analytical laboratories be closed. New management believed that in their current state, these laboratories would not be able to recapture share in this market. The environmental consultancy and testing business was subsequently sold in October 2019 (see note 13) and the four environmental laboratories were closed. Management believe that the market for pharmaceutical development/integrated drug development services remains strong and attractive and existing activities here will be strengthened.

As a result of this, an impairment of CLS goodwill of £35.1m was charged to the income statement during the year. This impairment reflects the loss of value from the acquired workforce particularly in the analytical service division, the loss of expected future customer relationships across both divisions and reduced synergies from cross-selling instruments and services. The estimated recoverable amount of the CLS cash generating unit at 30 June 2019 was £105.3m which was determined on a value in use basis using a pre-tax discount rate of 10.0% (31 December 2018: 13.4%).

Impairment of other intangible assets
Impairment of other intangible assets includes £32.4m relating to customer relationships and technology acquired as part of the CLS acquisition. The remaining £14.7m impairment of other intangible assets relates to items impaired as a result of restructuring activities undertaken following the strategic review.

9. Investment in joint venture (EMS B&K) and assets held for sale

The movement in the investment in the joint venture during the year is shown below:

	£m
As at 1 January 2019	**5.0**
Share of post-tax results of joint venture (including £1.0m impairment of acquired Intangible assets)	**(4.9)**
Foreign exchange	**(0.1)**
Transfer to held for sale	**–**
As at 31 December 2019	**–**

The Group also has a long-term receivable from EMS B&K which arose on the formation of the joint venture. The recoverable amount is based on the future value which is expected to be achieved upon an ultimate exit of the joint venture.

During December 2019, as part of the plan to simplify the Group's portfolio, the Group entered into preliminary discussions in conjunction with its joint venture partner with a third party for the acquisition of the joint venture. On 17 January 2020, an announcement was made that agreement had been reached for the sale of our interest in the joint venture for consideration of £17.9m in cash and approximately £1.2m in shares in Envirosuite Limited. The closing of the deal is subject to approval by Envirosuite's shareholders at a meeting to be held on 24 February 2020 and the conditional placement of shares by Envirosuite required to fund the consideration for the transaction, with completion expected to take place shortly thereafter.

As a result, the receivable from the joint venture has been impaired by £21.3m to the £18.9m expected recoverable amount. This remaining balance, which represents fair value less costs to sell, has been included within assets held for sale at 31 December 2019. The investment in the joint venture (nil value) has also been transferred to assets held for sale. In 2018, the £3.9m of assets classified as held for sale related to the disposal of a property in Omega.

10. Cash generated from operations

	2019 £m	2018 £m
Cash flows from operating activities		
Profit after tax	**234.1**	185.2
Adjustments for:		
Taxation charge	**25.2**	32.8
Profit on disposal of businesses	**(204.7)**	(56.3)
Share of post-tax results of joint venture	**4.9**	1.2
Finance costs	**11.4**	16.0
Financial income	**(7.9)**	(2.5)
Depreciation and impairment of property, plant and equipment	**57.6**	30.3
Amortisation and impairment of intangible assets	**95.2**	49.1
Impairment of non-current receivable from joint venture	**21.3**	–
Impairment of goodwill	**35.1**	–
Transaction-related fair value adjustments	**4.0**	4.8
Profit on disposal of property, plant and equipment	**(4.9)**	(1.9)
Equity-settled share-based payment expense	**3.0**	5.1
Operating cash flow before changes in working capital and provisions	**274.3**	263.8
Decrease/(Increase) in trade and other receivables	**13.9**	(30.4)
Increase in inventories	**(3.3)**	(17.4)
Decrease in trade and other payables	**(10.0)**	(3.6)
Increase in provisions and retirement benefits	**2.9**	3.4
Cash generated from operations	**277.8**	215.8

11. Share capital, treasury shares and employee benefit trust shares

At 31 December 2019, the Group held 5,182,366 treasury shares (2018: 5,636,153). During the year, 453,787 (2018: 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. Nil ordinary shares were repurchased and cancelled by the Group during the year (2018: 3,825,802 ordinary shares were repurchased and cancelled as part of the share buyback programme announced on 5 March 2018, which concluded on 13 August 2018).

12. Acquisitions

The Group completed the acquisition of 100% of RightHook Inc. on 25 February 2019 for a gross consideration of £3.8m. RightHook Inc. is an engineering software provider based in the USA. The provisional fair value of net assets acquired was £1.4m, including £1.8m of intangible assets and £0.4m of deferred tax liabilities, which generated goodwill of £2.4m. The acquisition is included in the HBK segment and cash generating unit.

Analysis of cash outflow in Consolidated Statement of Cash Flows	2019 £m	2018 £m
Net consideration in respect of acquisitions during the year	**3.8**	195.7
Deferred and contingent consideration on acquisitions during the year to be paid in future years	**–**	(6.0)
Cash paid during the year in respect of acquisitions during the year	**3.8**	189.7
Cash paid in respect of prior years' acquisitions	**5.9**	6.7
Net cash outflow relating to acquisitions	**9.7**	196.4

13. Profit on disposal of businesses

The Group completed the disposal of 100% of its pulp and paper business, BTG on 1 December 2019 in exchange for gross consideration of £274.5m. This generated a profit on disposal of £206.1m which included transaction expenses of £7.9m, of which £7.1m were paid during 2019.

The profit on disposal of BTG is calculated as follows:

	2019 £m
Goodwill and other intangible assets	**73.4**
Property, plant and equipment	**26.1**
Inventories	**14.1**
Trade and other receivables	**23.1**
Cash and cash equivalents	**3.0**
Trade and other payables	**(21.0)**
Lease liabilities	**(3.4)**
Provisions	**(0.3)**
Net deferred and current tax liabilities	**(2.8)**
Retirement benefit obligations	**(15.8)**
Net assets disposed	**96.4**
Consideration received, satisfied in cash	**272.8**
Deferred consideration	**1.7**
Transaction costs	**(7.9)**
Net consideration from disposal of business	**266.6**
Net assets disposed of (including £3.0m of cash and cash equivalents held by BTG)	**(96.4)**
Currency translation differences transferred from translation reserve	**35.9**
Profit on disposal of business	**206.1**

On 10 October 2019, the Group completed the disposal of its environment consultancy and testing business for nil purchase price. The net assets disposed were £2.3m, generating a loss on disposal of £2.3m. Profit on disposal of businesses in the Consolidated Income Statement also includes a £0.9m credit from other disposals.

The disposals in the year did not meet the definition of discontinued operations given in IFRS 5 'Non-Current Assets Held for Sale and Discontinued Operations' and, therefore, no disclosures in relation to discontinued operations were made.

The Consolidated Statement of Cash Flows includes £262.7m of net proceeds from the sale of BTG, which consists of £272.8m of consideration received in cash less £7.1m of transaction fees paid and £3.0m of cash and cash equivalents held by BTG units that were disposed of. The Consolidated Statement of Cash Flows also includes £2.3m paid in respect of deferred consideration and tax payments on the disposal of EMS B&K and £0.3m of payments from other business disposals.

14. Subsequent events

On 17 January 2020, an announcement was made that agreement had been reached for the sale of the Group's interest in the EMS B&K joint venture for consideration of £17.9m in cash and approximately £1.2m in shares in Envirosuite Limited. The closing of the deal is subject to approval by Envirosuite's shareholders at a meeting to be held on 24 February 2020 and the conditional placement of shares by Envirosuite required to fund the consideration for the transaction, with completion expected to take place shortly thereafter. As a result, the receivable from the joint venture has been impaired by £21.3m to the expected recoverable amount and the remaining balance of £18.9m has been included within assets held for sale at 31 December 2019 (see note 9).

On 31 January 2020, the Group sold its interest in the rheology range of products to Netzsch Group for consideration of £8.8m in cash. This product range, part of the Malvern Panalytical segment, generated approximately £12m of revenue and £1m of operating profit in 2019.

Dividend timetable

Event	Date – 2020
Annual General Meeting	12 Noon on Friday 22 May
Share Consolidation Record Date	6.00pm on Friday 22 May
Final and Special Dividend Record Date (Combined Dividend)	6.00pm on Friday 22 May
Record Date for participation in the Dividend Reinvestment Plan for the Combined Special Dividend	6.00pm on Friday 22 May
Listing and Admission and commencement of dealings in New Ordinary Shares (Post Consolidation)	8.00am on Tues, 26 May
New Ordinary Share trade Ex-entitlement for the combined Final and Special dividend	From 8.00am on Tues, 26 May
CREST accounts credited with New Ordinary Shares	From 8.00am on Tues, 26 May
Payment of the Combined Final and Special Dividend to Shareholders	Monday, 22 June
Purchase of New Ordinary Shares for participants in the Dividend Reinvestment Plan	Monday, 22 June

Cautionary statement

This press release 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 press release. All forward-looking statements contained in this press release 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 press release to reflect any change in circumstances or its expectations.