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Press Release

OXFORD INSTRUMENTS
The Business of Science®

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Oxford Instruments plc
Announcement of Preliminary Results for the year to 31 March 2018

Oxford Instruments plc, a leading provider of high technology products and systems for industry and research, today announces its Preliminary Results for the year to 31 March 2018.

	Year ended 31 March 2018 £m	Year ended 31 March 2017 £m	**% change**
Revenue[1]	**296.9**	300.2	**(1.1%)**
Adjusted* operating profit[1]	**46.5**	38.0	**+22.4%**
Adjusted* profit before tax[1]	**42.3**	31.5	**+34.3%**
Profit/(loss) before tax[1]	**34.2**	(26.2)	
Adjusted* basic earnings per share[1]	**56.3p**	41.5p	**+35.7%**
Dividend per share (full year)	**13.3p**	13.0p	**+2.3%**
Cash generated from operations[1]	**33.4**	34.5	
Net debt	**19.7**	109.3	

Financial Highlights:

- Reported orders up 5.0% to £313.0 million (2017: £298.0 million), an increase of 5.8% at constant currency.
- Reported order book of £134.0 million as at 31 March 2018, up 5.0% (10.4% at constant currency). Excluding US Healthcare, order book up 18.4% on a constant currency basis.
- Reported revenue in line with previous year at constant currency.
- Adjusted operating profit from continuing operations up 22.4% to £46.5 million (2017: £38.0 million), with a currency benefit of £10.6 million – margin increase of 300 basis points to 15.7%.
- Adjusted profit before tax from continuing operations up 34.3% to £42.3 million (2017: £31.5 million), an increase of 0.6% at constant currency.
- Profit before tax from continuing operations of £34.2 million (2017: loss of £26.2 million).
- Net debt down significantly to £19.7 million following good operating cash flow and disposals. Profit after tax from sale of Industrial Analysis of £45.9 million and net proceeds of £71.2 million.
- Full year dividend increased by 2.3% to 13.3 pence.

Operational Highlights:

- Good progress in the early implementation of our Horizon Strategy, in particular:
  - Strong growth in orders and order book demonstrate early success from our market application focus;
  - Increased management and leadership capability across the Group;
  - Transitioned to a more commercially focused, market-driven Group to address a broad range of industrial and academic markets; and
  - Continued investment in R&D with increased focus on customer solutions.
- Strong financial performance across Materials & Characterisation driven by leading product portfolio and customer applications focus in growing markets.
- Good second half performance in Research & Discovery was offset by a weaker first half. Constant currency order book up 15.3%.
- Profit and margin growth in Service & Healthcare driven by services relating to our own products. Reduction in revenue from the anticipated decline in the sale of refurbished imaging systems.

Outlook:

- Our chosen end markets remain attractive, supported by commercial and government investment. Our growing order book, customer application focus and drive for operational efficiencies provide confidence for the year ahead.
- We expect to see an improvement in performance on a reported basis[2] after allowing for the impact of an anticipated currency headwind, based on current exchange rates.

Ian Barkshire, Chief Executive of Oxford Instruments plc, said:

“We have made good progress in the year with the early implementation of the Horizon strategy, which was introduced in May 2017.

We have positioned the Group to become a leading provider of high technology products and services to the world’s leading industrial companies and scientific research communities to image, analyse and manipulate materials down to the atomic and molecular level. Our chosen end markets remain robust and, combined with our customer applications focus and improved core capabilities, provide strong long-term drivers for future growth and margin improvement.”

[1]Continuing operations
[2]Before the adoption of IFRS 15 ‘Revenue for Contracts with Customers’ and IFRS 16 ‘Leases’

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Number of pages: 43

**NOTE: Throughout this preliminary announcement we make reference to adjusted numbers. A full definition of adjusted numbers can be found in note 1. Where we make reference to constant currency numbers these are prepared on a month by month basis using the translational and transactional exchange rates which prevailed in the previous year rather than the actual exchange rates which prevailed in the year. Transactional exchange rates include the effect of our hedging programme.*

Chairman's Statement

It has been a positive year with the Group delivering a performance in line with our expectations and making good progress with the Horizon strategy. Management has continued to steer our business towards a greater focus on market segments and applications, designed to help our customers advance their businesses through enhanced R&D and productivity improvement. As a result, we are already starting to see improved trading in some of our businesses and we expect progress to continue as the Horizon strategy gains momentum.

The Group has continued to focus on the core capabilities of its Horizon strategy: market intimacy, innovation and product development, customer support, and operational excellence as we embed best practice across the Group. We have also strengthened our management with new senior leaders joining the business during the year and created new leadership roles to sharpen our commercial focus. We also successfully completed the sale of Industrial Analysis early in the second quarter of the financial year, marking a significant change to our portfolio.

Against this backdrop of activity and repositioning for long-term sustainable growth, the team maintained their focus on near-term performance. Adjusted profit before tax was up 34.3% at £42.3 million (2017: £31.5 million) driven by a strong performance from our Materials & Characterisation sector and supported by favourable currency effects. Adjusted profit before tax increased by 0.6% at constant currency. Profit before tax was £34.2 million (2017: loss of £26.2 million) and adjusted basic earnings per share on a continuing basis was up 35.7% to 56.3 pence (2017: 41.5 pence). Good operating cash flow and the proceeds from the sale of Industrial Analysis led to a significant reduction in net debt to £19.7 million (2017: £109.3 million). Given the improvement in net debt and our confidence that the Horizon strategy is beginning to deliver tangible benefits, the Board has proposed to raise the final dividend to 9.6 pence (2017: 9.3 pence), giving a full year dividend of 13.3 pence (2017: 13.0 pence), an increase of 2.3%.

As Ian Barkshire sets out in his Chief Executive's Review, the management team is energised in changing the way we operate, implementing the key tenets of the Horizon strategy. This will help position the Group as a leading provider of high technology products and services to the world's leading industrial companies and scientific research communities.

I would like to thank the Board and all employees for their dedication and hard work during this time of change to reposition Oxford Instruments to deliver long-term profitable growth and sustainable value that benefits all our stakeholders.

Alan Thomson
Chairman

12 June 2018

Chief Executive's Review

Horizon Progress

We made good progress in the year with the early stages of the implementation of the Horizon strategy, launched in May 2017, and we are starting to see tangible benefits. I am encouraged by how firmly embedded the understanding of our strategy is and how positive engagement has been across the Group.

Through Horizon, we have progressed a number of areas in support of our new strategy. We have transitioned to a more commercially focused, market driven Group through significant portfolio management and have implemented a new sector structure to align our businesses with our chosen customer segments and applications. Our three new reporting sectors are Materials & Characterisation, Research & Discovery, and Service & Healthcare.

We are now positioned to address a broad range of markets and industrial sectors, with our key enabling technologies underpinning the shift to a greener economy, increased digital connectivity, and advances in materials, life science and healthcare. We do this by helping our customers to accelerate their applied R&D, increase their manufacturing productivity and make new scientific discoveries. Today, nearly half of our customer base comprises commercial organisations.

We have made good progress in migrating to a market and customer centric approach, offering solutions rather than tools. This allows us to provide more value to our existing customers, as well as creating growth opportunities in new market segments through application specific solutions with improved workflows, bespoke analytics, data interpretation and associated support services. For example, customers developing higher efficiency, power and longer life batteries need to understand and control the detailed chemical and electrical interactions at the nano and even atomic scale. Because battery materials are very reactive and operate within an active solution this has been extremely difficult to achieve. To solve this problem, we developed a sealed sample and imaging cell for our CypherES atomic force microscope that enables the direct measurement of these electrochemistry processes at the nano scale for battery materials operating under their real-life conditions. Within the automotive industry, incoming parts are inspected to control and maintain suitable levels of cleanliness and when contamination is present, stopping its re-occurrence at source is critical to maintain production. Here we developed a bespoke workflow and data interpretation package for our customer to measure the cleanliness of parts and importantly identify the source within the supply chain of any contaminating particles. This solution was built as an upgrade to our generic particle analysis solution. Importantly, these examples of a hardware and a software upgrade for existing product platforms can be delivered on short time frames relative to new instrument platforms to both expand our addressable markets and increase the value to our existing customers.

We have transformed the leadership team at an operational level, targeting individuals who have the specific capabilities and experience needed to accelerate our progress with Horizon, largely through external recruitment. Around 50% of our senior managers are new in their roles within the last two years; successful placements in the year include new leaders for our NanoScience and X-ray Technology businesses and a new senior role, Group Commercial Director, to lead a sharper commercial focus across our sales teams and global territories.

Through Horizon we are changing the way we operate and we are embedding clearly defined core capabilities across our businesses in market intimacy, innovation and product development, customer support, and operational excellence.

In market intimacy we are changing the way we reach and communicate with our customers, more effectively bringing to life the innovative and value adding solutions that we can provide for their specific applications. As part of our move from product to solution-selling, all our sales teams have undertaken bespoke training. We have also invested in developing our digital marketing capabilities and new Group and e-commerce websites.

Innovation and product development remain core to our growth strategy and as part of Horizon we have established cross-sector roadmaps, which are providing a broader range of high quality investment opportunities better aligned with our chosen markets.

In customer support we have increased our breadth and range of products and services to support our customers more effectively. We are investing in a range of technologies to improve customer productivity including remote diagnostics and predictive monitoring.

Operational excellence is delivering improved customer satisfaction and operational and logistical efficiencies. We are implementing a lean approach to our operations and are in the process of training 50 ‘green belt’ lean leaders in different roles and functions. We have added a Head of Strategic Sourcing to drive our Group procurement programme to improve efficiencies and exploit synergies across our supply chain.

As part of our change programme we have been breaking down silos, establishing cross business and functional working groups to extract best practice and better leverage our scale and deliver synergies. In the year we made £1.5 million of central and regional cost savings through back office and central overhead efficiencies, this partially offsetting the previous contribution from and therefore stranded costs associated with the divested Industrial Analysis business.

In the year we have positioned the Group to become a leading provider of high technology products and services to the world’s leading industrial companies and scientific research communities to image, analyse and manipulate materials down to the atomic and molecular level. Our chosen end markets remain robust and, combined with our customer applications focus and improved core capabilities, provide strong long-term drivers for future growth and margin improvement.

Results

The following results exclude discontinued operations.

The Group delivered a performance in line with expectations, supported by a currency tailwind and strong second half trading. This was underpinned by significant growth in the Materials & Characterisation sector and improved performance from Service & Healthcare, offset by weaker trading in the Research & Discovery sector despite a positive uplift in the second half of the year.

Reported orders for the Group were up 5.0% (5.8% at constant currency) to £313.0 million (2017: £298.0 million). Excluding orders from our US Healthcare business, constant currency orders were up 8.9% against the previous period. We continue to see increased demand from commercial and academic customers engaged in applied R&D as well as production and manufacturing of high technology products and devices. This has driven a strong performance within Materials & Characterisation, with double-digit growth across the US, Europe and Asia, as well as increased demand for services relating to our own products. Research & Discovery orders were broadly in line with the previous year, maintaining a similar geographical split.

Reported revenue was broadly in line with the previous year at £296.9 million (2017: £300.2 million), and level at constant currency supported by a strong second half performance, with good growth in Materials & Characterisation and services related to our own products. This was offset by reduced volumes in Research & Discovery in line with the phasing of orders, the delivery of longer lead time items and lower revenues associated with the sale of third party systems in OI Healthcare. On a geographical basis, underlying revenue growth in Europe and Asia was offset by reduced sales in North America, with Materials & Characterisation having strong growth across all territories.

The order book, representing orders for future delivery, increased by 5.0% to £134.0 million (2017: £127.6 million), growth of 10.4% at constant currency. Excluding our US Healthcare business, constant currency order book is up 18.4%, with strong growth across Materials & Characterisation, Research & Discovery, and the service of our own products.

Currency effects drove adjusted operating profit up 22.4% to £46.5 million (2017: £38.0 million), a decline of 5.5% at constant currency. Adjusted operating margin rose to 15.7% for the Group (2017: 12.7%), supported by the currency tailwind.

Adjusted profit before tax increased by 34.3% to £42.3 million (2017: £31.5 million), with an increased contribution from Materials & Characterisation and Service & Healthcare and a lower contribution from Research & Discovery. Adjusted profit before tax was up 0.6% at constant currency. Profit before tax of £34.2 million compared favourably to a loss of £26.2 million last year.

Continuing adjusted basic earnings per share grew strongly by 35.7% to 56.3 pence (2017: 41.5 pence).

We delivered a significant reduction in net debt in the period to £19.7 million (2017: £109.3 million) due to ongoing strengthening of the balance sheet throughout the year, resulting from good operating cash flow, proceeds from the sale of the Industrial Analysis business and the sale of two properties.

Sector Performance

Turning to the individual sector performance:

Materials & Characterisation products and solutions enable the fabrication and characterisation of materials and devices down to the atomic scale, predominantly supporting customers across applied R&D as well as the production and manufacture of high technology products and devices. Building on a positive first half year, the sector delivered strong growth and overall performance with positive contributions from NanoAnalysis, Asylum Research and Plasma Technology. Reported orders grew in the period by 22.7% to £129.5 million (2017: £105.8 million). Reported revenue grew by 11.7% to £118.1 million (2017: £105.7 million), with reported adjusted operating profit increasing to £20.1 million (2017: £12.2 million) and reported adjusted margin up to 17.0%. The order book for future deliveries increased by 36.8% to £34.2 million (2017: £25.0 million), providing positive momentum. The sector is already benefitting from a number of key initiatives within the Horizon strategy, particularly the focus on customer-orientated solutions that are tailored to provide application-specific workflows and process recipes, information and analytics.

Research & Discovery provides advanced solutions that create unique environments and enable imaging and analytical measurements down to the molecular and sub-atomic level, predominantly used in scientific research and applied R&D. Reported orders of £118.2 million (2017: £120.1 million) were broadly in line with the previous year, with continued growth in quantum solutions, an increased demand for our benchtop NMR products and an increase in order intake in the second half for our optical microscopy products, offset by lower orders for scientific X-ray tubes. Reported revenue of £112.1 million was down 10.5% on the previous year (2017: £125.3 million), due to the softer first half performance of our optical microscopy products and the higher proportion of longer lead time customised cryogenic and magnet system orders. The stronger second half orders resulted in an increase in order book of 11.7% to £59.0 million, (2017: £52.8 million). Reported adjusted operating profit was in line with previous year at £13.8 million (2017: £13.8 million) with an improved reported adjusted margin of 12.3% (2017: 11.0%).

Service & Healthcare provides customer service and support for our own products and the service, sale and rental of third party healthcare imaging systems. Reported orders for the period of £65.6 million (2017: £72.2 million) were down 9.1% as reported (7.8% at constant currency) due to reduced orders within our US Healthcare business. Reported orders for services related to our own products grew 3.7% to £39.0 million (2017: £37.6 million). Reported revenue of £66.8 million (2017: £69.3 million), down 3.6% on the previous year, was due to lower shipments of refurbished third-party medical imaging systems. This more than offset reported revenue growth of 6.9% for services related to our own products to £38.8 million (2017: £36.3 million). Reported adjusted operating profit rose to £12.6 million (2017: £12.0 million), an increase of 5.0%, while reported adjusted operating margin increased to 18.9% (2017: 17.3%).

R&D

One of the core elements of our Horizon strategy is innovation and product development. We invested £24.8 million (2017: £25.8 million), with an increased emphasis on the solutions and technology that will increase value for our customers through new capabilities, ease of use, enhanced productivity and application-specific information. We monitor the proportion of our revenue which originates from products launched in the last three years (our vitality index). Our vitality index for the reported period increased to 37% (2017; 30%), reflecting the successful uptake of recently launched products.

People

Our staff are fundamental to our business success and I have been encouraged by how they have engaged with the Horizon strategy to improve our business. We continue with our focus to enhance the capabilities of our teams through the development of existing employees and investment in new talent.

I would like to thank all our employees for their commitment to Oxford Instruments, and for their ongoing enthusiasm to help our customers.

Summary

We have made good progress in the year with the early implementation of the Horizon strategy, which was introduced in May 2017. We have positioned the Group to become a leading provider of high technology products and services to the world's leading industrial companies and scientific research communities to image, analyse and manipulate materials down to the atomic and molecular level.

Materials & Characterisation performed strongly in attractive markets. We continue to invest in new product development within the sector to improve and expand our range of products and solutions.

Research & Discovery had an improved second half performance, with recovery in optical microscopy systems and like for like order growth in Andor. An under performance in NanoScience and X-ray Technology depressed the sector's result, however we are addressing the challenges through structural change and business simplification. These self-help actions, combined with positive end markets, support improved financial performance.

In Service & Healthcare, OiService continues to focus on increasing after-market revenue by providing a broader range of support services, while OI Healthcare is making a strategic shift towards a higher proportion of service revenue, which is driving greater visibility of revenue and improved returns.

Outlook

Our chosen end markets remain attractive, supported by commercial and government investment. Our growing order book, customer application focus and drive for operational efficiencies provide confidence for the year ahead.

We expect to see an improvement in performance on a reported basis after allowing for the impact of an anticipated currency headwind, based on current exchange rates.

Ian Barkshire
Chief Executive

12 June 2018

Operations Review

The Group reports in the following three sectors: Materials & Characterisation, Research & Discovery, and Service & Healthcare. The numbers detailed in the Operations Review refer to continuing operations.

Materials & Characterisation

	2018 £m	2017 £m	Growth	Constant Currency Growth[1]
Revenue	**118.1**	105.7	11.7%	13.2%
Adjusted[2] operating profit	**20.1**	12.2	64.8%	19.7%
Adjusted[2] operating margin	**17.0%**	11.5%		
Profit before tax	**17.3**	(14.0)		

[1]For definition refer to note on page 2 of highlights
[2]Details of adjusting items can be found in Note 1 of these Financial Statements

The Materials & Characterisation sector is comprised of Asylum Research, NanoAnalysis and Plasma Technology. This sector has a broad customer base across a wide range of applications for the imaging and analysis of materials down to the atomic level and the fabrication of semiconductor devices and structures through our range of advanced etch and deposition processes and systems. Our market leading product performance combined with customer focused solutions is driving strong growth by providing increased value to existing customers and the identification of and reach into new markets and applications. We are providing new capabilities, ease of use and enhanced productivity through application-specific workflows, processes, analytics and information. Revenue in Materials & Characterisation comes from a broad range of end applications with about three quarters from the Semiconductor & Communications and the Advanced Materials related customer segments. Industrial and commercial customers represent 49% of revenue, with the balance either academic or government funded.

Materials & Characterisation delivered strong order, revenue and profit growth supported by the successful launch of new products, our increased customer application focus, the tailoring of products to provide dedicated solutions and general growth within our end markets. From a geographic perspective, strong growth was seen across Europe, US and Asia.

Sales of our imaging and analysis products and solutions used in electron microscopy had strong growth, with placements in the world's leading academic, semiconductor and advanced manufacturing facilities, as well as top forensic laboratories, where customers seek rapid, automated solutions to their analysis challenges. The launch of Symmetry, our super-fast material structure analyser, was a key driver in both the advanced materials and environmental markets, enabling productivity improvements for our customers in terms of the speed, high-resolution and accuracy of analysis.

The introduction of our Ultim™ range of large area X-ray detectors has driven strong sales within the semiconductor market by providing unprecedented resolution and analysis of semiconductor structures and devices. A range of applications are benefiting from the enhanced capabilities we offer, including fault finding and failure analysis within devices for the leading semiconductor manufacturers and cleanliness control in precision manufacturing. Other applications that are utilising our Ultim™ product range include solar cells and batteries, where researchers are working to improve performance and storage density by better understanding their structure at a nanoscale. The sensitivity of the Ultim™ Extreme is providing new market opportunities within the life science and pharmaceutical markets where it is providing further insight and understanding of disease processes and can aid the identification of counterfeit prescription drugs.

We saw strong order, revenue and profit growth for our scanning probe microscopy products. This has been largely supported by the strong uptake we have had for our market leading Cypher portfolio and increased orders for our updated entry level platform, with advanced ease of use providing marketing leading performance at a value price point. CypherVRS™, the first and only full-featured video-rate atomic force microscope (AFM), is generating strong interest across a diverse range of biological and physical science applications, where the visualisation of dynamic processes at a molecular or atomic level provides new insights and information for research and applied R&D. Examples include the imaging of viruses, molecular and cellular dynamics, and semiconductor etch processes.

Our electrochemistry sample cell upgrade for our CypherES™ AFM provides high-resolution imaging in real device operating conditions. The advanced environmental control enables those researching the development of lithium-ion batteries and emerging solid-state energy storage systems to better understand and characterise performance in real life conditions.

We have strengthened our customer application focus with the release of a photovoltaics package for our MFP™ AFM. This offers a convenient, high-performance turnkey solution for materials scientists that are seeking to improve the efficiency, reduce manufacturing costs and lengthen solar cell lifetimes.

In addition to the many varied research applications for our advanced AFM systems, our entry level portfolio is ideally positioned to provide the simpler, routine measurements such as thin film roughness and uniformity at nanometre and even sub-nanometre length scales that are inaccessible to other metrology tools. Our updated MFP Origin+™ has seen good growth across a broad range of application areas due to its high level of performance, ease of use and appropriate price point.

We had good growth from our semiconductor processing systems that provide etch and deposition process solutions used across a range of semiconductor, device and materials applications. We have leading expertise in the processing of compound semiconductors, which are critical for enabling more compact devices, higher speeds, larger capacity and higher energy efficiencies required to deliver the functionality and demands for big data, IoT, AI, high speed communications and autonomous vehicles.

Growth has been supported by the development of new process recipes aligned to these growing markets, including the fabrication of sensors and MEMS, which are used across a broad range of optical devices and communications systems to provide higher speeds; and the development of advanced lasers used across a broad range of photonics markets including Vertical Cavity Surface Emitting lasers (VCSELs) for facial recognition applications.

Customers working in these markets value our expertise and development capabilities, large portfolio of processing recipes and our applications support to help them manufacture new devices repeatedly, with the required quality for new and demanding applications. We have seen growth in both applied R&D and the expanding specialist production markets for the manufacture of commercial systems, with specialist production now representing almost half the sales in this market.

Research & Discovery

	2018 £m	2017 £m	Growth	Constant Currency Growth[1]
Revenue	**112.1**	125.3	(10.5%)	(9.7%)
Adjusted[2] operating profit	**13.8**	13.8	-	(36.2%)
Adjusted[2] operating margin	**12.3%**	11.0%		
Profit before tax	**4.1**	(3.0)		

[1]For definition refer to note on page 2 of highlights
[2]Details of adjusting items can be found in Note 1 of these Financial Statements

The Research & Discovery sector includes Andor Technology, NanoScience & Magnetic Resonance, X-ray Technology and our minority share in ScientaOmicron. This sector provides advanced solutions that create unique environments and enable imaging and analytical measurements down to the molecular and sub-atomic level, used predominantly in fundamental and applied research. We are able to build on our relationships with customers working on breakthrough applications in research to gain insights and support future commercial applications. We have strong brand recognition and leading product performance with 73% of sales into research communities and 23% into industrial customers predominately for use in applied R&D.

In this sector, 40% of revenue comes from customers working within Healthcare & Life Science applications. Customers exploring new semiconductor materials and devices make a significant contribution, and an increasing share is coming from customers working in quantum technology applications and research. Quantum Technology is a strong growth area for the sector due to increased government and corporate funding for applications such as quantum information processing and quantum sensors. Research & Fundamental Science contributes 4% of revenue.

Orders for the sector were broadly in line with the previous year, with like for like growth in Andor and Magnetic Resonance offset by lower orders from X-ray Technology, with NanoScience broadly in line with last year. From a geographic perspective, orders from Europe and US were broadly in line with previous year, with increases from Rest of the World offsetting slight declines in Asia.

Revenue and profitability in the sector were impacted by three particular product areas that more than offset growth across the broad range of the portfolio. As previously reported, there was a softer financial performance from our Andor optical microscopy systems in the first half of the year as we transitioned from third-party systems to our own portfolio; lower revenues from NanoScience as they work through a high volume of complex specialised systems at lower margins; and lower volumes of our scientific X-ray tubes in X-ray Technology.

Our NanoScience business is underperforming relative to its potential and is in transition as part of our Horizon programme. The quality and complexity of the order book negatively impacted performance in the year despite an improved second half performance. The current year is expected to be impacted by the remaining tail of complex systems within the orderbook. We have a new leadership team and self-help plan in place to increase the emphasis on margin, drive a stronger commercial focus and deliver organisational efficiencies.

We had order growth for our customised high magnetic systems for national science facilities, building on our strong reputation in this sector. We increased sales of our ultra-low temperature portfolio driven by the increasing demand for systems and solutions to support quantum research and quantum information processing. We are moving towards more standardised solutions designed specifically for this growing market. Our combined cryogenic and magnetic solutions grew in the year with the launch of a new range of measurement probes, providing more complete solutions for the measurement of 2D materials, such as graphene.

Andor had significantly higher order intake in the second half of the year, driven by new product launches and the broadening of our optical microscopy portfolio. Lower revenue in the period, partly due to phasing of orders, has resulted in a significant increase in the order book for future deliveries.

We continue to develop our range of market leading scientific research cameras and have seen growth from application areas requiring higher performance, faster collection and increased sensitivity. Our specialised deep cooled, large area, high sensitivity cameras have provided good growth in astronomy, as researchers look for more accurate and detailed information with better spectral performance to enable deep space imaging, solar astronomy and near-earth object observation. Our world's first super—resolution microscopy camera, iXon-SRFF™ allows customers to observe biological features at resolutions significantly smaller than the wavelength of light to reveal unprecedented details in living cells, helping to build an understanding of the complex intracellular mechanisms that underlie a wide range of disease states. This image enhancement, which is only available on Andor cameras, overcomes frustrations with the complexity of sample preparation and the added expense of current super-resolution microscopes enabling customers to achieve super-resolution capability with a more affordable microscope and standard sample preparation techniques.

We continue to benefit from our connections to many Quantum Imaging centres of excellence that have been established in support of this rapidly growing and well-funded market. Our single photon sensitive cameras saw growing demand from researchers investigating and developing quantum optics, which are required for communication systems and exotic imaging solutions, for example those that can look through smoke or around corners.

Our optical microscopy platform, Dragonfly™, saw strong growth in the second half of the year as we introduced a complimentary lower price point model to the portfolio, enabling the product range to address a much broader end market. Dragonfly™ provides the capability to quickly image large samples and reveal detail previously not seen in applications such as neuroscience, cancer research and regenerative science. The product received an R&D Top 100 award, recognising the revolutionary technology and superior performance. We also saw good growth from our Imaris™ visualisation software due to its ability to capture, process and visualise the extremely large data sets captured by modern instrumentation, with data analysis and interpretation becoming an increasing part and value of the overall product solution. Imaris™ is sold for use on our own and other optical microscopy systems.

We saw increased demand for our benchtop Nuclear Magnetic Resonance solutions, which provide essential information about the identification and quantification of foods and chemicals for academic and industrial researchers and for quality assurance and control. Revenue and order growth has been driven by our enhanced Pulsar™ and the recently launched MQC+™ systems. In the second half of the year we saw growth in the energy generation and storage sector following increasing oil prices, capitalising on developments made across our application specific Geospec range of products.

Our X-ray source business continued to grow in the medical and research market segments but experienced greater than expected head winds in the material characterisation and industrial applications leading to a drop in the year on year revenue. This was in part driven by the delayed introduction of new products for these markets and pricing pressures in China.

The ScientaOmicron joint venture created the largest player in the Ultra-High Vacuum surface science field. The Group has a 47% share in the joint venture. The business delivered an improved financial performance for the year, with our share of adjusted operating profit at £0.4 million against a loss of £0.8 million last year. After our year end, the business sold its UK based ultra-high vacuum products division. This is in line with the strategy to focus on providing core surface science products and solutions.

Service & Healthcare Sector

	2018 £m	2017 £m	Growth	Constant Currency Growth[1]
Revenue	**66.8**	69.3	(3.6%)	(2.9%)
Adjusted[2] operating profit	**12.6**	12.0	5.0%	4.2%
Adjusted[2] operating margin	**18.9%**	17.3%		
Profit before tax	**10.6**	(0.2)		

[1]For definition refer to note on page 2 of highlights
[2]Details of adjusting items can be found in Note 1 of these Financial Statements

The Service & Healthcare sector comprises the Group's maintenance service contracts, billable repairs, training and support services, and spare part sales related to Oxford Instruments' own products under the OiService brand; and the sale, service and rental of refurbished third-party MRI and CT machines under the OI Healthcare brand.

The Service & Healthcare sector increased profitability and margin in the period, driven predominantly by increased demand for the services related to our own products. Revenue and order growth from our service offerings relating to our own products were more than offset by a decline from US OI Healthcare business. This was due to a combination of the timing of sales prospects and the previously reported structural changes in the market by OEM providers.

OI Healthcare made good progress, with increased orders in the second half of the year, in line with the implementation of our strategy to move to a higher proportion of service contracts relative to the sale of refurbished systems. Revenue was down in the year but through structural changes in line with our strategy, profitability was in line with last year, providing a solid platform for future growth.

Within OiService we continue to drive our enhanced customer support offerings, adapting to our customers' needs, for example with remote diagnostics and online self-help. We are designing product platforms to enable service upgrades delivering either performance enhancements or application specific solutions. This increases value and builds versatility for our customers as well as growth in aftermarket revenue. Our new e-commerce website makes it easier for customers to find and purchase consumable items and accessories and we have seen a corresponding increase in associated revenue.

Growth in service contracts related to our optical imaging analysis software has been driven by the value customers place on having annual updates and access to our inhouse analysis experts. Across the OI Group we provide extensive customer training programmes designed to increase their capability and productivity. This year we also held many very successful global application seminars with research and application scientists, most notably a new microscopy summer school run in collaboration with the Chinese Academy of Sciences.

Finance Review

During the financial year the Group disposed of its Industrial Analysis business and this has been treated as a discontinued operation in the financial statements. Accordingly, the numbers detailed in the Finance Review refer to continuing operations and exclude the results of Industrial Analysis in both the current and prior periods.

Reported orders increased by 5.0% to £313.0 million (2017: £298.0 million), an increase of 5.8% at constant currency. At the end of the period the Group's order book for future deliveries stood at £134.0 million (2017: £127.6 million), growth of 5.0% on a reported basis and 10.4% at constant currency.

Reported revenue declined by 1.1% to £296.9 million (2017: £300.2 million). Revenue, excluding currency effects, was broadly in line with last year, with the movement in average currency exchange rates over the last year reducing reported revenue by £3.1 million.

Adjusted operating profit from continuing operations increased by 22.4% to £46.5 million (2017: £38.0 million). Adjusted operating profit from continuing operations, excluding currency effects, declined by 5.5%. Adjusted operating margin from continuing operations increased by 300 basis points to 15.7% (2017: 12.7%).

Adjusted profit before tax from continuing operations grew by 34.3% to £42.3 million (2017: £31.5 million). A pre-tax adjusted profit of £0.5 million from the Industrial Analysis business for the three months of ownership, prior to its sale on 3 July 2017, is included in discontinued operations. For the twelve months to 31 March 2017 the Industrial Analysis and Superconducting Wire businesses delivered an adjusted profit before tax of £5.6 million. Including discontinued operations, the Group achieved reported adjusted profit before tax of £42.8 million (2017: £37.1 million).

Adjusting items include amortisation of acquired intangibles of £10.9 million and a net gain of £1.7 million for business reorganisation items. Our share of an impairment in our equity accounted associate was £2.0 million and the movement in the mark-to-market valuation of currency hedges for future years gave rise to a gain of £3.1 million.

Adjusted profit before tax from continuing operations of £42.3 million (2017: £31.5 million) represents a margin of 14.2% (2017: 10.5%). After adjusting items, the Group recorded a profit before tax of £34.2 million from continuing operations (2017: loss of £26.2 million).

Continuing adjusted basic earnings per share grew by 35.7% to 56.3 pence (2017: 41.5 pence). Continuing basic earnings per share was 34.3 pence (2017: loss of 44.7 pence).

Cash generated from operations fell by £1.1 million to £33.4 million (2017: £34.5 million), representing 68.8% (2017: 90.3%) cash conversion. Cash conversion is defined as: cash generated from operations before business reorganisation items and pension scheme payments, less, capitalised development expenditure and capital expenditure / adjusted operating profit. Net debt decreased from £109.3 million to £19.7 million, representing a net debt to EBITDA ratio (for banking covenant purposes) of 0.3 times; our banking covenant is set at 3.0 times.

Adjusted operating profit is stated before impairment and amortisation of goodwill and acquired intangibles, business reorganisation items, the mark-to-market valuation of unexpired currency hedges, and other adjusting items, as set out in Note 1 to the Financial Statements.

Income Statement

The Group's Income Statement is summarised below.

	Year ended 31 March 2018 £m	Year ended 31 March 2017 £m	Change
Revenue	**296.9**	300.2	(1.1%)
Gross profit	**150.9**	157.3	(4.1%)
Administrative expenses	**(105.8)**	(106.5)	
Share of profit/(loss) of associate	**0.5**	(0.8)	
Foreign exchange	**0.9**	(12.0)	
Adjusted operating profit	**46.5**	38.0	+22.4%
Net finance costs	**(4.2)**	(6.5)	
Adjusted profit before tax	**42.3**	31.5	+34.3%
Amortisation of acquired intangibles	**(10.9)**	(12.5)	
Impairment of goodwill and intangibles	**-**	(36.7)	

Impairment of investment of associate	**-**	(8.0)	
Business reorganisation items	**1.7**	(1.7)	
Share of impairment recognised by associate	**(2.0)**	-	
Mark-to-market of currency hedges	**3.1**	1.2	
Profit/(loss) before tax	**34.2**	(26.2)	
Tax from continuing operations	**(14.6)**	0.7	
Profit/(loss) for the period from continuing operations	**19.6**	(25.5)	
Adjusted effective tax rate[1]	**23.9%**	24.8%	
Continuing adjusted earnings per share – basic	**56.3p**	41.5p	+35.7%
Earnings per share – basic	**114.5**	(35.6)p	
Continuing adjusted earnings per share – diluted	**56.1p**	41.4p	+35.5%
Earnings per share – diluted	**114.1p**	(35.6)p	
Dividend per share	**13.3p**	13.0p	+2.3%

1. The adjusted effective tax rate is calculated excluding impairment of non-current assets, amortisation on acquired intangibles, business reorganisation items, the mark-to-market of financial derivatives, and other adjusting items.

Revenue

Orders, at constant currency, increased by 22.8% for Materials & Characterisation with good growth across all business units and was broadly flat for Research & Discovery. A decline of 7.8% in Service & Healthcare as we reduce the level of sales of refurbished imaging systems in the US Healthcare business, offset order growth of 3.7% in service of our own products. Total reported orders grew by 5.0% (5.8% at constant currency). Excluding orders from US Healthcare, reported and constant currency orders grew by 8.3% and 8.9% respectively.

Reported revenue of £296.9 million (2017: £300.2 million) decreased by 1.1%. Materials & Characterisation grew by 11.7%. Research & Discovery and Service & Healthcare declined by 10.5% and 3.6% respectively.

Excluding currency effects, revenue grew by 13.2% for Materials & Characterisation with growth across all constituent businesses. Lower optical microscopy sales and an increase in the proportion of customised magnetic and cryogenic systems with longer production lead times, resulted in a constant currency decline of 9.7% in Research & Discovery revenue. Growth in revenue from service of our own products was offset by an anticipated decline in Healthcare revenue from selling fewer refurbished imaging systems, leading to a constant currency revenue decline of 2.9% in Service & Healthcare.

On a geographical basis, at constant currency, revenue grew by 4.3% in Europe, 1.2% in Asia and 8.3% for the Rest of World. Constant currency revenue declined by 5.3% in North America but was in line with last year when excluding revenue from OI Healthcare.

The order book, at constant currency, increased by 42.4% for Materials & Characterisation and 15.2% for Research & Discovery, with a decline of 10.8% in Service & Healthcare. Total reported order book grew by 5.0% (10.4% at constant currency). Excluding the order book from US Healthcare, reported and constant currency order book growth was 14.0% and 18.4% respectively.

£ million	**Materials & Characterisation**	**Research & Discovery**	**Service & Healthcare**	**Total***
Revenue: 2016/17	**105.7**	**125.3**	**69.3**	**300.2**
Underlying movement	13.9	(12.1)	(2.0)	(0.2)
Foreign Exchange	(1.5)	(1.1)	(0.5)	(3.1)
Revenue: 2017/18	**118.1**	**112.1**	**66.8**	**296.9**
Revenue growth: reported	+11.7%	(10.5%)	(3.6%)	(1.1%)
Revenue growth: constant currency	+13.2%	(9.7%)	(2.9%)	(0.1%)

* *Excluding inter-sector revenue*

Gross profit

Gross profit fell by 4.1% to £150.9 million (2017: £157.3 million), representing a gross profit margin of 50.8%, a decrease of 160 basis points over last year.

Operating profit

Adjusted operating profit increased by 22.4% to £46.5 million (2017: £38.0 million), representing an adjusted operating profit margin of 15.7%, an increase of 300 basis points against last year. Materials & Characterisation margin rose by 550 basis points to 17.0% (2017: 11.5%). Research & Discovery adjusted operating margin increased by 130 basis points to 12.3% (2017: 11.0%). Service & Healthcare margin increased by 160 basis points to 18.9% (2017: 17.3%).

Our share of the Scienta Omicron joint venture showed a profit of £0.5 million for the year, an improvement of £1.3 million against the comparative period. After restructuring costs and impairments, our share of the Scienta Omicron joint venture was a loss of £1.9 million.

Currency effects (including the impact of transactional currency hedging) have increased reported adjusted operating profit by £10.6 million when compared to blended hedged exchange rates for the comparative period. Blended hedged exchange rates for the US Dollar, Euro and Japanese Yen against Sterling are all at stronger rates than last year.

At constant currency, the adjusted operating profit margin was 12.0%, a decline of 70 basis points.

£ million	Materials & Characterisation	Research & Discovery	Service & Healthcare	Total
Adjusted operating profit: 2016/17	**12.2**	**13.8**	**12.0**	**38.0**
Underlying movement	2.4	(5.0)	0.5	(2.1)
Foreign Exchange	5.5	5.0	0.1	10.6
Adjusted operating profit: 2017/18	**20.1**	**13.8**	**12.6**	**46.5**
Margin: 2016/17	11.5%	11.0%	17.3%	12.7%
Margin: 2017/18	17.0%	12.3%	18.9%	15.7%

Adjusting items

Amortisation of acquired intangibles of £10.9 million relates to intangible assets recognised on acquisitions, being the value of technology, customer relationships and brands.

Business reorganisation items were a net gain of £1.7 million. This comprised three main items, the first being a net gain of £3.3 million from the sale of the Superconducting Wire facility that we initially retained in New Jersey, US, following the sale of the business, and the disposal of a freehold property in Germany. Second, costs of £0.5 million were incurred within our US Healthcare business to successfully defend a legal claim relating to a prior acquisition. Lastly, we incurred restructuring costs of £1.1 million primarily relating to US Healthcare and our Scienta Omicron joint venture.

During the year our Scienta Omicron associate recognised an impairment relating to the sale of one of its subsidiaries. The Group's share of this impairment was £2.0 million.

The Group uses derivative products to hedge its short-term exposure to fluctuations in foreign exchange rates. It is Group policy to have in place at the beginning of the financial year hedging instruments to cover 80% of its forecast transactional exposure for that year. The Group has decided that the additional costs of meeting the extensive documentation requirements of IAS 39 to apply hedge accounting to these foreign exchange hedges cannot be justified. Accordingly, the Group does not use hedge accounting for these derivatives.

Net movements on marking-to-market derivatives in respect of future periods are disclosed in the Income Statement as foreign exchange and excluded from our calculation of adjusted profit before tax.

The mark-to-market gain in respect of derivative financial instruments was £3.1 million (2017: £1.2 million gain). This reflects a movement from a net fair value liability to a small net asset position on currency derivatives that are hedging future transactional currency exposures for the Group compared to the previous year end. The un-crystallised balance sheet asset is attributable to a rise in the value of Sterling at the balance sheet date against a blended rate achieved on US Dollar, Euro and Japanese Yen forward contracts that will mature over the next twelve months.

Net finance costs
The Group's adjusted net finance costs fell by £2.3 million to £4.2 million (2017: £6.5 million) with net finance charges falling by £1.8 million to £3.6 million and pension financing charges falling by £0.5 million to £0.6 million.

Profit before tax
Continuing adjusted profit before tax increased by 34.3% to £42.3 million (2017: £31.5 million), up 0.6% at constant currency. The continuing adjusted profit before tax margin increased by 370 basis points to 14.2% (2017: 10.5%).

Continuing profit before tax of £34.2 million (2017: loss of £26.2 million) is after the mark-to-market movement on derivative financial instruments, amortisation of acquired intangibles and other adjusting items.

Tax
The adjusted tax charge from continuing operations of £10.1 million (2017: £7.8 million) represents an effective tax rate of 23.9% (2017: 24.8%). The current tax liability includes a provision of £2.9 million in respect of a historical financing structure, of which £2.0 million was provided in this financial year. The statutory effective tax rate from continuing operations is 42.7% owing to a reduction in deferred tax assets arising from a lowering of the US tax rate.

Earnings per share
Continuing adjusted basic earnings per share increased by 35.7% to 56.3 pence (2017: 41.5 pence); adjusted basic earnings per share increased by 13.5% to 55.6 pence (2017: 49.0 pence). Continuing adjusted diluted earnings per share were 56.1 pence (2017: 41.4 pence); adjusted diluted earnings per share were 55.4 pence (2017: 48.9 pence).

Undiluted weighted average shares have increased by 0.1 million to 57.2 million.

Foreign exchange
The Group faces transactional and translational currency exposure, most notably against the US Dollar, Euro and Japanese Yen. For the full year, approximately 16% of Group revenue was denominated in Sterling, 52% in US Dollars, 19% in Euros, 11% in Japanese Yen and 2% in other currencies. Translational exposures arise on the consolidation of overseas company results into Sterling. Transactional exposures arise where the currency of sale or purchase transactions differs from the functional currency in which each company prepares its local accounts.

The Group maintains a hedging programme against its net transactional exposure using internal projections of expected currency trading transactions expected to arise over a period extending from 12 to 24 months. As at 31 March 2018 the Group had currency hedges in place extending up to twelve months forward.

For the 2018/19 financial year, we expect a currency headwind to operating profit of approximately £3 million, based on current exchange rates.

Dividend
The Group's policy is to increase the dividend each year in line with the increase in underlying earnings. Given the strong reduction in net debt and the positive impact from the Horizon strategy, the Board has proposed to increase the final dividend to 9.6 pence (2017: 9.3 pence). This results in a total dividend of 13.3 pence (2017: 13.0 pence). The final dividend will be paid, subject to Shareholder approval, on 19 October 2018 to Shareholders on the register as at 14 September 2018.

Cash flow
The Group cash flow is summarised below.

	Year ended 31 March 2018 £m	Year ended 31 March 2017 £m
Adjusted operating profit	**46.5**	38.0
Depreciation and amortisation	**9.1**	8.9
Adjusted EBITDA	**55.6**	46.9
Working capital movement	**(13.2)**	(4.4)
Purchase of rental assets held for subsequent sale	**(0.7)**	(1.0)
Loss on disposal of property, plant and equipment	**0.3**	0.5

Equity settled share schemes	**1.1**	0.5
Share of (profit)/loss from associate	**(0.5)**	0.8
Business reorganisation items	**(1.3)**	(1.9)
Pension scheme payments above charge to operating profit	**(7.9)**	(6.9)
Cash generated from operations	**33.4**	34.5
Interest	**(2.1)**	(5.0)
Tax	**(3.8)**	(2.1)
Capitalised development expenditure	**(5.8)**	(5.9)
Expenditure on tangible and intangible assets	**(4.8)**	(3.1)
Proceeds from sale of property, plant and equipment	**9.3**	-
Increase in investment in associate	**(2.1)**	-
Acquisition of subsidiaries, net of cash acquired	**-**	(9.8)
Proceeds from sale of subsidiary undertaking	**71.2**	12.2
Decrease in long-term receivables	**0.9**	-
Dividends paid	**(7.4)**	(7.4)
Proceeds from issue of share capital	**0.2**	-
(Decrease) in borrowings	**(96.8)**	(12.8)
Net (decrease)/increase in cash and cash equivalents from continuing operations	**(7.8)**	0.6

Note: Adjusted EBITDA is earnings before interest, tax, depreciation, intangible amortisation, mark-to-market of financial derivatives and other non-cash adjusting items.

Cash generated from operations

Cash generated from operations fell by £1.1 million to £33.4 million (2017: £34.5 million), representing 68.8% (2017: 90.3%) cash conversion. Cash conversion is defined as: cash generated from operations before business reorganisation items and pension scheme payments, less, capitalised development expenditure and capital expenditure / adjusted operating profit.

The working capital outflow of £13.2 million reflects an increase in inventories of £4.5 million, an increase in receivables of £14.4 million, a decrease in payables of £2.8 million and an increase in customer deposits of £2.9 million. The increase in inventories reflects an increase in work in progress and components to support our planned production schedule in the first quarter of 2018/19 for our customised magnets and cryogenic systems, as well as an increase in demonstration stock to support new launches of imaging and analysis products used in electron microscopy. The movement in receivables consists of an increase of £8.6 million due to good sales growth across our Materials and Characterisation sector along with a higher proportion of sales made towards the end of the year compared to the previous period. In addition, we also shipped a higher proportion of customised magnets and cryogenic systems that were invoiced but not paid at the end of the year. Furthermore, an increase of £2.3 million relates to foreign currency forward contracts relating to the previous year but settled in this financial year, and £3.5 million relating to the settlement of foreign currency swaps that are hedging overseas cash balances.

Interest

Net interest paid was £2.1 million (2017: £5.0 million). The difference from last year is due to lower financing costs arising from a lower level of average net debt compared to the comparative period following the receipt of proceeds from the sale of Industrial Analysis part way through the period, and the settlement of £1.0 million of interest payments made just after the year end close.

Tax

Tax paid was £3.8 million (2017: £2.1 million), the comparative period benefiting from tax deductions on allowable adjusting items and utilisation of brought forward tax losses.

Investment in research and development ("R&D")

Total cash spend on R&D in the year was £24.8 million, equivalent to 8.4% of sales, (2017: £25.8 million, 8.6% of sales). A reconciliation between the amounts charged to the Income Statement and the cash spent is given below:

	Year ended 31 March 2018 £m	Year ended 31 March 2017 £m
R&D expense charged to the Income Statement	**23.4**	24.3
Depreciation of R&D related fixed assets	**(0.1)**	(0.1)
Amounts capitalised as fixed assets	**0.1**	0.2
Amortisation and impairment of R&D costs capitalised as intangibles	**(4.4)**	(4.5)

Amounts capitalised as intangible assets	**5.8**	5.9
Total cash spent on R&D during the year	**24.8**	25.8

During the year intangible assets of £1.8 million were impaired within our X-ray Technology Business on a development project discontinued as a result of the sale of Industrial Analysis. In addition, we impaired £1.4 million in respect of a development project which has experienced delays and cost overruns.

Investment in Associate

The shareholders of ScientaOmicron agreed to a capital injection to strengthen the balance sheet of the joint venture and ensure future liquidity in support of the business strategy. Our share was £2.1 million and was paid in September 2017.

Disposals

The sale of Industrial Analysis was completed on 3 July 2017. A post-tax profit of £45.9 million has been recorded within discontinued operations.

New Accounting Standards

Transition to IFRS 9 'Financial Instruments' will take effect from 1 April 2018 with the half year results for September 2018 being IFRS 9 compliant and the first annual report published in accordance with IFRS 9 being for the year ended 31 March 2019. There is no requirement to restate comparatives. The main impact is likely to be in respect of mark-to-market valuation of currency derivatives that are hedging future cash flows. The gain or loss on unrealised forward foreign exchange contracts might qualify for hedge accounting and so be booked directly to reserves with the gain or loss recycled to the income statement on maturity. Currently, gains or losses are treated as adjusting items. Work is on-going to assess the extent to which the group's hedges will qualify for hedge accounting.

The Group will also be adopting IFRS 15 'Revenue from Contracts with Customers' using the modified retrospective approach, which means that the cumulative impact on adoption will be recognised in retained earnings on 1 April 2018 with the half year results for September 2018 being IFRS 15 compliant, and the first annual report published in accordance with IFRS 15 being for the year ended 31 March 2019. Comparatives will not be restated. We anticipate that the main differences will be within our NanoScience business where the revenue recognition on complex customised magnetic and cryogenic systems will be deferred from being primarily on transfer of legal title to completion of installation.

The Group will be adopting IFRS 16 'Leases' in the 2018/19 financial year. The main impact will be in respect of property and vehicle leases which are currently accounted for as operating leases. Further detail on the impact of these new accounting standards is set out in the accounting policies of the financial statements.

Net debt and funding

Net debt

Net debt decreased in the period from £109.3 million to £19.7 million. Cash generated from operations was £33.4 million. Disposal proceeds of £71.2 million relate to the sale of Industrial Analysis. The Group invested in capitalised development costs of £5.8 million and tangible and intangible assets of £4.8 million.

Movement in net debt	£m
Net debt as at 31 March 2017	**109.3**
Cash generated from operations	(33.4)
Interest	2.1
Tax	3.8
Capitalised development expenditure	5.8
Capital expenditure on tangible and intangible assets	4.8
Proceeds from sale of property, plant and equipment	(9.3)
Proceeds from sale of subsidiary undertaking	(71.2)
Dividends paid	7.4
Other items	0.4
Net debt as at 31 March 2018	**19.7**

Funding

The Group has in place an unsecured multi-currency revolving facility agreement which is committed until February 2020. The facility has been entered into with a group of three banks and comprises a Sterling denominated multi-currency facility of £100.0 million and a US Dollar denominated multi-currency facility of $37.0 million.

In this year the Group repaid £5.0 million of its bilateral private placement note, leaving an outstanding note of £39.5 million, which matures in 2021. In September 2017, the Group repaid the balance of its amortising fixed rate loan from the European Investment Bank. The Group has uncommitted facilities of £20.6 million.

Debt covenants are net debt to EBITDA less than 3.0 times and EBITDA to interest greater than 4.0 times. As at 31 March 2018 net debt to EBITDA was at 0.3 times and EBITDA to interest was 14.3 times.

Pensions

The Group has defined benefit pension schemes in the UK and USA. Both have been closed to new entrants since 2001 and closed to future accrual from 2010.

At 31 March 2018, the net liability arising from our defined benefit scheme obligations was £15.3 million (31 March 2017: £25.1 million), a fall of £9.8 million. The reduction in the deficit was primarily due to the contributions paid in the period and the actuarial gains on the scheme's liabilities arising from a change in the accounting assumptions at 31 March 2018. Total scheme assets at 31 March 2018 were £289.5 million (31 March 2017: £287.9 million) while liabilities were £304.8 million (31 March 2017: £313.0 million).

Prior to the year end the Trustees of the UK defined benefit scheme, in consultation with the Company, reduced its exposure to on-risk assets (a portfolio of market focused asset classes, the majority being equities) with a corresponding increase in its liability driven investments, with the objective of steering a more stable journey to being fully funded. The pension fund's gross exposure to on-risk assets has fallen from 85% to 45%; the majority of transactions required to make this change were completed in February 2018. As a result, the level of risk inherent in the investment strategy is now significantly lower than previously, in addition to a substantial reduction in funding level volatility.

Going concern

The Group's business activities, together with the factors likely to affect its future development, performance and position, are set out in the Performance, Strategy and Operations sections. The financial position of the Group, its cash flows, liquidity position and borrowing facilities are described in the Financial Review.

The diverse nature of the Group, combined with its financial strength, provides a solid foundation for a sustainable business. The Directors have reviewed the Group's forecasts and flexed them to incorporate a number of potential scenarios relating to changes in trading performance. The Directors believe that the Group will be able to operate within its existing debt facilities. This review also considered hedging arrangements in place. The Directors believe that the Group is well placed to manage its business risks successfully.

The Financial Statements have been prepared on a going concern basis, based on the Directors' opinion, after making reasonable enquires, that the Group has adequate resources to continue in operational existence for the foreseeable future.

Forward-looking statements

This document contains certain forward-looking statements. The forward-looking statements reflect the knowledge and information available to the Company during the preparation and up to the publication of this document. By their very nature, these statements depend upon circumstances and relate to events that may occur in the future thereby involving a degree of uncertainty. Therefore, nothing in this document should be construed as a profit forecast by the Company.

Gavin Hill
Group Finance Director
12 June 2018

Consolidated Statement of Income

year ended 31 March 2018

	Notes	Adjusted* £m	Adjusting items* £m	Total £m
Revenue	3	296.9	—	296.9
Cost of sales		(146.0)	—	(146.0)
Gross profit		150.9	—	150.9
Research and development	4	(23.4)	—	(23.4)
Selling and marketing		(53.9)	—	(53.9)
Administration and shared services		(28.5)	(12.1)	(40.6)
Share of profit/(loss) of associate, net of tax	5	0.5	(2.4)	(1.9)
Other operating income		—	3.3	3.3
Foreign exchange		0.9	3.1	4.0
Operating profit/(loss)		46.5	(8.1)	38.4
Other financial income		0.3	—	0.3
Financial income		0.3	—	0.3
Interest charge on pension scheme net liabilities		(0.6)	—	(0.6)
Other financial expenditure		(3.9)	—	(3.9)
Financial expenditure		(4.5)	—	(4.5)
Profit/(loss) before income tax from continuing operations		42.3	(8.1)	34.2
Income tax (expense)/credit	7	(10.1)	(4.5)	(14.6)
Profit/(loss) for the year from continuing operations		32.2	(12.6)	19.6
(Loss)/profit from discontinued operations after tax	6	(0.4)	46.3	45.9
Profit/(loss) for the year attributable to equity Shareholders of the parent		31.8	33.7	65.5

	Notes	pence		pence
Earnings per share				
Basic earnings per share	2			
From continuing operations		56.3		34.3
From discontinued operations		(0.7)		80.2
From profit/(loss) for the year		55.6		114.5
Diluted earnings per share	2			
From continuing operations		56.1		34.1
From discontinued operations		(0.7)		80.0
From profit/(loss) for the year		55.4		114.1
Dividends per share				
Dividends paid	8			13.0
Dividends proposed	8			13.3

* Adjusted numbers are stated to give a better understanding of the underlying business performance. Details of adjusting items can be found in Note 1 of this Preliminary Statement.

The attached notes form part of the Financial Statements.

Consolidated Statement of Income

year ended 31 March 2017

	Notes	Adjusted* £m	Adjusting items* £m	Total £m
Revenue	3	300.2	—	300.2
Cost of sales		(142.9)	—	(142.9)
Gross profit		157.3	—	157.3
Research and development	4	(23.6)	(0.7)	(24.3)
Selling and marketing		(54.1)	—	(54.1)
Administration and shared services		(28.8)	(49.6)	(78.4)
Share of loss of associate, net of tax	5	(0.8)	(8.4)	(9.2)
Other operating income		—	—	—
Foreign exchange		(12.0)	1.2	(10.8)
Operating profit/(loss)		38.0	(57.5)	(19.5)
Other financial income		0.2	—	0.2
Financial income		0.2	—	0.2
Interest charge on pension scheme net liabilities		(1.1)	—	(1.1)
Other financial expenditure		(5.6)	(0.2)	(5.8)
Financial expenditure		(6.7)	(0.2)	(6.9)
Profit/(loss) before income tax		31.5	(57.7)	(26.2)
Income tax (expense)/credit	7	(7.8)	8.5	0.7
Profit/(loss) for the year from continuing operations		23.7	(49.2)	(25.5)
Profit from discontinued operations after tax	6	4.3	0.9	5.2
Profit/(loss) for the year attributable to equity Shareholders of the parent		28.0	(48.3)	(20.3)

		pence		pence
Earnings per share				
Basic earnings per share	2			
From continuing operations		41.5		(44.7)
From discontinued operations		7.5		9.1
From profit for the year		49.0		(35.6)
Diluted earnings per share	2			
From continuing operations		41.4		(44.7)
From discontinued operations		7.5		9.1
From profit for the year		48.9		(35.6)
Dividends per share				
Dividends paid	8			13.0
Dividends proposed	8			13.0

* Adjusted numbers are stated to give a better understanding of the underlying business performance. Details of adjusting items can be found in Note 1 of this Preliminary Statement.

During the current year, the Group amended the presentation in the Income Statement to include the change in fair value derivatives in operating expenses rather than financial income or expenditure. Prior year comparatives have been re-presented to be consistent with this change and, as a result, £1.2 million has now been included on the foreign exchange line. There is no impact on profit after tax in either period.

Consolidated Statement of Comprehensive Income

year ended 31 March 2018

	Notes	2018 £m	2017 £m
Profit/(loss) for the year		**65.5**	(20.3)
Other comprehensive income/(expense):			
Items that may be reclassified subsequently to profit or loss			
Gain on effective portion of changes in fair value of cash flow hedges, net of amounts recycled		**—**	0.1
Foreign exchange translation differences		**(8.8)**	18.8
Net cumulative foreign exchange gain on disposal of subsidiaries recycled to the Income Statement		**(4.8)**	(5.7)
Items that will not be reclassified subsequently to profit or loss			
Remeasurement gain in respect of post-retirement benefits		**2.2**	4.4
Tax on items that will not be reclassified to profit or loss	7	**(0.9)**	(0.9)
Total other comprehensive (expense)/income		**(12.3)**	16.7
Total comprehensive income/(expense) for the year attributable to equity Shareholders of the parent		**53.2**	(3.6)

Consolidated Statement of Financial Position

as at 31 March 2018

	2018 £m	2017 £m
Assets		
Non-current assets		
Property, plant and equipment	**22.8**	32.5
Intangible assets	**158.7**	181.0
Investment in associate	**4.1**	3.9
Long-term receivables	**1.4**	3.6
Deferred tax assets	**13.4**	26.0
	200.4	247.0
Current assets		
Inventories	**45.9**	53.9
Trade and other receivables	**73.3**	81.1
Current income tax recoverable	**2.5**	4.2
Derivative financial instruments	**2.4**	0.6
Cash and cash equivalents	**20.7**	27.2
	144.8	167.0
Total assets	**345.2**	414.0
Equity		
Capital and reserves attributable to the Company's equity Shareholders		
Share capital	**2.9**	2.9
Share premium	**61.7**	61.5
Other reserves	**0.2**	0.2
Translation reserve	**9.2**	22.8
Retained earnings	**105.6**	45.1
	179.6	132.5
Liabilities		
Non-current liabilities		
Bank loans and overdrafts	**39.4**	129.6
Retirement benefit obligations	**15.3**	25.1
Provisions	**1.7**	—
Deferred tax liabilities	**6.1**	5.6
	62.5	160.3
Current liabilities		
Bank loans and overdrafts	**1.0**	6.9
Trade and other payables	**85.5**	93.0
Current income tax payables	**6.2**	6.5
Derivative financial instruments	**0.4**	5.0
Provisions	**10.0**	9.8
	103.1	121.2
Total liabilities	**165.6**	281.5
Total liabilities and equity	**345.2**	414.0

The Financial Statements were approved by the Board of Directors on 12 June 2018 and signed on its behalf by:

Ian Barkshire
Director

Gavin Hill
Director

Company Number: 775598

Consolidated Statement of Changes in Equity

year ended 31 March 2018

	Share capital £m	Share premium account £m	Other reserves £m	Foreign exchange translation reserve £m	Retained earnings £m	Total £m
Balance at 1 April 2017	**2.9**	**61.5**	**0.2**	**22.8**	**45.1**	**132.5**
Total comprehensive income/(expense):						
Loss for the year	—	—	—	—	**65.5**	**65.5**
Other comprehensive income:						
– Foreign exchange translation differences	—	—	—	**(8.8)**	—	**(8.8)**
– Net foreign exchange gain on disposal of subsidiaries recycled to the Income Statement	—	—	—	**(4.8)**	—	**(4.8)**
– Remeasurement gain in respect of post-retirement benefits	—	—	—	—	**2.2**	**2.2**
– Tax on items recognised directly in other comprehensive income	—	—	—	—	**(0.9)**	**(0.9)**
Total comprehensive income/(expense) attributable to equity Shareholders of the parent	—	—	—	**(13.6)**	**66.8**	**53.2**
Transactions with owners recorded directly in equity:						
– Proceeds from issue of shares	—	**0.2**	—	—	—	**0.2**
– Charge in respect of employee service costs settled by award of share options	—	—	—	—	**1.1**	**1.1**
– Dividends paid	—	—	—	—	**(7.4)**	**(7.4)**
Total transactions with owners recorded directly in equity	—	**0.2**	—	—	**(6.3)**	**(6.1)**
Balance at 31 March 2018	**2.9**	**61.7**	**0.2**	**9.2**	**105.6**	**179.6**

Consolidated Statement of Changes in Equity

year ended 31 March 2017

	Share capital £m	Share premium account £m	Other reserves £m	Foreign exchange translation reserve £m	Retained earnings £m	Total £m
Balance at 1 April 2016	2.9	61.5	0.1	9.7	68.8	143.0
Total comprehensive income/(expense):						
Loss for the year	—	—	—	—	(20.3)	(20.3)
Other comprehensive income:						
– Foreign exchange translation differences	—	—	—	18.8	—	18.8
– Net foreign exchange gain on disposal of subsidiaries recycled to the Income Statement	—	—	—	(5.7)	—	(5.7)
– Gain on effective portion of changes in fair value of cash flow hedges, net of amounts recycled	—	—	0.1	—	—	0.1
– Remeasurement gain in respect of post-retirement benefits	—	—	—	—	4.4	4.4
– Tax on items recognised directly in other comprehensive income	—	—	—	—	(0.9)	(0.9)
Total comprehensive income/(expense) attributable to equity Shareholders of the parent	—	—	0.1	13.1	(16.8)	(3.6)
Transactions with owners recorded directly in equity:						
– Charge in respect of employee service costs settled by award of share options	—	—	—	—	0.5	0.5
– Dividends paid	—	—	—	—	(7.4)	(7.4)
Total transactions with owners recorded directly in equity	—	—	—	—	(6.9)	(6.9)
Balance at 31 March 2017	2.9	61.5	0.2	22.8	45.1	132.5

Other reserves comprise the capital redemption reserve, which represents the nominal value of shares repurchased and then cancelled during the year ended 31 March 1999, and the hedging reserve in respect of the effective portion of changes in value of commodity contracts.

The foreign exchange translation reserve comprises all foreign exchange differences arising since 1 April 2004 from the translation of the Group's net investments in foreign subsidiaries into Sterling.

The Group holds 183,145 (2017: 183,145) of its own shares in an employee benefit trust. The cost of these shares is included within retained earnings. There was no movement in the shares held by the trust during the year.

Consolidated Statement of Cash Flows year ended 31 March 2018

	2018 £m	2017 £m
Profit/(loss) for the year	**65.5**	(20.3)
Profit for the year from discontinued operations (note 6)	**(45.9)**	(5.2)
Profit/(loss) for the year from continuing operations	**19.6**	(25.5)
Adjustments for:		
Income tax expense/(credit)	**14.6**	(0.7)
Net financial expense	**4.2**	6.7
Fair value movement on financial derivatives	**(3.1)**	(1.2)
Acquisition related costs	**—**	0.3
Restructuring costs	**1.2**	0.4
Restructuring costs – relating to associate	**0.4**	0.4
One-off impairment of capitalised development costs	**—**	0.7
Loss on disposal of subsidiary	**—**	0.4
Net profit on disposal of buildings	**(3.3)**	—
Share of impairment recognised by associate	**2.0**	—
Impairment of investment in associate	—	8.0
Amortisation and impairment of acquired intangibles	**10.9**	46.3
Impairment of capitalised intangible software costs	—	2.2
Depreciation of property, plant and equipment	**4.7**	5.1
Amortisation and impairment of capitalised development costs	**4.4**	3.8
Adjusted earnings before interest, tax, depreciation and amortisation	**55.6**	46.9
Loss on disposal of property, plant and equipment	**0.3**	0.5
Cost of equity settled employee share schemes	**1.1**	0.5
Share of (profit)/loss from associate	**(0.5)**	0.8
Restructuring costs paid	**(1.3)**	(1.1)
Foreign currency loss on intra-Group dividends	**—**	(0.8)
Cash payments to the pension scheme more than the charge to operating profit	**(7.9)**	(6.9)
Operating cash flows before movements in working capital	**47.3**	39.9
Increase in inventories	**(4.5)**	(1.7)
Increase in receivables	**(14.4)**	(1.1)
Increase/(decrease) in payables and provisions	**2.8**	(2.5)
Increase in customer deposits	**2.9**	0.9
Purchase of rental assets held for subsequent sale	**(0.7)**	(1.0)
Cash generated from continuing operations	**33.4**	34.5
Interest paid	**(2.1)**	(5.0)
Income taxes paid	**(3.8)**	(2.1)
Net cash from operating activities – continuing operations	**27.5**	27.4
Net cash from operating activities – discontinued operations	**3.0**	6.1
Net cash flow from operative activities	**30.5**	33.5
Cash flows from investing activities		
Proceeds from sale of property, plant and equipment	**9.3**	**—**
Acquisition of subsidiaries, net of cash acquired	—	(9.8)
Acquisition of property, plant and equipment	**(4.3)**	(3.0)
Acquisition of intangible assets	**(0.5)**	(0.1)
Net cash flow on disposal of businesses	**71.2**	12.2
Capitalised development expenditure	**(5.8)**	(5.9)
Increase in investment in associate	**(2.1)**	—
Decrease in long-term receivables	**0.9**	—
Net cash generated from/(used in) investing activities – continuing operations	**68.7**	(6.6)
Net cash used in investing activities – discontinued operations	—	(2.5)
Net cash generated from/(used in) investing activities	**68.7**	(9.1)
Cash flows from financing activities		
Proceeds from issue of share capital	**0.2**	—
Decrease in borrowings	**(96.8)**	(12.8)
Dividends paid	**(7.4)**	(7.4)
Net cash used in financing activities	**(104.0)**	(20.2)

Consolidated Statement of Cash Flows year ended 31 March 2018 (continued)

Net (decrease)/increase in cash and cash equivalents	**(4.8)**	4.2
Cash and cash equivalents at beginning of the year	**26.5**	20.4
Effect of exchange rate fluctuations on cash held	**(1.0)**	1.9
Cash and cash equivalents at end of the year	**20.7**	26.5

Reconciliation of changes in cash and cash equivalents to movement in net debt

	2018	2017
	£m	£m
(Decrease)/increase in cash and cash equivalents	**(4.8)**	4.2
Effect of foreign exchange rate changes on cash and cash equivalents	**(1.0)**	1.9
	(5.8)	6.1
Cash outflow from decrease in debt	**96.8**	12.8
Accrued interest	**(1.0)**	—
Amortisation of prepaid issuance fees	**(0.4)**	—
Movement in net debt in the year	**89.6**	18.9
Net debt at start of the year	**(109.3)**	(128.2)
Net debt at the end of the year	**(19.7)**	(109.3)

Notes to the Financial Statements
year ended 31 March 2018

1 Non-GAAP measures
In the preparation of adjusted numbers the Directors exclude certain items in order to assist with comparability between peers and to give what they consider to be a better indication of the underlying performance of the business. These adjusting items are excluded in the calculation of adjusted operating profit, adjusted profit before income tax, adjusted profit for the year from continuing operations, adjusted EBITDA, adjusted EPS, adjusted cash conversion, and adjusted effective tax rate. Details of adjusting items are given below.

Adjusted EBITDA is calculated by adding back depreciation of property, plant and equipment and amortisation of intangible assets to adjusted operating profit and can be found in the Consolidated Statement of Cash Flows. Calculation of Adjusted EPS can be found in note 2. Adjusted effective tax rate is calculated by dividing the share of tax attributable to adjusted profit before tax by adjusted profit before tax.

Reconciliation between profit before income tax and adjusted profit from continuing operations

	2018		2017	
	Operating profit £m	**Profit before income tax £m**	Operating (loss)/profit £m	(Loss)/profit before income tax £m
Statutory measure from continuing operations	**38.4**	**34.2**	(19.5)	(26.2)
Acquisition related costs	—	—	0.3	0.3
Restructuring costs	**1.2**	**1.2**	0.4	0.4
Restructuring costs – relating to associate	**0.4**	**0.4**	0.4	0.4
Loss on disposal of subsidiary	—	—	0.4	0.4
Net profit on disposal of buildings	**(3.3)**	**(3.3)**	—	—
Unwind of discount in respect of contingent consideration and acquisition related accruals	—	—	—	0.2
Business reorganisation items	**(1.7)**	**(1.7)**	1.5	1.7
Impairment of acquired intangibles	**—**	**—**	33.8	33.8
Impairment of investment in associate	**—**	**—**	8.0	8.0
Share of impairment recognised by associate	**2.0**	**2.0**	—	—
Impairment of capitalised development costs	**—**	**—**	0.7	0.7
Impairment of capitalised software costs	**—**	**—**	2.2	2.2
Amortisation of acquired intangibles	**10.9**	**10.9**	12.5	12.5
Mark-to-market gain in respect of derivative financial instruments	**(3.1)**	**(3.1)**	(1.2)	(1.2)
Adjusted measure from continuing operations	**46.5**	**42.3**	38.0	31.5
Share of taxation		**(10.1)**		(7.8)
Adjusted profit for the year from continuing operations		**32.2**		23.7
Adjusted effective tax rate		**23.9%**		24.8%

Acquisition related costs comprise professional fees incurred in relation to mergers and acquisitions activity and any consideration which, under IFRS 3 (revised), falls to be treated as a post-acquisition employment expense.

Restructuring costs of £1.2m primarily relate to our US Healthcare business and include £0.5m to successfully defend a legal claim relating to a prior acquisition.

During the prior year the Group settled various claims totalling £0.4m relating to the disposal of its Omicron business in 2016.

The Group recorded a net profit on disposal of £3.3m during the year, following the disposal of two buildings previously held under property, plant and equipment.

Notes to the Financial Statements (continued)
year ended 31 March 2018

1 Non-GAAP measures (continued)
During the year the Group's equity accounted associate recognised an impairment relating to the disposal of its Vacgen subsidiary. The Group's share of this impairment was £2.0m.

Adjusted profit excludes the non-cash amortisation and impairment of acquired intangible assets and goodwill and the unwind of discounts in respect of contingent consideration relating to business combinations. Impairments in respect of capitalised development costs would not normally be treated as adjusting items although in certain circumstances they may be, for example, in the prior year a project was completely cancelled as part of a wider restructuring plan.

Adjusting items include the income tax on each of the items described above. In addition, during the year the tax rate in the United States reduced from 35% to 21%. As a result this has reduced the deferred tax asset by £5.4m. This has been excluded from the calculation of share of taxation attributable to adjusted profit before tax.

During the prior year the Group recognised the following impairments:

- £8.0m relating to its equity accounted associate investment. See note 5 for further details
- £0.7m concerning capitalised development costs that related to a specific internal systems project that was stopped as the Group focused and directed resources so as to accelerate key projects.
- £2.2m relating to capitalised software costs, following a reassessment of the future value expected to be derived from internally developed software.

The Group reports ineffectiveness of its hedging as an adjusting item. In the prior year this included losses on certain contracts relating to the hedging of the Japanese Yen which were not required for ordinary trading and which were re-allocated for use against the remittance of net income of the Group's Japan operations. Additionally, under IAS 39, all derivative financial instruments are recognised initially at fair value. Subsequent to initial recognition, they are also measured at fair value. In respect of instruments used to hedge foreign exchange risk and interest rate risk the Group does not take advantage of the hedge accounting rules provided for in IAS 39 since that standard requires certain stringent criteria to be met in order to hedge account, which, in the particular circumstances of the Group, are considered by the Board not to bring any significant economic benefit. Accordingly, the Group accounts for these derivative financial instruments at fair value through profit or loss. To the extent that instruments are hedges of future transactions, adjusted profit for the year is stated before changes in the valuation of these instruments so that the underlying performance of the Group can be more clearly seen.

Notes to the Financial Statements (continued)

year ended 31 March 2018

2 Earnings per share

Basic and diluted EPS from continuing operations are based on the result for the year from continuing operations, as reported in the Group Income Statement. Basic and diluted EPS from total operations are based on the result for the year attributable to equity shareholders of the parent. Adjusted and diluted adjusted EPS are based on adjusted profit for the year from continuing operations. The profit measures noted above are divided by the weighted average number of ordinary shares outstanding during the year, excluding shares held by the Employee Share Ownership Trust. The table below reconciles these different profit measures.

	Continuing operations £m	**Discontinued operations £m**	**2018 total £m**	Continuing operations £m	Discontinued operations £m	2017 total £m
Profit/(loss) for the year attributable to equity Shareholders of the parent	**19.6**	**45.9**	**65.5**	(25.5)	5.2	(20.3)
Adjusting items:						
Non-recurring and acquisition related items	**(1.7)**			1.7		
Impairment of acquired intangibles	—			33.8		
Impairment of investment in associate	—			8.0		
Share of impairment recognised by associate	**2.0**			—		
Impairment of capitalised development costs	—			0.7		
Impairment of capitalised software costs	—			2.2		
Amortisation of acquired intangibles	**10.9**			12.5		
Mark-to-market gain in respect of derivative financial instruments	**(3.1)**			(1.2)		
Income tax charge/(credit)	**4.5**			(8.5)		
Adjusted profit for the year from continuing operations	**32.2**			23.7		

The weighted average number of shares used in the calculation excludes shares held by the Employee Share Ownership Trust, as follows:

	2018 Shares million	2017 Shares million
Weighted average number of shares outstanding	**57.4**	57.3
Less shares held by Employee Share Ownership Trust	**(0.2)**	(0.2)
Weighted average number of shares used in calculation of basic earnings per share	**57.2**	57.1

The following table shows the effect of share options on the calculation of diluted earnings per share:

	2018 Shares million	2017 Shares million
Weighted average number of ordinary shares per basic earnings per share calculations	**57.2**	57.1
Effect of shares under option	**0.2**	0.1
Weighted average number of ordinary shares per diluted earnings per share calculations	**57.4**	57.2

For the purposes of calculating diluted and diluted adjusted EPS, the weighted average number of ordinary shares is adjusted to include the weighted average number of ordinary shares that would be issued on the conversion of all potentially dilutive ordinary shares expected to vest, relating to the Company's share-based payment plans. Potential ordinary shares are only treated as dilutive when their conversion to ordinary shares would decrease EPS, or increase loss per share.

Notes to the Financial Statements (continued)

year ended 31 March 2018

3 Segment information

The Group has ten operating segments. These operating segments have been combined into three aggregated operating segments to the extent that they have similar economic characteristics, with relevance to products and services, type and class of customer, methods of sale and distribution and the regulatory environment in which they operate. Each of these three aggregated operating segments is a reportable segment.

Following the disposal of the Industrial Analysis business and the introduction of the Horizon Strategy in 2017, the Group now reports under a revised segment structure. The aggregated operating segments are as follows:

- the Materials and Characterisation segment comprises a group of businesses focusing on applied R&D and commercial customers, enabling the fabrication and characterisation of materials and devices down to the atomic scale;
- the Research and Discovery segment comprises a group of businesses providing advanced solutions that create unique environments and enable measurements down to the molecular and atomic level which are used in fundamental research; and
- the Service and Healthcare segment provides customer service and support for the Group's products and the service, sale and rental of third party healthcare imaging systems.

The Group's internal management structure and financial reporting systems have been amended to differentiate the three aggregated operating segments on the basis of the economic characteristics discussed above. Prior year comparatives have been re-presented due to the change in the Group's segment structure.

Reportable segment results include items directly attributable to a segment as well as those which can be allocated on a reasonable basis. Inter-segment pricing is determined on an arm's length basis. The operating results of each are regularly reviewed by the Chief Operating Decision Maker, which is deemed to be the Board of Directors. Discrete financial information is available for each segment and used by the Board of Directors for decisions on resource allocation and to assess performance. No asset information is presented below as this information is not presented in reporting to the Group's Board of Directors.

a) Analysis by business

Results from continuing operations Year to 31 March 2018	**Materials & Characterisation £m**	**Research & Discovery £m**	**Service & Healthcare £m**	**Total £m**
External revenue	**118.1**	**112.0**	**66.8**	**296.9**
Inter-segment revenue	—	**0.1**	—	
Total segment revenue	**118.1**	**112.1**	**66.8**	
Segment adjusted operating profit from continuing operations	**20.1**	**13.8**	**12.6**	**46.5**

Results from continuing operations (re-presented) Year to 31 March 2017	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Total £m
External revenue	105.7	125.2	69.3	300.2
Inter-segment revenue	—	0.1	—	
Total segment revenue	105.7	125.3	69.3	
Segment adjusted operating profit from continuing operations	12.2	13.8	12.0	38.0

The adjusted profit after tax of £0.5m (2017: £0.8m) from the Group's associate is reported within the Research & Discovery segment.

Revenue in the Materials & Characterisation and Research & Discovery segments represents the sale of products. Revenue in the Service & Healthcare segment relates to service income, with the exception of leasing of mobile MRIs of £6.1m (2017: £9.0m) and equipment sales of £3.3m (2017: £5.6m).

Notes to the Financial Statements (continued)

year ended 31 March 2018

3 Segment information (continued)

Reconciliation of reportable segment profit

Year to 31 March 2018	**Materials & Characterisation £m**	**Research & Discovery £m**	**Service & Healthcare £m**	**Unallocated Group items £m**	**Total £m**
Adjusted profit for reportable segments from continuing operations	**20.1**	**13.8**	**12.6**	—	**46.5**
Restructuring costs	**(0.3)**	—	**(0.9)**	—	**(1.2)**
Restructuring costs – relating to associate	—	**(0.4)**	—	—	**(0.4)**
Net profit on disposal of buildings	—	—	—	**3.3**	**3.3**
Share of impairment recognised by associate	—	**(2.0)**	—	—	**(2.0)**
Amortisation of acquired intangibles	**(2.5)**	**(7.3)**	**(1.1)**	—	**(10.9)**
Fair value movement on financial derivatives	—	—	—	**3.1**	**3.1**
Financial income	—	—	—	**0.3**	**0.3**
Financial expenditure	—	—	—	**(4.5)**	**(4.5)**
Profit before income tax on continuing operations	**17.3**	**4.1**	**10.6**	**2.2**	**34.2**

Year to 31 March 2017 (re-presented)	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Unallocated Group items £m	Total £m
Adjusted profit for reportable segments from continuing operations	12.2	13.8	12.0	—	38.0
Acquisition related costs	—	(0.3)	—	—	(0.3)
Restructuring costs	—	—	(0.4)	—	(0.4)
Restructuring costs – relating to associate	—	(0.4)	—	—	(0.4)
Impairment of capitalised development costs	(0.7)	—	—	—	(0.7)
Loss on disposal of subsidiary	—	(0.4)	—	—	(0.4)
Impairment of investment in associate	—	(8.0)	—	—	(8.0)
Impairment of capitalised software costs	—	—	—	(2.2)	(2.2)
Amortisation of acquired intangibles	(2.9)	(7.7)	(1.9)	—	(12.5)
Impairment of acquired intangibles	(22.6)	—	(11.2)	—	(33.8)
Fair value movement on financial derivatives	—	—	—	1.2	1.2
Financial income	—	—	—	0.2	0.2
Financial expenditure	—	—	—	(6.9)	(6.9)
Loss before income tax from continuing operations	(14.0)	(3.0)	(1.5)	(7.7)	(26.2)

Depreciation, capital expenditure, amortisation and impairment of intangibles and capitalised development costs arise in the following segments:

	2018		2017 (re-presented)	
	Depreciation £m	**Capital expenditure £m**	Depreciation £m	Capital expenditure £m
Materials & Characterisation	**1.5**	**2.8**	1.6	1.7
Research & Discovery	**0.8**	**0.8**	1.0	0.7
Service & Healthcare	**1.8**	**1.0**	1.9	1.4
Unallocated Group items	**0.6**	**0.9**	0.6	0.3
Total	**4.7**	**5.5**	5.1	4.1

Notes to the Financial Statements (continued)

year ended 31 March 2018

3 Segment information (continued)

	2018		2017 (re-presented)	
	Amortisation and impairment £m	**Capitalised development costs £m**	Amortisation and impairment £m	Capitalised development costs £m
Materials & Characterisation	**5.8**	**4.8**	28.1	5.0
Research & Discovery	**8.4**	**1.0**	17.5	0.9
Service & Healthcare	**1.1**	**—**	13.2	—
Unallocated Group items	**—**	**—**	2.2	—
Total	**15.3**	**5.8**	61.0	5.9

b) Geographical analysis

The Group's reportable segments are located across a number of geographical locations and make sales to customers in countries across the world.

The analysis below shows revenue and non-current assets (excluding deferred tax) for individual countries or regions that represent more than 5% of revenue.

Revenue from continuing operations from external customers by destination

	2018 £m	2017 £m
USA	**89.5**	97.1
Rest of Europe	**35.9**	35.4
Rest of Asia	**35.8**	32.6
UK	**18.1**	15.3
Japan	**34.9**	33.9
China	**49.6**	53.6
Germany	**24.8**	23.7
Rest of World	**8.3**	8.6
Total	**296.9**	300.2

Non-current assets (excluding deferred tax)

	2018 £m	2017 £m
UK	**160.4**	181.2
Germany	**3.3**	10.4
USA	**11.3**	10.3
Japan	**0.5**	0.6
China	**0.2**	0.5
Rest of Europe	**9.6**	15.4
Rest of Asia	**—**	0.1
Rest of World	**1.7**	2.5
Total	**187.0**	221.0

Notes to the Financial Statements (continued)

year ended 31 March 2018

4 Research and Development ("R&D")

The total R&D spend by the Group as part of continuing operations is as follows:

	2018			2017		
	Materials & Characterisation £m	**Research & Discovery £m**	**Total £m**	Materials & Characterisation £m	Research & Discovery £m	Total £m
R&D expense charged to the Consolidated Statement of Income	**12.3**	**11.1**	**23.4**	11.3	13.0	24.3
Less: depreciation of R&D related fixed assets	**(0.1)**	**—**	**(0.1)**	(0.1)	—	(0.1)
Add: amounts capitalised as fixed assets	**—**	**0.1**	**0.1**	0.1	0.1	0.2
Less: amortisation and impairment of R&D costs previously capitalised as intangibles	**(3.2)**	**(1.2)**	**(4.4)**	(2.6)	(1.9)	(4.5)
Add: amounts capitalised as intangible assets	**4.8**	**1.0**	**5.8**	5.0	0.9	5.9
Total cash spent on R&D during the year	**13.8**	**11.0**	**24.8**	13.7	12.1	25.8

5 Investment in associate

During the 2015/16 financial year the Group entered into a strategic alliance with GD Intressenter AB of Sweden ("GDI") to create the world's largest company in the highly specialised ultra high vacuum surface science field. The alliance comprised Oxford Instruments' Omicron Nanotechnology GmbH ("Omicron") and associated subsidiaries and GDI's Scienta Scientific AB ("Scienta") and associated subsidiaries. Scienta Scientific AB is registered and has its principal place of business in Sweden.

In consideration for new shares in Scienta, Oxford Instruments transferred all of its shares in the capital of Omicron to Scienta. Oxford Instruments holds a 47% interest in the ordinary share capital of Scienta and GDI holds 53%. The investment has been accounted for as an associate taking into account the following factors:

- the Group holds substantial, but minority, voting rights (47%). All other rights are controlled by a single shareholder;
- the Group has a minority number of Non-Executive Board seats (two of five), with the remaining seats held by representatives of GDI; and
- whilst the Group has certain veto rights in respect of certain decisions, it cannot unilaterally direct the activities of the Scienta Group.

During the current year the Group invested a further £2.1m in its equity accounted associate. During the prior year the Group recognised an impairment charge of £8.0m in respect of its investment in Scienta and settled various claims totalling £0.4m relating to the disposal of its Omicron business in 2015/16.

Notes to the Financial Statements (continued)

year ended 31 March 2018

5 Investment in associate (continued)

The Group's share of loss in its equity accounted associate for the year was £1.9m (2017: £1.2m). The Group did not receive any dividends from the associate in either period.

	2018 £m	2017 £m
Carrying value at 1 April 2017	**3.9**	13.1
Addition	**2.1**	—
Share of loss of associate (net of tax)	**(1.9)**	(1.2)
Impairment charge	—	(8.0)
Dividends received	—	—
Carrying value at 31 March 2018	**4.1**	3.9

During the prior year the Group recognised an impairment charge of £8.0m relating to its investment in ScientaOmicron due to the associate's financial performance for the year ended 31 December 2016 and lower projected cash flows. This resulted in a reassessment of ScientaOmicron's expected future business performance and the actions and time required to improve profitability and operational efficiency.

The £8.0m impairment was reported in the results of the Research & Discovery segment. As at 31 March 2017, the estimate of the recoverable amount of the Group's investment in ScientaOmicron, being its value in use, was calculated as £3.9m. The pre-tax discount rate used to arrive at this estimate was 15.5%. No further impairment is considered to be required as at 31 March 2018.

Summary financial information for the equity accounted associate is as follows:

	2018 £m	2017 £m
Non-current assets	**2.3**	3.5
Current assets	**23.7**	25.0
Total assets	**26.0**	28.5
Current liabilities	**(12.1)**	(21.7)
Non-current liabilities	**(9.2)**	(3.6)
Total liabilities	**(21.3)**	(25.3)
Net assets	**4.7**	3.2
Income	**51.0**	50.8
Expenses	**(55.0)**	(53.3)
Loss for the year	**(4.0)**	(2.5)
Group's share of net assets	**2.2**	1.5
Group's share of loss	**(1.9)**	(1.2)

According to the terms of the transaction, no dividend could be paid by the associate until 27 May 2017. Following that date, any dividend paid must be agreed by both Oxford Instruments plc and GD Intressenter AB, up to a maximum of 50% of the previous year's profit after tax. At the date of signing these Financial Statements no dividend has been declared or paid.

Notes to the Financial Statements (continued)

year ended 31 March 2018

6 Disposal of subsidiary and discontinued operations

On 3 July 2017 the Group disposed of its Industrial Analysis business for a final consideration of £82.8m. On 17 November 2016 the Group disposed of its Superconducting Wire business for a final consideration of £14.0m.

Effect of disposal on the financial position of the Group

	Industrial Analysis 2018 £m	Superconducting Wire 2017 £m
Goodwill	**(4.3)**	—
Acquired intangible assets	**(0.1)**	—
Other intangible assets	**(4.7)**	—
Property, plant and equipment	**(2.4)**	(3.1)
Inventory	**(11.5)**	(12.6)
Trade and other receivables	**(9.8)**	(6.5)
Cash and cash equivalents	**(6.0)**	(0.3)
Trade and other payables	**8.6**	6.6
Provisions	**0.8**	0.1
Tax balances	**(0.4)**	—
Net assets divested	**(29.8)**	(15.8)
Consideration receivable	**82.8**	14.0
Deferred consideration	—	(1.0)
Consideration received, satisfied in cash	**82.8**	13.0
Cash disposed of	**(6.0)**	(0.3)
Transaction expenses	**(5.6)**	(0.5)
Net cash inflow	**71.2**	12.2
Carrying value of net assets disposed of (excluding cash and cash equivalents)	**(23.8)**	(15.5)
Deferred consideration	—	1.0
Recognition of provision on disposal	**(2.1)**	(0.2)
Currency translation differences transferred from translation reserve	**4.8**	5.7
Gain on disposal	**50.1**	3.2
Tax (charge)/credit on gain on disposal	**(2.3)**	0.9
Gain on disposal net of tax	**47.8**	4.1

The recognition of provisions on disposal primarily relate to onerous lease contracts. These have been recognised in the Income Statement under discontinued operations.

Discontinued operations

In the year to 31 March 2018 the Group's Industrial Analysis business was classified as a discontinued operation; and in the year to 31 March 2017 the Group's Superconducting Wire business was classified as a discontinued operation. They were considered major classes of business on the basis that they were previously operating segments and referred to in the Group Strategic Report.

The 2017 Financial Statements have been re-presented to reflect the classification of the Group's Industrial Analysis business as a discontinued operation.

Notes to the Financial Statements (continued)

year ended 31 March 2018

6 Disposal of subsidiary and discontinued operations (continued)

Results of discontinued operations – year to 31 March 2018

	Industrial Analysis £m
Revenue	**16.8**
Expenses	**(16.3)**
Adjusted profit before tax	**0.5**
Income tax charge	**(0.9)**
Adjusted profit after tax	**(0.4)**
Adjusting items:	
Amortisation of acquired intangibles	**(0.1)**
One off costs arising as a result of disposal	**(2.2)**
Income tax on adjusting items	**0.8**
Loss after tax	**(1.9)**
Gain on disposal	**50.1**
Tax on gain on disposal	**(2.3)**
Profit from discontinued operations after tax	**45.9**

Results of discontinued operations – year to 31 March 2017

	Industrial Analysis £m	Superconducting Wire £m	Austin Scientific £m	Total £m
Revenue	48.3	22.2	—	70.5
Expenses	(43.8)	(20.9)	(0.2)	(64.9)
Adjusted profit/(loss) before tax	4.5	1.3	(0.2)	5.6
Income tax charge	(0.9)	(0.4)	—	(1.3)
Adjusted profit/(loss) after tax	3.6	0.9	(0.2)	4.3
Adjusting items:				
Amortisation and impairment of acquired intangibles	(2.4)	—	—	(2.4)
Acquisition related costs	(1.2)	—	—	(1.2)
Restructuring costs	(0.2)	—	—	(0.2)
Income tax on adjusting items	0.6	—	—	0.6
Profit/(loss) after tax	0.4	0.9	(0.2)	1.1
Gain on disposal	—	3.2	—	3.2
Tax on gain on disposal	—	0.9	—	0.9
Profit/(loss) from discontinued operations after tax	0.4	5.0	(0.2)	5.2

Earnings per share from discontinued operations

	2018 pence	2017 pence
Adjusted basic (loss)/earnings per share	**(0.7)**	7.5
Adjusted diluted (loss)/earnings per share	**(0.7)**	7.5
Total basic earnings per share	**80.2**	9.1
Total diluted earnings per share	**80.0**	9.1

Cash flows from discontinued operations

	2018 £m	2017 £m
Net cash generated from operating activities	**3.0**	6.1
Net cash generated from/(used in) investing activities	**71.2**	(9.7)
Net cash used in financing activities	—	—

Notes to the Financial Statements (continued)

year ended 31 March 2018

7 Income tax expense

Recognised in the Consolidated Statement of Income

	2018 £m	2017 £m
Current tax expense		
Current year	**7.3**	6.2
Adjustment in respect of prior years	**(1.7)**	(2.2)
	5.6	4.0
Deferred tax expense		
Origination and reversal of temporary differences	**7.3**	(5.6)
Adjustment in respect of prior years	**1.7**	0.9
	9.0	(4.7)
Total tax expense/(credit)	**14.6**	(0.7)
Reconciliation of effective tax rate		
Profit/(loss) before income tax	**34.2**	(26.2)
Income tax using the weighted average statutory tax rate of 22% (2017: 22%)	**7.5**	(5.8)
Effect of:		
Tax rates other than the weighted average statutory rate	**0.3**	(0.5)
Change in rate at which deferred tax recognised	**5.3**	(0.2)
Transaction costs, deferred consideration and impairments not deductible for tax	**1.2**	5.6
Non-taxable income and expenses	—	1.4
Tax incentives not recognised in the Consolidated Statement of Income	**(0.7)**	(0.4)
Current period losses not available for carry forward	**0.4**	—
Movement in unrecognised deferred tax	**0.6**	0.6
Adjustment in respect of prior years	—	(1.4)
Total tax expense/(credit)	**14.6**	(0.7)
Taxation charge recognised in other comprehensive income		
Deferred tax – relating to employee benefits	**0.9**	0.9
	0.9	0.9
Taxation charge recognised directly in equity		
Deferred tax – relating to share options	—	—

Reductions in the UK corporation tax rate from 20% to 19% (effective from 1 April 2017) and to 18% (effective from 1 April 2020) were substantively enacted on 26 October 2015, and an additional reduction to 17% (effective from 1 April 2020) was substantively enacted on 6 September 2016. This will reduce the Company's future current tax charge accordingly. The UK deferred tax liability at 31 March 2018 has been calculated based on those rates. The Group carries tax provisions in relation to uncertain tax positions arising from the possible outcome of negotiations with tax authorities. Such provisions are a reflection of the geographical spread of the Group's operations and the variety of jurisdictions in which it carries out its activities.

Effective 1 January 2018 the rate of federal tax in the US was reduced from 35% to 21% and, as a result, deferred tax assets were reduced by £5.4m. The Group currently expects that on an on-going basis the effective tax rate will be reduced by between 1% and 2% because of this rate reduction.

The current tax liability payable includes a provision of £3.4m for uncertain tax positions. The liability includes an amount of £2.9m in respect of the Group's financing structure. The range of possible outcomes is between £nil and £5.1m. It is possible that if the outcome is different to that estimated by management there could be a material effect on the financial statements in the next 12 months.

In October 2017 the EU Commission opened a formal State Aid investigation into an exemption within the UK's current Controlled Foreign Company ('CFC') regime (introduced in 2013) for certain finance income. The investigation is ongoing, but if the Commission ultimately concludes that the provisions do constitute State Aid then they would require the UK to recover any such aid from affected parties. The Group has claimed the benefit of this exemption, and therefore may be adversely affected by the outcome of the investigation. If the Commission were to conclude that the finance exemption with the UK's CFC regime constitutes State Aid and no other exemptions were available to the

Notes to the Financial Statements (continued)

year ended 31 March 2018

7 Income tax expense (continued)

Group then, as at 31 March 2018, an additional liability of £1.7m in respect of tax and £0.1m in respect of interest would arise unless such a decision could be successfully challenged in the EU Courts. However, no provision has been made in respect of this investigation since we believe that it is more likely than not that no additional tax will ultimately be due.

8 Dividends per share

The following dividends per share were paid by the Group:

	2018 pence	2017 pence
Previous year interim dividend	**3.7**	3.7
Previous year final dividend	**9.3**	9.3
	13.0	13.0

The following dividends per share were proposed by the Group in respect of each accounting year presented:

	2018 pence	2017 pence
Interim dividend	**3.7**	3.7
Final dividend	**9.6**	9.3
	13.3	13.0

The interim dividend was not provided for at the year end and was paid on 6 April 2018. The final proposed dividend of 9.6 pence per share (2017: 9.3 pence) was not provided at the year end and will be paid on 19 October 2018 subject to authorisation by the Shareholders at the forthcoming Annual General Meeting.

9 Basis of preparation

This preliminary announcement does not constitute the Company's statutory accounts for the years ended 31 March 2018 or 2017. Statutory accounts for 2017 have been delivered to the registrar of companies and those for 2018 will be delivered in due course. The auditor has reported on those accounts: their reports were (i) unqualified, (ii) did not include a reference to any matters to which the auditor 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.

The financial information presented in this preliminary announcement for the year ended 31 March 2018 is based on, and is consistent with, that in the Group's audited Financial Statements for the year ended 31 March 2018. No revisions to adopted IFRS that became applicable in 2018 had a significant impact on the Group's Financial Statements for the year ended 31 March 2018.

The Company is registered in England, Registration Number 775598.

Notes to the Financial Statements (continued)

year ended 31 March 2018

9 Basis of preparation (continued)

The principal exchange rates to Sterling used were:

Year-end rates	2018	2017
US Dollar	**1.40**	1.25
Euro	**1.14**	1.17
Yen	**149**	139

Average translation rates 2018	US Dollar	Euro	Yen
April	**1.27**	**1.18**	**142**
May	**1.29**	**1.17**	**143**
June	**1.29**	**1.14**	**144**
July	**1.31**	**1.13**	**146**
August	**1.30**	**1.10**	**143**
September	**1.31**	**1.11**	**146**
October	**1.33**	**1.13**	**150**
November	**1.32**	**1.13**	**149**
December	**1.34**	**1.12**	**151**
January	**1.39**	**1.13**	**153**
February	**1.41**	**1.14**	**151**
March	**1.40**	**1.14**	**149**

Average translation rates 2017	US Dollar	Euro	Yen
April	1.45	1.27	159
May	1.46	1.30	159
June	1.41	1.27	150
July	1.35	1.21	138
August	1.32	1.18	134
September	1.31	1.16	132
October	1.26	1.13	130
November	1.23	1.14	134
December	1.24	1.17	142
January	1.25	1.17	144
February	1.25	1.18	142
March	1.25	1.18	140

10 The Annual General Meeting

The Annual General Meeting will be held on 11 September 2018 at Group Head Office, Tubney Woods, Abingdon, Oxfordshire, OX13 5QX.

Notes to the Financial Statements (continued)

year ended 31 March 2018

11 Principal Risks and Uncertainties

Specific risk 1: Technical risk

Context: The Group provides high technology equipment, systems and services to its customers.

Risk	Possible impact	Control mechanisms	Mitigation
• Failure of the advanced technologies applied by the Group to produce commercially viable products.	• Loss of market share or negative pricing pressure resulting in lower turnover and reduced profitability. • Additional NPI expenditure. • Adverse impact on the Group's brand and reputation.	• "Voice of the Customer" approach and market intimacy to direct product development activities. • Formal NPI processes to prioritise investment and to manage R&D expenditure. • Product lifecycle management.	• Understanding customer needs/expectations and targeted new product development programme to maintain and strengthen product positioning. • Stage gate process in product development to challenge commercial business case and mitigate technical risks. • Operational practices around sales-production matching and inventory management to mitigate stock obsolescence risks.

Specific risk 2: Routes to market

Context: In some instances the Group's products are components of higher-level systems sold by OEMs, and thus the Group does not control its route to market.

Risk	Possible impact	Control mechanisms	Mitigation
• Consolidation by OEMs in key markets.	• Loss of key customers / route to market. • New competitors. • Reduction in sales volumes or pricing and lower profitability.	• Customer intimacy to match product performance to customer needs. • Positioning of Oxford Instruments brand and marketing directly to end users.	• Product differentiation to promote advantages of Oxford Instruments equipment and solutions. • Strategic marketing with OEMs to sell performance of the combined system. • Broadening the OEM customer base. • Direct marketing to end users.

Specific risk 3: Economic environment

Context: Government expenditure may become constrained in key markets.

Risk	Possible impact	Control mechanisms	Mitigation
• Reduction in research funding in key markets such as the US, China and the EU (including the UK).	• Lower sales and profitability.	• Market intimacy and diversification strategy.	• Increased focus on customers that are not reliant on government funding.

Specific risk 4: Political risk

Context: The Group operates in global markets and can be required to secure export licences from governments.

Risk	Possible impact	Control mechanisms	Mitigation
• Changes in the geopolitical landscape or a global trade war resulting in a complete embargo on trade with specific nations or punitive tariffs.	• Lower exports adversely affecting turnover. • Increases to input costs and lower gross margins.	• Contract review and protection against breach in the event that export licence is withheld.	• Broad global customer base; contractual protection.

Notes to the Financial Statements (continued)

year ended 31 March 2018

11 Principal Risks and Uncertainties (continued)

Specific risk 5: Brexit related risks

Context: The UK will leave the EU.

Risk	Possible impact	Control mechanisms	Mitigation
• Lower participation in EU-funded research projects post Brexit. • Potential short-term hiatus in UK research funding. • Barriers to existing free movement of goods and services in the EU. • Tariffs on exports to EU countries from the UK and vice versa • UK becomes less attractive to EU nationals as a place to work	• Lower sales and profitability. • Salary inflation. • Loss of key skills, and/or increased recruitment, and/or salary costs. • Supply chain disruption • Lower net pricing on UK exports to EU and increased input costs on products sourced from the EU.	• Customer intimacy and monitoring of funded projects. • Strategic supply chain review; • Product pricing reviews. • Skills and capabilities reviews. • Brexit Committee.	• Market diversification • Long-term pricing agreements for key suppliers and strategic sourcing review. • Pricing strategy. • Renewal of UK work permit scheme to facilitate employment of non-UK/EU nationals. • Application for Authorised Economic Operator status to facilitate movement of goods with EU 27.

Specific risk 6: Supply chain risk

Context: The Group operates a strategic make or buy policy which places reliance on key partners, notably single source suppliers in terms of pricing and on time delivery.

Risk	Possible impact	Control mechanisms	Mitigation
• Supply chain disruption in particular for single source components leading to production delays and potentially lost revenue.	• Disruption to customers. • Lower sales and profitability. • Higher input costs. • Negative impact on the Group's reputation.	• Procurement strategy to manage stock availability.	• Buffer stocks of key components. • Where possible, dual source supply is sought.

Specific risk 7: People

Context: A number of the Group's employees have business critical skills.

Risk	Possible impact	Control mechanisms	Mitigation
• Key employees leave and effective replacements are not recruited on a timely basis.	• Adverse impact on NPI. • Operational disruption. • Lower sales and profitability.	• HR people strategy for retention and recruitment of staff with key skills.	• Succession management plans. • Technical career paths. • UK work permit scheme to facilitate employment of non-UK/EU nationals in place.

Specific risk 8: IT risk

Context: Elements of production, financial and other systems rely on IT availability.

Risk	Possible impact	Control mechanisms	Mitigation
• Cyber attack on the Group's IT infrastructure. • Spread of viruses or malware through "Zero-day" incidents or phishing attacks. • Insider threat.	• Disruption to business as usual operations. • Loss of business critical data. • Financial and reputational damage.	• IT security policy and associated standards and protection systems. • Internal IT governance to maintain those protection systems and our incident response. • Employee awareness training.	• Regular review, monitoring and testing of key security measures to assess adequacy of protection against known threats. • Citadel approach to protect key data. • User education.

Notes to the Financial Statements (continued)

year ended 31 March 2018

11 Principal Risks and Uncertainties (continued)

Specific risk 9: Operational risk

Context: Business units' production facilities are typically located at a single site.

Risk	Possible impact	Control mechanisms	Mitigation
• Sustained disruption to production arising from a major incident at a site.	• Inability to fulfil orders in the short term, resulting in a reduction in sales and profitability. • Additional, non-recurring overhead costs.	• Business Continuity Plans ("BCPs") exist for all manufacturing sites. • Contractual clauses to limit financial consequences of delayed delivery.	• Detailed response plans in BCPs can reduce downtime arising from incidents and facilitate the restoration or relocation of production. • Standard sales contracts include clauses for limitation of liability, liquidated damages and the exclusion of consequential losses.

Specific risk 10: Pensions

Context: The Group's calculated pension deficit is sensitive to changes in the actuarial assumptions.

Risk	Possible impact	Control mechanisms	Mitigation
• The reported pension deficit is sensitive to movements in actuarial assumptions and returns on investments.	• Increase in net debt as additional Group contributions become payable to fund the deficit. • Increase in the annual levy paid to the Pension Protection Fund • Reduction in net assets.	• Regular review of pension strategy • Liability hedging programme to mitigate exposure to movements in interest rates and inflation	• The Group has closed its defined benefit pension schemes in the UK and US to future accrual. • The Group has a funding plan in place to reduce the pension deficit over the short to medium term.

Specific risk 11: Adverse movements in long-term foreign currency rates

Context: A high proportion of the Group's revenue is in foreign currencies, notably US dollars while the majority of the cost base is denominated in sterling.

Risk	Possible impact	Control mechanisms	Mitigation
• Long-term strengthening of Sterling against key currencies such as the US dollar, Japanese Yen and the Euro. (Short-term exposure to volatility is managed by hedging programme).	• Reduced profitability.	• Procurement "make or buy" strategy. • Review of revenue and costs by currency.	• Strategic procurement in USD, Euros and Yen.

Specific risk 12: Legal/compliance risk

Context: The Group operates in a complex technological environment and competitors may seek to protect their position through intellectual property rights.

Risk	Possible impact	Control mechanisms	Mitigation
• Infringement of a third party's intellectual property.	• Potential loss of future revenue. • Future royalty payments. • Payment of damages.	• Formal 'Freedom to Operate' assessment to identify potential IP issues during product development.	• Confirmation of 'Freedom to Operate' during new product development stage gate process.