



Oxford Instruments plc

Half Year Report 30 September 2018

Chief Executive's Review

We were greatly saddened when Alan Thomson, our Chairman, passed away on 22 July 2018. Alan had led the Board of the Company since September 2016 and brought a wealth of experience and wisdom to the role. His commitment and passion in working with us to drive improvement, and his support, guidance and friendship have been greatly valued. The process to appoint Alan's successor is underway and, in the meantime, Steve Blair, our Senior Independent Director, is operating as Interim Chairman.

Overview

We continue to make good progress with the implementation of our Horizon strategy whilst maintaining a focus on the near-term delivery of improved performance. The strategy is now well embedded across the Group and we are starting to see positive results from our increased focus on end market applications, with good underlying order and revenue growth.

Our chosen end markets and their underlying growth drivers remain positive and robust, with reported orders for the Group up 10.3% (12.0% at constant currency) to £162.9m (2017: £147.7m). Each of our three sectors – Materials & Characterisation, Research & Discovery, and Service & Healthcare – reported order growth.

Reported revenue rose to £147.0m (2017: £132.1m), an increase of 11.3% (12.6% at constant currency), with strong growth in both the Materials & Characterisation and Research & Discovery sectors. Revenue was slightly down in Service & Healthcare due primarily to lower orders from our US Healthcare business. Reported adjusted operating profit increased 11.7% to £21.0m (2017: £18.8m), an increase of 16.0% at constant currency, with strong growth across both the Materials & Characterisation and Research & Discovery sectors partially offset by a lower contribution from Service & Healthcare.

The order book, representing orders for future delivery, as at 30 September 2018 increased 16.3% on a reported basis (12.5% at constant currency) since 31 March 2018.

Continuing adjusted basic earnings per share increased by 22.4% to 27.3 pence (2017: 22.3 pence).

Good cash collection in the period further reduced net debt to £12.5m, down from £19.7m at the year end.

Revenue from commercial and industrial customers increased in the period driven by our enhanced customer application and market focus. The proportion of revenue in the period from commercial customers increased to 52.7% (2017: 45.3%), with revenue associated with academic or government funded customers remaining broadly in line with the same period last year.

From an end-market perspective, we have seen strong order and revenue growth in Advanced Materials and Healthcare & Lifescience. Quantum Technologies revenue was up in the period, with orders slightly down due to the phasing of order intake, but with a strong future-looking pipeline. Semiconductor & Communications revenue was broadly in line with last year, with good order growth in the period and a healthy pipeline for both our measurement and semiconductor processing solutions. Advanced Materials represented 24% of sales, Quantum Technologies 10%, and Healthcare & Lifescience and Semiconductor & Communications representing 28% and 21% respectively. Energy and Environment each represented 5%, with Research & Fundamental Science at 7%.

From a geographical perspective, we had strong constant currency revenue growth across Asia and Europe of 18.9% and 10.8% respectively, with growth of 5.3% in North America. Within Asia, we had strong growth across the region, with China, Japan and the Rest of Asia each achieving double digit growth relative to the comparative period. Asia represented 41% of Group revenue, Europe 25%, North America 32% and Rest of World 2%. China represented 21% of revenue, up from 17% in the previous half year.

This encouraging first half result has been achieved against a backdrop of increasing global political tensions that have impacted the overall international trading environment. We have seen a slight tightening of the grant of export licences to certain customers. In addition, the imposition of US sanctions and China tariffs has had a modest impact on orders and revenues in the period. We are monitoring this situation closely to mitigate, where possible, any future impact.

Horizon Strategy Progress

We have maintained a sharp focus on our Horizon strategy to deliver sustainable revenue growth and improved margins. In the period we have continued to embed an increased commercial focus and build capabilities across the Group, including extensive training for all our customer facing teams. With our cohort of internal operational champions now in place, we have increased our investment and focus on the Operational Excellence aspect of Horizon, with a specific focus on strategic procurement, operational efficiencies and logistics. This will support our future growth ambitions and contribute to margin improvement.

Sector Performance

Turning to the performance of our individual sectors:

Materials & Characterisation focuses on applied R&D and commercial customers, enabling the fabrication and characterisation of materials and devices down to the atomic scale. This sector delivered a strong first half, with positive contributions from all the constituent businesses, namely NanoAnalysis, Asylum Research and Plasma Technology. Reported revenue increased by 20.0% to £60.1m (2017: £50.1m), with reported adjusted operating profit increasing to £9.7m (2017: £7.2m). Reported order growth of 13.7% to £69.5m (2017: £61.1m) contributed to a positive order book growth for future deliveries. The enhanced results were driven by strong demand for recently launched higher margin products, an increased focus on end customer applications and operational efficiencies. These elements contributed to an improved reported operational margin of 170 basis points to 16.1% for the sector (2017: 14.4%).

Research & Discovery provides advanced solutions that create unique environments and enable measurements down to the molecular and atomic level, used predominantly in fundamental and applied research. Reported revenue increased by 13.4% to £54.3m (2017: £47.9m), with reported adjusted operating profit increasing to £4.8m (2017: £4.2m). This was driven by increased demand for our scientific cameras and optical microscopy systems, as well as increased revenues from our cryogenic systems and superconducting magnets. Improved performance from Andor Technology and NanoScience was partially offset by a softer first half performance from Magnetic Resonance, X-ray Technology and Scienta Omicron in the period. Reported order growth of 3.8% to £60.0m (2017: £57.8m), contributed to order book growth of 5.0%. Operational margin for the sector remained flat at 8.8% on a reported basis. The Group has adopted IFRS 15 'Revenue from Contracts with Customers'. The primary impact is the recognition of revenue on our complex cryogenic and magnet systems on installation, rather than shipment. The financial impact in the half year is to increase revenue by £5.1m; we expect this difference to partially unwind in the second half. The improvement plan within our NanoScience business is progressing well under a new leadership team, with greater commercial discipline and investment in sales and service resources. Consequently we have seen an anticipated reduction in the backlog of uninstalled complex systems.

Service & Healthcare provides customer service and support for our own products and the service, sale and rental of third-party healthcare imaging systems. Reported revenue for the sector fell by 4.4% to £32.6m (2017: £34.1m) due to lower volumes from our US Healthcare business, with a decline in reported adjusted operating profit of 12.2% to £6.5m (2017: £7.4m). The sector saw an increase in reported orders to £33.4m (2017: £29.1m), up 14.8%. The sector's performance was impacted by the ongoing strategic movement of our US Healthcare business towards a higher proportion of service revenue and a change in mix of upgrades and contract revenues associated with our own products.

R&D

Innovation remains core to our Horizon strategy and we continue to invest in products, solutions and technology that help our customers improve their productivity and develop new capabilities. We have maintained our focus on strategic investments in line with our short, medium and longer-term roadmaps to expand our market shares and provide growth into new market areas. Investment in R&D initiatives was slightly lower in the period at £12.3m (2017: £13.0m) due to the phasing of specific projects, timing of associated spend and the receipt of additional external grant funding.

People

As we continue with the implementation of Horizon, it is our people that make the real difference. Our thanks go to all our employees for their ongoing support of our strategy and for their willingness to help us deliver an exceptional experience for our customers.

Dividends

The Board has declared an interim dividend increase of 2.7% to 3.8 pence (2017: 3.7 pence), reflecting improvement in underlying earnings per share.

Current Trading and Outlook

We continue to make good progress with the implementation of our Horizon strategy whilst maintaining a focus on the near-term delivery of improved performance. The strategy is now well embedded across the Group and we are starting to see positive results with good underlying order and revenue growth.

Our commitment to provide leading product performance and commercial solutions in markets with long-term growth drivers coupled with our increased investment in operating efficiencies will continue to drive progress

Our expectations for the current financial year remain unchanged, supported by growth in constant currency orders and order book along with our anticipated second half seasonal bias.

Ian Barkshire

Chief Executive

13 November 2018



Operations Review

Our Group reports in the following three sectors: Materials & Characterisation, Research & Discovery, and Service & Healthcare.

Materials & Characterisation

	2018 £m	2017 £m	Growth	Constant Currency Growth ¹
Revenue	60.1	50.1	+20.0%	+21.2%
Adjusted ² operating profit	9.7	7.2		
Adjusted ² operating margin	16.1%	14.4%		
Profit before tax after adjusting items	8.6	5.8		

¹For definition refer to note on page 2 of highlights

²Details of adjusting items can be found in Note 2 of the condensed Financial Statements

The Materials & Characterisation sector comprises NanoAnalysis, Asylum Research 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, as well as the fabrication of semiconductor devices and structures through our range of advanced semiconductor etch and deposition processes and systems. Our market leading product performance, combined with customer focused solutions, continues to drive strong growth by providing increased value to existing customers and the identification and reach into new markets and applications. The sector has a strong focus on supporting and accelerating our customers' applied R&D, enabling the development of new devices, next generation higher performance materials and enhancing productivity in advanced manufacturing, quality assurance (QA) and quality control (QC).

Materials & Characterisation delivered strong growth in orders, revenue and profitability driven by our continued focus on tailoring our product offering to specific end customer applications that increase both the product value and the addressable market. The success of recently launched higher margin products and solutions strongly contributed to the sector's performance in the period, which saw margins increase by 170 basis points to 16.1%. Growth from industrial and commercial customers increased their proportion of sales in the period to 58% of revenue (2017: 48%), with the balance from academic and government funded customers.

Looking at end-market segments, we saw strong growth in Advanced Materials, which accounted for 39% of sales in the sector. Semiconductor & Communications also represented 39% of sales with Energy, Environment and Healthcare & Lifescience each broadly similar at 8%, 7% and 6% of revenue, respectively. From a geographic perspective, revenue grew in each of Europe, North America and Asia.

Growth in the Advanced Materials market segment was strongly supported by the continued success of our recently launched, Symmetry™, super-fast material structure analyser and the Ultim™ large area X-ray detectors as well as our portfolio of atomic force microscopes. These products enable customers to undertake significantly more accurate and much faster analysis, driving both capability and productivity for customers in the automotive and aerospace industries, as well as those analysing metals, ceramics, composites and polymers. We also saw good growth from customers engaged in energy generation, storage and batteries.

We have continued to achieve success through our application specific solutions, in particular new solutions for QA and QC in the high-end additive manufacturing and 3D printing markets. Our Symmetry™ material analyser enables the critical qualification of the material properties, performance and quality of the additive manufactured metal components and optimisation of the manufacturing processes. This is of increasing interest within the automotive and aerospace industries, which use additive manufacturing to produce much lighter materials and more complex components than would be possible using traditional methods. In addition, we have exploited our expertise in particle analysis to develop a tailored solution to provide quality control for the raw material feedstock used in additive manufacturing, helping to avoid contamination that can significantly impact the performance and properties of the manufactured component or device.

Semiconductors remains a core market for the sector, where in addition to our imaging and analysis products we provide etch and deposition process solutions used across a range of advanced compound semiconductor and silicon device applications. We are entering what some call the 'decade of materials' – whereby performance materials will enable applications and device performance that silicon cannot. We are focusing on the global trends in

optoelectronics, discrete devices, nanomaterials and research systems. Specifically, we are continuing to build on our core research market by targeting growth applications within the compound semiconductor device market with an overarching strategy of tailoring our market leading research and applied R&D products for production customers. As an example, we have developed leading capabilities in several key process steps required for the manufacture of power devices, MEMs sensors and vertical-cavity surface-emitting lasers (VCSELs). VCSELs are increasingly being used across a range of applications such as facial recognition on smart phones, and for higher-speed communications within data centres. We also see compound semiconductors providing growth in discrete semiconductor devices, where the properties of compound semiconductors allow faster, more energy efficient and higher voltage power electronics. This enables enhanced wireless charging capabilities and increased energy storage, providing longer range electric vehicles and higher data communication rates and capacity required for 5G networks.

Research & Discovery

	2018 £m	2017 £m	Growth	Constant Currency Growth ¹
Revenue	54.3	47.9	+13.4%	+14.6%
Adjusted ² operating profit	4.8	4.2		
Adjusted ² operating margin	8.8%	8.8%		
Profit before tax after adjusting items	1.9	0.1		

¹For definition refer to note on page 2 of highlights

²Details of adjusting items can be found in Note 2 of the condensed Financial Statements

The Research & Discovery sector includes Andor Technology, NanoScience and Magnetic Resonance, X-ray Technology and our minority share in Scienta Omicron. This sector provides advanced solutions that create unique environments and enable imaging and analytical measurements down to the molecular and atomic level, used predominantly in fundamental and applied research. We can build on our relationships with customers working on breakthrough applications in research to gain insights and support future commercial applications.

The sector had an improved first half, with growth in orders, revenue and profitability driven by a strong performance from our optical microscopy systems, scientific cameras, cryogenic systems and superconducting research magnets, providing growth in the Healthcare & Lifescience and Quantum Technologies segments. This was partially offset by a reduction in revenues from our scientific X-ray tubes and benchtop magnetic resonance systems. The sector has a high proportion of academic and government funded customers, representing 65% of revenues. From a market perspective, the Healthcare & Lifescience and Quantum Technologies segments represented 40% and 25% of revenue respectively; Research & Fundamental Science 18%, Advanced Materials 10%, with the balance from Environment, Semiconductor & Communications, and Energy customers.

Growth in Healthcare & Lifescience is supported by increased research within neuroscience and customers involved in developmental biology to image and analyse cells, tissues and organs for the development of advanced medicines and the improved understanding of fundamental disease mechanisms. Within this segment, our Dragonfly™ optical microscopy portfolio continues to gain customer recognition and market share through the provision of improved image quality across larger and thicker samples.

We continue to see growth from customers involved in Quantum Technologies with increased investment by large corporates and the wider academic community across the EU, US and China in areas such as quantum computing, secure communications, sensors and imaging. We continue to work with leading companies and researchers worldwide to provide the fundamental tools for research and the development of solutions for commercial applications. The market remains attractive with strong global research funding due to the potential for significant market and technology disruption. However, the nature of the sector means orders and revenue remain irregular in value and frequency and are attracting an increased scrutiny for export licenses. As previously mentioned, revenue benefitted from the introduction of IFRS 15.

We have built on our market and technical leadership in scientific cameras with the launch of a new range of application specific cameras focusing on key market drivers including cell biology, personalised medicine, astronomy and physical science & quantum technology. Sona™ is tailored for the lifescience market offering exceptional sensitivity to improve

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long-term live cell analysis to help scientists gain a better understanding of cellular processes; and Marana™ has been optimised for high speed, high sensitivity imaging, supporting a broad range of physical sciences, including astronomy applications involving the search for near earth objects and space debris.

Research & Fundamental Science remains an attractive segment for this sector with our range of optical components, spectrographs, cryogenics and magnets providing customers with a broad range of platforms and solutions used predominately across the physical sciences. These included the BepiColumbo European Space Agency mission to Mercury, which has incorporated our X-ray detectors. The mission, launched in October, is seeking a deeper understanding of the planet's origin and its impact on the solar system.

Despite a softer first half, our benchtop magnetic resonance analysers continue to see positive pipeline and we are gaining further opportunities for our solutions across a range of food and industrial applications as well as within the oil exploration market. The market for our scientific X-ray tubes remains buoyant with order growth in the period, although delayed shipments and timing of orders has negatively impacted revenue and profitability in the first half of the year. We expect to see some improvement in the second half from both business units.

The Scienta Omicron joint venture created the largest player in the ultra-high vacuum surface science field. The Group has a 47% share in the joint venture. Following weak order intake last year, we recorded a loss of £0.6m for the half year. Assisted by the launch of new systems, orders are recovering, and we expect an improved trading performance in the second half.

Service & Healthcare Sector

	2018 £m	2017 £m	Growth	Constant Currency Growth ¹
Revenue	32.6	34.1	(4.4)%	(2.9)%
Adjusted ² operating profit	6.5	7.4		
Adjusted ² operating margin	19.9%	21.7%		
Profit before tax after adjusting items	6.1	6.7		

¹For definition refer to note on page 2 of highlights

²Details of adjusting items can be found in Note 2 of the condensed 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.

Reported orders grew 14.8% to £33.4m (2017: £29.1m) supported by increased demand for services related to our own products under OiService as well as services within OI Healthcare, with the order book for future deliveries up 15.0% to £46.9m (2017: £40.8m).

Within OI Healthcare we have seen good progress in the growth of service contracts to new customers as well as an improved utilisation of our leasing fleet. Sales in the refurbished imaging equipment market remained depressed compared to previous years with weaker demand for new and used equipment, competitive market limiting opportunities and depressing margins. In Japan, we have signed a service agreement to start servicing Hitachi Healthcare's Mitsubishi magnet-based MRI systems.

Within OiService we continue our drive to provide enhanced support services tailored to customers' needs whilst improving our efficiency and response time to customers through the utilisation of mobile technologies. We have increased the number of application specific seminars and completed a very successful second microscopy summer school in collaboration with the Chinese Academy of Sciences.

Reported revenue declined in the period due primarily to a lower number of refurbished system sales within OI Healthcare which, combined with a change in product mix from OiService, contributed to a lower profit and margin in the period.

Finance Review

The Group has adopted IFRS 15 'Revenue from Contracts with Customers' using the modified retrospective approach. Comparatives have not been restated. The main difference is within our NanoScience business, where the revenue recognition on complex customised magnetic and cryogenic systems is deferred from being primarily on transfer of rights and rewards of ownership to completion of installation. The Group has adopted IFRS 16 'Leases' in the 2018/19 financial year. The net impact of adopting IFRS 15 and IFRS 16 is to increase profit before tax by £2.2m. Further detail on the impact of these new accounting standards is set out in note 1.

Reported orders increased by 10.3% to £162.9m (2017: £147.7m), an increase of 12.0% at constant currency. At the end of the period the Group's order book for future deliveries stood at £177.9m (31 March 2018: £134.0m). The order book as at 31 March 2018 restated on an IFRS 15 basis is £153.0m, against £134.0m as previously reported. Against this IFRS 15 adjusted comparative the order book grew 16.3% on a reported basis and 12.5% at constant currency.

Reported revenue increased by 11.3% to £147.0m (2017: £132.1m). Revenue, excluding currency effects, increased by 12.6%, with the movement in average currency exchange rates over the half year reducing reported revenue by £1.7m.

Adjusted operating profit from continuing operations increased by 11.7% to £21.0m (2017: £18.8m). Adjusted operating profit from continuing operations, excluding currency effects, increased by 16.0%. Adjusted operating margin from continuing operations increased by 10 basis points to 14.3% (2017: 14.2%).

The effect of IFRS 15 is to increase revenue by £5.1m and adjusted operating profit by £2.3m for the half year. This difference between revenue recognition on product installation compared to product shipment is expected to partially unwind in the second half of the year. Against the previous half year, the Group was unable to satisfy additional customer orders to the value of £1.7m following the refusal of government export licences and compliance with US sanction legislation. In the half year we have engaged consultants to accelerate the operational excellence element of our Horizon strategy and incurred restructuring costs, primarily on the closure of a small facility in North America. These costs totalled £1.0m and have been included within adjusted operating profit.

Adjusted profit before tax from continuing operations grew by 21.5% to £19.8m (2017: £16.3m). Recorded within the comparative period under discontinued operations is a post-tax profit of £45.6m from the sale of Industrial Analysis, which was completed on 3 July 2017.

Adjusting items include amortisation of acquired intangibles of £4.7m and a net charge of £0.6m relating to loan note make-whole settlement payments and a net credit relating to our joint venture, Scienta Omicron. The movement in the mark-to-market valuation of currency hedges for future years gave rise to a charge of £2.9m.

Adjusted profit before tax from continuing operations of £19.8m (2017: £16.3m) represents a margin of 13.5% (2017: 12.3%). After adjusting items, the Group recorded a profit before tax of £11.6m (2017: £12.7m).

Continuing adjusted basic earnings per share grew by 22.4% to 27.3 pence (2017: 22.3 pence). Continuing basic earnings per share was 15.6 pence (2017: 17.5 pence).

Cash generated from operations of £21.4m (2017: £3.7m), represents 91.0% (2017: 12.8%) cash conversion. Net debt decreased from £19.7m on 31 March 2018 to £12.5m, representing a net debt to EBITDA ratio (for banking covenant purposes) of 0.2 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 2 to the condensed Financial Statements.

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Income Statement

The Group's Income Statement is summarised below.

	Half year to 30 September 2018 £m	Half year to 30 September 2017 £m	Change
Revenue	147.0	132.1	+11.3%
Gross profit	78.7	67.7	+16.2%
Administrative overheads	(56.8)	(48.7)	
Share of (loss)/profit of associate	(0.6)	-	
Foreign exchange	(0.3)	(0.2)	
Adjusted operating profit	21.0	18.8	+11.7%
Net finance costs	(1.2)	(2.5)	
Adjusted profit before tax	19.8	16.3	+21.5%
Amortisation of acquired intangibles	(4.7)	(5.6)	
Non-recurring items	(0.6)	(0.6)	
Mark-to-market of currency hedges	(2.9)	2.6	
Profit before tax	11.6	12.7	
Tax from continuing operations	(2.7)	(2.7)	
Profit for the period from continuing operations	8.9	10.0	
Adjusted effective tax rate ¹	21.2%	22.1%	
Continuing adjusted earnings per share – basic	27.3p	22.3p	+22.4%
Continuing earnings per share – basic	15.6p	17.5p	(10.9%)
Continuing adjusted earnings per share – diluted	27.0p	22.1p	+22.2%
Continuing earnings per share – diluted	15.4p	17.4p	(11.5%)
Dividend per share	3.80p	3.70p	+2.7%

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

Orders and Revenue

Total reported orders grew by 10.3% (12.0% at constant currency) to £162.9m. Orders, at constant currency, increased by 15.2% for Materials & Characterisation, 5.5% for Research & Discovery and 16.8% for Service & Healthcare.

Reported revenue of £147.0m (2017: £132.1m) increased by 11.3% (12.6% at constant currency). Reported revenue increased by 20.0% for Materials & Characterisation, 13.4% for Research & Discovery and declined by 4.4% for Service & Healthcare.

The book-to-bill ratio (orders received to goods and services billed in the period) for the half year was 1.11.

Revenue, at constant currency, increased by 21.2% for Materials & Characterisation with good growth across all constituent businesses. Growth of 14.6% in Research & Discovery was driven by a high level of installations in NanoScience and good growth within Andor Technology. A decline of 2.9% for Service & Healthcare is a result of selling fewer refurbished imaging systems.

On a geographical basis, at constant currency, revenue grew by 10.8% in Europe, 5.3% in North America, 18.9% in Asia and 66.7% for the Rest of World.

After adjusting the comparative period for IFRS 15, total reported order book grew by 16.3% (12.5% at constant currency). The order book, at constant currency, compared to 31 March 2018, increased by 33.3% for Materials & Characterisation, 5.0% for Research & Discovery, and 9.4% for Service & Healthcare.

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£m	Materials & Characterisation	Research & Discovery	Service & Healthcare	Total*
Revenue: Half year 2017/18	50.1	47.9	34.1	132.1
Underlying movement	10.6	7.0	(1.0)	16.6
Foreign exchange	(0.6)	(0.6)	(0.5)	(1.7)
Revenue: Half year 2018/19	60.1	54.3	32.6	147.0
Revenue growth: reported	+20.0%	+13.4%	(4.4%)	+11.3%
Revenue growth: constant currency	+21.2%	+14.6%	(2.9%)	+12.6%

* Excluding inter-sector revenue

Gross profit

Gross profit increased by 16.2% to £78.7m (2017: £67.7m), representing a gross profit margin of 53.5%, an increase of 230 basis points over last year.

Operating profit

Adjusted operating profit from continuing operations increased by 11.7% to £21.0m (2017: £18.8m), representing an adjusted operating profit margin of 14.3%, an increase of 10 basis points against last year. Materials & Characterisation margin rose by 170 basis points to 16.1% (2017: 14.4%). Research & Discovery's adjusted operating margin was flat at 8.8% (2017: 8.8%). Service & Healthcare margin declined by 180 basis points to 19.9% (2017: 21.7%).

An increase in administrative overheads of 16.6% from £48.7m to £56.8m primarily reflects an investment in sales and service resources and training, operations, a reduction in capitalised R&D and an increase in IT costs. In addition, the end of the transition agreement with Hitachi High-Technologies following the sale of Industrial Analysis and the sale of two freehold properties last year has led to a rise in annual net administrative overheads of £1.6m. Commissions and logistics costs are included within administrative overheads.

Our share of the Scienta Omicron joint venture showed an adjusted loss of £0.6m for the year, against a break-even position for the comparative period. After adjusting items, our share of the Scienta Omicron joint venture was a loss of £0.3m.

Currency effects (including the impact of transactional currency hedging) have reduced reported adjusted operating profit by £0.8m when compared to blended hedged exchange rates for the comparative period.

At constant currency, the adjusted operating profit margin was 14.7%, an increase of 50 basis points.

£m	Materials & Characterisation	Research & Discovery	Service & Healthcare	Total
Adjusted operating profit: Half year 2017/18	7.2	4.2	7.4	18.8
Underlying movement	2.8	1.0	(0.8)	3.0
Foreign exchange	(0.3)	(0.4)	(0.1)	(0.8)
Adjusted operating profit: Half year 2018/19	9.7	4.8	6.5	21.0
Margin: Half year 2017/18	14.4%	8.8%	21.7%	14.2%
Margin: Half year 2018/19	16.1%	8.8%	19.9%	14.3%

Adjusting items

Amortisation of acquired intangibles of £4.7m relates to intangible assets recognised on acquisitions, being the value of technology, customer relationships and brands.

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Non-recurring items were a net charge of £0.6m. During the period we repaid £11.6m of the principal outstanding on loan notes as a condition of the sale of Industrial Analysis. The make-whole settlement cost due at the time of the repayment was £0.9m. In addition, we recognised a net gain of £0.3m on adjustments relating to our Scientia Omicron joint venture.

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 IFRS 9 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 loss in respect of derivative financial instruments was £2.9m (2017: £2.6m gain). This reflects a movement from a net fair value asset to a small net liability 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 liability is attributable to a fall 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 eighteen months.

Net finance costs

The Group's adjusted net finance costs fell by £1.3m to £1.2m (2017: £2.5m) with net finance charges falling by £1.2m to £1.0m and pension financing charges falling by £0.1m to £0.2m.

Profit before tax

Continuing adjusted profit before tax increased by 21.5% to £19.8m (2017: £16.3m). The adjusted profit before tax margin increased by 120 basis points to 13.5% (2017: 12.3%).

Profit before tax of £11.6m (2017: £12.7m) 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 £4.2m (2017: £3.6m) represents an effective tax rate of 21.2% (2017: 22.1%). The current tax liability includes a provision of £2.9m in respect of a historical financing structure. The statutory effective tax rate is 23.3%.

Earnings per share

Continuing adjusted basic earnings per share increased by 22.4% to 27.3 pence (2017: 22.3 pence); continuing adjusted diluted earnings per share were 27.0 pence (2017: 22.1 pence).

The number of undiluted weighted average shares have increased by 0.1m to 57.2m.

Foreign exchange

The Group faces transactional and translational currency exposure, most notably against the US Dollar, Euro and Japanese Yen. For the half year, approximately 16% of Group revenue was denominated in Sterling, 54% in US Dollars, 19% in Euros, 10% in Japanese Yen and 1% 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 30 September 2018 the Group had currency hedges in place extending up to eighteen months forward.

Dividend

The Group's policy is to increase the dividend each year in line with the increase in underlying earnings, considering movements in currency. The Board has proposed to increase the interim dividend by 2.7% to 3.8 pence. The interim dividend will be paid on 8 April 2019 to Shareholders on the register as at 1 March 2019.

Half Year Results Announcement for the six months ended 30 September 2018

Cash flow

The Group cash flow is summarised below.

	Half year to 30 September 2018 £m	Half year to 30 September 2017 £m
Adjusted operating profit	21.0	18.8
Depreciation and amortisation	5.4	4.0
Adjusted EBITDA	26.4	22.8
Working capital movement	(1.2)	(15.0)
Purchase of rental assets held for subsequent sale	(0.6)	(0.6)
Loss on disposal of property, plant and equipment	-	0.2
Equity settled share schemes	0.4	0.5
Share of loss/(profit) from associate	0.6	-
Business reorganisation items	(0.7)	(0.7)
Pension scheme payments above charge to operating profit	(3.5)	(3.5)
Cash generated from operations	21.4	3.7
Interest	(2.3)	(1.0)
Tax	(4.7)	(2.5)
Capitalised development expenditure	(1.5)	(3.1)
Expenditure on tangible and intangible assets	(3.4)	(2.4)
Increase in investment in associate	-	(2.1)
Proceeds from sale of subsidiary undertaking	-	73.0
Decrease in long-term receivables	0.6	-
Dividends paid	(2.1)	(2.1)
Proceeds from issue of share capital	-	0.2
Payments made in respect of lease liabilities	(1.6)	-
Decrease in borrowings	(8.6)	(77.6)
Net decrease in cash and cash equivalents from continuing operations	(2.2)	(13.9)

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 of £21.4m (2017: £3.7m), represents 91.0% (2017: 12.8%) cash conversion. The impact of IFRS 16 is to recognise a lease liability and corresponding asset for leases previously classified as operating leases. As a result, the depreciation charge for the half year includes an additional £1.7m reflecting the increase in asset base. Compared to the comparative period, cash generated from operations is also higher by £1.7m. Cash conversion is defined as cash generated from operations before non-recurring items and pension scheme payments, less, capitalised development expenditure, capital expenditure and payments made in respect of lease liabilities / adjusted operating profit. Payments made in respect of lease liabilities are now included within our definition of cash conversion to retain a like-for-like comparison following the introduction of IFRS 16.

The working capital outflow of £1.2m reflects an increase in inventories of £7.9m, a decrease in receivables of £12.6m, a decrease in payables of £7.7m and an increase in customer deposits of £1.8m. The increase in inventories primarily reflects an increase in work in progress and components to support our planned production schedule in the second half of the year, particularly for our deposition and etch process solutions and optical imaging systems.

Interest

Net interest paid was £2.3m (2017: £1.0m). This includes loan note make-whole payments of £0.9m as a consequence of repaying loan note principal following the sale of Industrial Analysis. Net interest paid in the comparative period was low due to payment timing differences.

Tax

Tax paid was £4.7m (2017: £2.5m), 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 half year was £12.3m, equivalent to 8.4% of sales, (2017: £13.0m, 9.8% of sales). The small decrease reflects lower material costs incurred this year and a change in timing of receipt of government grants. A reconciliation between the amounts charged to the Income Statement and the cash spent is given below:

Half Year Results Announcement for the six months ended 30 September 2018

	Half year to 30 September 2018 £m	Half year to 30 September 2017 £m
R&D expense charged to the Income Statement	12.3	11.4
Amounts capitalised as fixed assets	-	0.1
Amortisation and impairment of R&D costs capitalised as intangibles	(1.5)	(1.6)
Amounts capitalised as intangible assets	1.5	3.1
Total cash spent on R&D during the year	12.3	13.0

Investment in Associate

In the comparative period, the shareholders of Scienta Omicron 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 £2.1m and was paid in September 2017.

Disposals

The sale of Industrial Analysis was completed on 3 July 2017. A post-tax profit of £45.6m is recorded within discontinued operations for the comparative period.

Net debt and funding

Net debt

Net debt decreased in the period from £19.7m to £12.5m. Cash generated from operations was £21.4m. The Group invested in capitalised development costs of £1.5m and tangible and intangible assets of £3.4m.

	£m
Movement in net debt	
Net debt as at 31 March 2018	19.7
Cash generated from operations	(21.4)
Interest	2.3
Tax	4.7
Capitalised development expenditure	1.5
Capital expenditure on tangible and intangible assets	3.4
Dividends paid	2.1
Other items	0.2
Net debt as at 30 September 2018	12.5

Funding

On 2 July 2018 the Group entered into a new unsecured multi-currency revolving facility agreement which is committed until June 2023 with one-year extension options at the end of the first and second years. The facility has been entered into with two banks and comprises a Euro denominated multi-currency facility of €50.0m and a US Dollar denominated multi-currency facility of \$80.0m.

In this half year the Group repaid, as a pre-condition relating to the sale of Industrial Analysis, £11.6m of its bilateral private placement note, leaving an outstanding note of £27.9m, which matures in March 2021. Associated make-whole settlement costs of £0.9m have been included within non-recurring items.

Debt covenants are net debt to EBITDA less than 3.0 times and EBITDA to interest greater than 4.0 times. As at 30 September 2018 net debt to EBITDA was at 0.2 times and EBITDA to interest was 21.3 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 30 September 2018, the net liability arising from our defined benefit scheme obligations was £9.9m (31 March 2018: £15.3m), a fall of £5.4m. The reduction in the deficit was primarily due to the contributions paid in the period and a rise in the discount rate. Total scheme assets at 30 September 2018 were £285.7m (31 March 2018: £289.5m) while liabilities were £295.6m (31 March 2018: £304.8m).

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

13 November 2018



Condensed Consolidated Statement of Income

Half year ended 30 September 2018 – unaudited

	Notes	Half Year to 30 Sept 2018			Half Year to 30 Sept 2017		
		Adjusted £m	Adjusting items* £m	Total £m	Adjusted £m	Adjusting items* £m	Total £m
Revenue	3	147.0	—	147.0	132.1	—	132.1
Cost of sales		(68.3)	—	(68.3)	(64.4)	—	(64.4)
Gross profit		78.7	—	78.7	67.7	—	67.7
Research and development	4	(12.3)	—	(12.3)	(11.4)	—	(11.4)
Selling and marketing		(28.9)	—	(28.9)	(25.4)	—	(25.4)
Administration and shared services		(15.6)	(4.7)	(20.3)	(11.9)	(5.9)	(17.8)
Share of loss of associate, net of tax		(0.6)	0.3	(0.3)	—	(0.3)	(0.3)
Foreign exchange (loss)/gain		(0.3)	(2.9)	(3.2)	(0.2)	2.6	2.4
Operating profit/(loss)		21.0	(7.3)	13.7	18.8	(3.6)	15.2
Other financial income		0.1	—	0.1	0.1	—	0.1
Financial income		0.1	—	0.1	0.1	—	0.1
Interest charge on pension scheme net liabilities		(0.2)	—	(0.2)	(0.3)	—	(0.3)
Other financial expenditure		(1.1)	(0.9)	(2.0)	(2.3)	—	(2.3)
Financial expenditure		(1.3)	(0.9)	(2.2)	(2.6)	—	(2.6)
Profit/(loss) before income tax from continuing operations	3	19.8	(8.2)	11.6	16.3	(3.6)	12.7
Income tax (expense)/credit	7	(4.2)	1.5	(2.7)	(3.6)	0.9	(2.7)
Profit/(loss) for the period from continuing operations		15.6	(6.7)	8.9	12.7	(2.7)	10.0
Profit/(loss) from discontinued operations after tax	6	—	—	—	0.3	45.3	45.6
Profit/(loss) for the period attributable to equity holders of the parent		15.6	(6.7)	8.9	13.0	42.6	55.6
		pence		pence	pence		pence
Earnings per share							
Basic earnings per share	8						
From continuing operations		27.3		15.6	22.3		17.5
From discontinued operations	6	—		—	0.5		79.9
From profit/(loss) for the period		27.3		15.6	22.8		97.4
Diluted earnings per share	8						
From continuing operations		27.0		15.4	22.1		17.4
From discontinued operations	6	—		—	0.5		79.5
From profit/(loss) for the period		27.0		15.4	22.6		96.9
Dividends per share							
Dividends paid	9			3.70			3.70
Dividends proposed	9			3.80			3.70

* Adjusted numbers are stated to give a better understanding of the underlying business performance. Details of adjusting items can be found in note 2 of this Half Year Report.

Condensed Consolidated Statement of Income

Half year ended 30 September 2018 – unaudited

	Notes	Year to 31 March 2018		Total £m
		Adjusted £m	Adjusting items* £m	
Revenue	3	296.9	—	296.9
<i>Cost of sales</i>		<i>(146.0)</i>	—	<i>(146.0)</i>
Gross profit		150.9	—	150.9
<i>Research and development</i>	4	<i>(23.4)</i>	—	<i>(23.4)</i>
<i>Selling and marketing</i>		<i>(53.9)</i>	—	<i>(53.9)</i>
<i>Administration and shared services</i>		<i>(28.5)</i>	<i>(12.1)</i>	<i>(40.6)</i>
<i>Share of profit/(loss) of associate, net of tax</i>		<i>0.5</i>	<i>(2.4)</i>	<i>(1.9)</i>
<i>Other operating income</i>		—	3.3	3.3
<i>Foreign exchange gain</i>		<i>0.9</i>	<i>3.1</i>	<i>4.0</i>
Operating profit/(loss)		46.5	(8.1)	38.4
<i>Other financial income</i>		<i>0.3</i>	—	<i>0.3</i>
Financial income		0.3	—	0.3
<i>Interest charge on pension scheme net liabilities</i>		<i>(0.6)</i>	—	<i>(0.6)</i>
<i>Other financial expenditure</i>		<i>(3.9)</i>	—	<i>(3.9)</i>
Financial expenditure		(4.5)	—	(4.5)
Profit/(loss) before income tax from continuing operations	3	42.3	(8.1)	34.2
<i>Income tax expense</i>	7	<i>(10.1)</i>	<i>(4.5)</i>	<i>(14.6)</i>
Profit/(loss) for the year from continuing operations		32.2	(12.6)	19.6
<i>(Loss)/profit from discontinued operations after tax</i>	6	<i>(0.4)</i>	46.3	45.9
Profit for the year attributable to equity holders of the parent		31.8	33.7	65.5
Earnings per share				
<i>Basic earnings per share</i>	8			
<i>From continuing operations</i>		56.3		34.3
<i>From discontinued operations</i>		<i>(0.7)</i>		80.2
<i>From profit for the year</i>		55.6		114.5
<i>Diluted earnings per share</i>	8			
<i>From continuing operations</i>		56.1		34.1
<i>From discontinued operations</i>		<i>(0.7)</i>		80.0
<i>From profit for the year</i>		55.4		114.1
Dividends per share				
<i>Dividends paid</i>	9			13.0
<i>Dividends proposed</i>	9			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 2 of this Half Year Report.

Condensed Consolidated Statement of Comprehensive Income

Half year ended 30 September 2018 - unaudited

	Half year to 30 Sept 2018 £m	Half year to 30 Sept 2017 £m	Year to 31 March 2018 £m
Profit for the period	8.9	55.6	65.5
Other comprehensive income/(expense):			
Items that may be reclassified subsequently to profit or loss			
Foreign exchange translation differences	4.6	(5.4)	(8.8)
Net cumulative foreign exchange gain on disposal of subsidiaries recycled to the Income Statement	—	(4.8)	(4.8)
Items that will not be reclassified subsequently to profit or loss			
Remeasurement gain/(loss) in respect of post-retirement benefits	2.1	(0.8)	2.2
Tax on items that will not be reclassified to profit or loss	(0.4)	0.2	(0.9)
Total other comprehensive income/(expense)	6.3	(10.8)	(12.3)
Total comprehensive income for the period attributable to equity shareholders of the parent	15.2	44.8	53.2

Condensed Consolidated Statement of Changes in Equity

Half year ended 30 September 2018 – unaudited

	Share capital £m	Share premium account £m	Other reserves £m	Foreign exchange translation reserve £m	Retained earnings £m	Total £m
Balance at 1 April 2018	2.9	61.7	0.2	9.2	105.6	179.6
Impact of adoption of IFRS 15	—	—	—	—	(7.0)	(7.0)
Total comprehensive income:						
Profit for the period	—	—	—	—	8.9	8.9
Other comprehensive income:						
– Foreign exchange translation differences	—	—	—	4.6	—	4.6
– Remeasurement gain in respect of post-retirement benefits	—	—	—	—	2.1	2.1
– Tax on items recognised directly in other comprehensive income	—	—	—	—	(0.4)	(0.4)
Total comprehensive income attributable to equity shareholders of the parent	—	—	—	4.6	10.6	15.2
Transactions with owners recorded directly in equity:						
– Charge in respect of employee service costs settled by award of share options	—	—	—	—	0.4	0.4
– Dividends payable	—	—	—	—	(7.6)	(7.6)
Total transactions with owners recorded directly in equity:	—	—	—	—	(7.2)	(7.2)
Balance at 30 September 2018	2.9	61.7	0.2	13.8	102.0	180.6
	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:						
Profit for the period	—	—	—	—	55.6	55.6
Other comprehensive income:						
– Foreign exchange translation differences	—	—	—	(5.4)	—	(5.4)
– Net foreign exchange gain on disposal of subsidiaries recycled to the Income Statement	—	—	—	(4.8)	—	(4.8)
– Remeasurement loss in respect of post-retirement benefits	—	—	—	—	(0.8)	(0.8)
– Tax on items recognised directly in other comprehensive income	—	—	—	—	0.2	0.2
Total comprehensive (expense)/income attributable to equity shareholders of the parent	—	—	—	(10.2)	55.0	44.8
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	—	—	—	—	0.5	0.5
– Dividends payable	—	—	—	—	(7.4)	(7.4)
Total transactions with owners recorded directly in equity:	—	0.2	—	—	(6.9)	(6.7)
Balance at 30 September 2017	2.9	61.7	0.2	12.6	93.2	170.6

Condensed Consolidated Statement of Changes in Equity *continued*

Half year ended 30 September 2018 – unaudited

	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:						
Profit 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 taken 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 (expense)/income 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

Condensed Consolidated Statement of Financial Position

As at 30 September 2018 - unaudited

	As at 30 Sept 2018 £m	As at 30 Sept 2017 £m	As at 31 March 2018 £m
Assets			
Non-current assets			
Property, plant and equipment	23.9	29.3	22.8
Right of use assets	9.7	—	—
Intangible assets	156.8	164.9	158.7
Investment in associate	3.8	5.7	4.1
Long-term receivables	0.9	2.1	1.4
Deferred tax assets	15.4	28.8	13.4
	210.5	230.8	200.4
Current assets			
Inventories	64.6	48.6	45.9
Trade and other receivables	61.9	67.8	73.3
Current income tax receivable	2.1	3.9	2.5
Derivative financial instruments	1.0	2.3	2.4
Cash and cash equivalents	18.9	14.3	20.7
	148.5	136.9	144.8
Total assets	359.0	367.7	345.2
Equity			
Capital and reserves attributable to the Company's equity shareholders			
Share capital	2.9	2.9	2.9
Share premium	61.7	61.7	61.7
Other reserves	0.2	0.2	0.2
Translation reserve	13.8	12.6	9.2
Retained earnings	102.0	93.2	105.6
	180.6	170.6	179.6
Liabilities			
Non-current liabilities			
Bank loans	27.3	59.2	39.4
Lease payables	7.5	—	—
Retirement benefit obligations	9.9	22.5	15.3
Provisions	1.3	—	1.7
Deferred tax liabilities	5.2	10.3	6.1
	51.2	92.0	62.5
Current liabilities			
Bank loans and overdrafts	4.1	0.6	1.0
Trade and other payables	99.9	79.0	85.5
Lease payables	2.3	—	—
Current income tax payables	4.7	9.3	6.2
Accrued dividend	5.5	5.3	—
Derivative financial instruments	1.6	1.0	0.4
Provisions	9.1	9.9	10.0
	127.2	105.1	103.1
Total liabilities	178.4	197.1	165.6
Total liabilities and equity	359.0	367.7	345.2

Condensed Consolidated Statement of Cash Flows

Half year ended 30 September 2018 – unaudited

	Half year to 30 Sept 2018 £m	Half year to 30 Sept 2017 £m	Year to 31 March 2018 £m
Profit for the period	8.9	55.6	65.5
Profit for the year from discontinued operations	—	(45.6)	(45.9)
Profit for the year from continuing operations	8.9	10.0	19.6
Adjustments for:			
Income tax expense	2.7	2.7	14.6
Net financial expense	2.1	2.5	4.2
Fair value movement on financial derivatives	2.9	(2.6)	(3.1)
Restructuring costs	—	0.3	1.2
Restructuring costs – relating to associate	0.3	0.3	0.4
Net profit on disposal of buildings	—	—	(3.3)
Share of impairment recognised by associate	(0.6)	—	2.0
Amortisation and impairment of acquired intangibles	4.7	5.6	10.9
Depreciation of property, plant and equipment	2.2	2.4	4.7
Depreciation of right of use assets	1.7	—	—
Amortisation of capitalised development costs	1.5	1.6	4.4
Adjusted earnings before interest, tax, depreciation and amortisation	26.4	22.8	55.6
Loss on disposal of plant, property and equipment	—	0.2	0.3
Cost of equity settled employee share schemes	0.4	0.5	1.1
Share of loss/(profit) from associate	0.6	—	(0.5)
Restructuring costs paid	(0.7)	(0.7)	(1.3)
Cash payments to the pension scheme more than the charge to operating profit	(3.5)	(3.5)	(7.9)
Operating cash flows before movements in working capital	23.2	19.3	47.3
Increase in inventories	(7.9)	(6.6)	(4.5)
Decrease/(increase) in receivables	12.6	(1.3)	(14.4)
(Decrease)/increase in payables and provisions	(7.7)	(9.2)	2.8
Increase in customer deposits	1.8	2.1	2.9
Purchase of rental assets held for later resale	(0.6)	(0.6)	(0.7)
Cash generated by operations	21.4	3.7	33.4
Interest paid	(2.3)	(1.0)	(2.1)
Income taxes paid	(4.7)	(2.5)	(3.8)
Net cash from operating activities – continuing operations	14.4	0.2	27.5
Net cash from operating activities – discontinued operations	—	1.9	3.0
Net cash flow from operating activities	14.4	2.1	30.5
Cash flows from investing activities			
Proceeds from sale of property, plant and equipment	—	—	9.3
Acquisition of property, plant and equipment	(2.4)	(2.2)	(4.3)
Acquisition of intangible assets	(1.0)	(0.2)	(0.5)
Net cash flow on disposal of businesses	—	73.0	71.2
Capitalised development expenditure	(1.5)	(3.1)	(5.8)
Increase in investment in associate	—	(2.1)	(2.1)
Decrease in long-term receivables	0.6	—	0.9
Net cash (used in)/generated from investing activities – continuing operations	(4.3)	65.4	68.7
Cash flows from financing activities			
Proceeds from issue of share capital	—	0.2	0.2
Payments made in respect of lease liabilities	(1.6)	—	—
Decrease in borrowings	(8.6)	(77.6)	(96.8)
Dividends paid	(2.1)	(2.1)	(7.4)
Net cash used in financing activities	(12.3)	(79.5)	(104.0)
Net decrease in cash and cash equivalents	(2.2)	(12.0)	(4.8)
Cash and cash equivalents at beginning of the period	20.7	26.5	26.5
Effect of exchange rate fluctuations on cash held	0.4	(0.8)	(1.0)
Cash and cash equivalents at end of the period	18.9	13.7	20.7

Condensed Consolidated Statement of Cash Flows *continued*

Half year ended 30 September 2018 – unaudited

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

	Half year to 30 Sept 2018 £m	Half year to 30 Sept 2017 £m	Year to 31 March 2018 £m
Decrease in cash and cash equivalents	(2.2)	(12.0)	(4.8)
Effect of foreign exchange rate changes on cash and cash equivalents	0.4	(0.8)	(1.0)
	(1.8)	(12.8)	(5.8)
Cash outflow from decrease in borrowings	8.6	77.6	96.8
Movement in accrued interest	0.4	(1.0)	(1.0)
Amortisation of prepaid issuance fees	—	—	(0.4)
Movement in net debt in the period	7.2	63.8	89.6
Net debt at start of the period	(19.7)	(109.3)	(109.3)
Net debt at the end of the period	(12.5)	(45.5)	(19.7)

Notes on the Half Year Financial Statements

Half year ended 30 September 2018 – unaudited

1 BASIS OF PREPARATION OF ACCOUNTS

Reporting entity

Oxford Instruments plc is a company incorporated in England and Wales. The condensed consolidated half year financial statements consolidate the results of the Company and its subsidiaries (together referred to as the Group). They have been prepared and approved by the Directors in accordance with International Financial Reporting Standard (IFRS) IAS 34 Interim Financial Reporting as adopted by the EU. They do not include all of the information required for full annual financial statements, and should be read in conjunction with the consolidated financial statements of the Group for the year ended 31 March 2018.

The financial information contained herein is unaudited and does not constitute statutory accounts as defined by Section 435 of the Companies Act 2006. The comparative figures for the financial year ended 31 March 2018 are not the company's statutory accounts for that financial year. Those accounts have been reported on by the Company's auditors and delivered to the registrar of companies. The report of the auditors was (i) unqualified, (ii) did not include a reference to any matters to which the auditors drew attention by way of emphasis without qualifying their report, and (iii) did not contain a statement under section 498 (2) or (3) of the Companies Act 2006.

Significant accounting policies

As required by the Disclosure and Transparency Rules of the Financial Conduct Authority, the condensed set of financial statements has been prepared applying the accounting policies and presentation that were applied in the preparation of the Company's published consolidated financial statements for the year ended 31 March 2018, except as explained below.

Adoption of new and revised standards

i. IFRS 9 Financial Instruments

The Group adopted IFRS 9 on 1 April 2018. IFRS 9 addresses the classification, measurement and derecognition of financial instruments, introduces a new impairment model for financial assets and new rules for hedge accounting. It replaces IAS 39 *Financial Instruments* guidance and comprehensive updates have been made to IFRS 7 *Financial Instruments: Disclosure* and IAS 32 *Financial Instruments: Presentation*. The adoption of IFRS 9 has had no material impact on the Group's results.

ii. IFRS 15 Revenue from Contracts with Customers

The Group adopted IFRS 15 using the modified retrospective approach on 1 April 2018, which means that the cumulative impact on adoption has been recognised in retained earnings as of 1 April 2018. Comparative information has not been restated. IFRS 15 provides a single, principles-based, five-step model to be applied to all sales contracts, based on the transfer of control of goods and services to customers, and it replaces the separate model for goods and services of IAS 18 *Revenue*. The impact on adoption of IFRS 15 was a decrease in retained earnings of £7.0m, net of tax; an increase in inventory of £11.0m; an increase in customer deposits of £19.0m; an increase in deferred income of £1.0m; and an increase in deferred tax assets of £2.0m.

iii. IFRS 16 Leases

The Group adopted IFRS 16 using the modified retrospective approach on 1 April 2018. IFRS 16 provides a single model for lessees which recognises a right of use asset and lease liability for all leases that are longer than one year or that are not classified as low value. The impact on adoption of IFRS 16 was the recognition of right of use assets totalling £10.7m on the balance sheet and corresponding lease liabilities of £10.7m.

The table below summarises the effect that IFRS 15 and IFRS 16 have had on the Group Income Statement during the period to 30 September 2018.

	Pre IFRS 15 & IFRS 16 £m	IFRS 15 Adjustment £m	IFRS 16 Adjustment £m	As reported £m
Continuing operations - adjusted				
Revenue	141.9	5.1	—	147.0
Operating profit	18.7	2.3	—	21.0
Net finance expense	(1.1)	—	(0.1)	(1.2)
Profit before tax	17.6	2.3	(0.1)	19.8
Tax charge	(3.7)	(0.5)	—	(4.2)
Profit after tax	13.9	1.8	(0.1)	15.6

The impact of the adoption of IFRS 15 on the Group Income Statement shown above relates solely to the Research & Discovery segment.

Notes on the Half Year Financial Statements (continued)

Half year ended 30 September 2018 – unaudited

1 BASIS OF PREPARATION OF ACCOUNTS *continued*

Estimates

The preparation of half year financial statements requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities, income and expense. Actual results may differ from these estimates.

In preparing these half year financial statements, the significant judgements made by management in applying the group's accounting policies and key sources of estimation uncertainty were the same as those that applied to the Consolidated Financial Statements as at and for the year ended 31 March 2018.

Going concern

The condensed consolidated half year financial statements have been prepared on a going concern basis, based on the Directors' opinion, after making reasonable enquiries, that the Group has adequate resources to continue in operational existence for the foreseeable future.

Exchange rates

The principal exchange rates used to translate the Group's overseas results were as follows:

Period end rates	Half year to 30 Sept 2018	Half year to 30 Sept 2017	Year to 31 March 2018
US Dollar	1.30	1.34	1.40
Euro	1.12	1.13	1.14
Yen	148	151	149

Average translation rates	US Dollar	Euro	Yen
Half year to 30 September 2018			
April	1.39	1.14	150
May	1.36	1.14	148
June	1.33	1.14	146
July	1.32	1.13	146
August	1.30	1.12	144
September	1.29	1.11	146

Average translation rates year ended 31 March 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

Notes on the Half Year Financial Statements (continued)

Half year ended 30 September 2018 – unaudited

2 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 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, depreciation of right of use assets and amortisation of intangible assets to adjusted operating profit; and can be found in the Consolidated Statement of Cash Flows. The calculation of adjusted EPS can be found in note 8. Adjusted effective tax rate is calculated by dividing the share of tax attributable to adjusted profit before tax by adjusted profit before tax. The definition of cash conversion is set out in the Finance Review.

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

	Operating profit/(loss)			Profit/(loss) before income tax		
	Half year to 30 Sep 2018	Half year to 30 Sep 2017	Year to 31 Mar 2018	Half year to 30 Sep 2018	Half year to 30 Sep 2017	Year to 31 Mar 2018
	£m	£m	£m	£m	£m	£m
Statutory measure from continuing operations	13.7	15.2	38.4	11.6	12.7	34.2
Restructuring costs	—	0.3	1.2	—	0.3	1.2
Restructuring costs – relating to associate	0.3	0.3	0.4	0.3	0.3	0.4
Net profit on disposal of buildings	—	—	(3.3)	—	—	(3.3)
Business reorganisation items	0.3	0.6	(1.7)	0.3	0.6	(1.7)
Share of impairment recognised by associate	(0.6)	—	2.0	(0.6)	—	2.0
Amortisation of acquired intangibles	4.7	5.6	10.9	4.7	5.6	10.9
Mark-to-market loss/(gain) in respect of derivative financial instruments	2.9	(2.6)	(3.1)	2.9	(2.6)	(3.1)
Loan note make-whole payable	—	—	—	0.9	—	—
Adjusted measure from continuing operations	21.0	18.8	46.5	19.8	16.3	42.3
Share of taxation	—	—	—	(4.2)	(3.6)	(10.1)
Adjusted profit for the period from continuing operations				15.6	12.7	32.2
Adjusted effective tax rate				21.2%	22.1%	23.9%

Restructuring costs

Prior year restructuring costs of £1.2m primarily relate to the Group's US Healthcare business and include £0.5m to successfully defend a legal claim relating to a prior acquisition.

Restructuring costs – relating to associate

Restructuring costs relating to the Group's associate comprise costs incurred during the disposal of its Vacgen subsidiary. Prior year restructuring costs relating to the Group's associate relate to exceptional costs incurred by the associate arising from the merger of the Scientia and Omicron businesses.

Net profit on disposal of buildings

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

Share of impairment recognised by associate

During the prior year the Group's equity accounted associate recognised an impairment relating to the disposal of its Vacgen subsidiary. The Group's preliminary share of this impairment was £2.0m. Following the completion and finalisation of the transaction, £0.6m of the initial impairment provision has been reversed.

Amortisation of acquired intangibles

Adjusted profit excludes the non-cash amortisation and impairment of acquired intangible assets and goodwill.

Notes on the Half Year Financial Statements (continued)

Half year ended 30 September 2018 – unaudited

2 NON-GAAP MEASURES *continued*

Mark-to-market movements in respect of derivative financial instruments

Under IFRS 9, 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 IFRS 9 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.

Loan note make-whole payable

During the period to 30 September 2018 the Group repaid £11.6m of the principal outstanding on its loan notes. This payment was necessary due to material changes to the Group's structure following the disposal of its Industrial Analysis business during July 2017. The costs of £0.9m relate to the make-whole balance payable upon settlement of the £11.6m principal.

Share of taxation

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

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.

The Group's internal management structure and financial reporting systems differentiate the three aggregated operating segments on the basis of the economic characteristics discussed below:

- the Materials & 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 & 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 & Healthcare segment provides customer service and support for the Group's products and the service, sale and rental of third party healthcare imaging systems.

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 this format when reporting to the Group's Board of Directors.

Results from continuing operations
Half year to 30 September 2018

	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Total £m
External revenue	60.1	54.3	32.6	147.0
Inter-segment revenue	—	—	—	
Total segment revenue	60.1	54.3	32.6	
Segment operating profit from continuing operations	9.7	4.8	6.5	21.0

Notes on the Half Year Financial Statements (continued)

Half year ended 30 September 2018 – unaudited

3 SEGMENT INFORMATION *continued*

Results from continuing operations

Half year to 30 September 2017

	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Total £m
External revenue	50.1	47.9	34.1	132.1
Inter-segment revenue	—	0.1	—	
Total segment revenue	50.1	48.0	34.1	
Segment operating profit from continuing operations	7.2	4.2	7.4	18.8

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 operating profit from continuing operations	20.1	13.8	12.6	46.5

The adjusted loss after tax of £0.6m (prior half year: £nil; prior full year: £0.5m profit) from the Group's associate is reported within the Research & Discovery segment.

Reconciliation of reportable segment profit

	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Unallocated Group items £m	Total £m
Half year to 30 September 2018					
Operating profit for reportable segments from continuing operations	9.7	4.8	6.5	—	21.0
Restructuring costs – relating to associate	—	(0.3)	—	—	(0.3)
Share of impairment recognised by associate	—	0.6	—	—	0.6
Amortisation of acquired intangibles	(1.1)	(3.2)	(0.4)	—	(4.7)
Fair value movement on financial derivatives	—	—	—	(2.9)	(2.9)
Financial income	—	—	—	0.1	0.1
Financial expenditure	—	—	—	(2.2)	(2.2)
Profit/(loss) before income tax from continuing operations	8.6	1.9	6.1	(5.0)	11.6

	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Unallocated Group items £m	Total £m
Half year to 30 September 2017					
Operating profit for reportable segments from continuing operations	7.2	4.2	7.4	—	18.8
Restructuring costs	(0.1)	—	(0.2)	—	(0.3)
Restructuring costs – relating to associate	—	(0.3)	—	—	(0.3)
Amortisation of acquired intangibles	(1.3)	(3.8)	(0.5)	—	(5.6)
Fair value movement on financial derivatives	—	—	—	2.6	2.6
Financial income	—	—	—	0.1	0.1
Financial expenditure	—	—	—	(2.6)	(2.6)
Profit before income tax from continuing operations	5.8	0.1	6.7	0.1	12.7

Notes on the Half Year Financial Statements (continued)

Half year ended 30 September 2018 – unaudited

3 SEGMENT INFORMATION *continued*

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

4 RESEARCH AND DEVELOPMENT

The total research and development spend by the Group is as follows:

	Half year to 30 Sept 2018 £m	Half year to 30 Sept 2017 £m	<i>Year to 31 March 2018 £m</i>
Research and development expense charged to the consolidated statement of income	12.3	11.4	23.4
Less: depreciation of R&D related fixed assets	—	—	(0.1)
Add: amounts capitalised as fixed assets	—	0.1	0.1
Less: amortisation and impairment of R&D costs previously capitalised as intangibles	(1.5)	(1.6)	(4.4)
Add: amounts capitalised as intangible assets	1.5	3.1	5.8
Total cash spent on research and development during the period	12.3	13.0	24.8

5 INVESTMENT IN ASSOCIATE

The Group's share of loss in its equity accounted associate, Scienta Scientific AB ("Scienta"), for the period was £0.3m (prior half year: £0.3m loss; prior full year: £1.9m loss). The Group did not receive any dividends from the associate in the current or prior periods.

During the 6 months to 30 September 2017 the Group invested a further £2.1m in its equity accounted associate.

Notes on the Half Year Financial Statements (continued)

Half year ended 30 September 2018 – unaudited

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.

Effect of disposal on the financial position of the Group	Industrial Analysis 2017/18 £m
Goodwill	(4.3)
Acquired intangibles	(0.1)
Other intangibles	(4.7)
Property, plant and equipment	(2.4)
Inventory	(11.5)
Trade and other receivables	(9.8)
Cash and cash equivalents	(6.0)
Trade and other payables	8.6
Provisions	0.8
Tax balances	(0.4)
Net assets divested	(29.8)
Consideration received, satisfied in cash	82.8
Cash disposed of	(6.0)
Transaction expenses	(5.6)
Net cash inflow	71.2
Carrying value of net assets disposed of (excluding cash and cash equivalents)	(23.8)
Recognition of provision on disposal	(2.1)
Currency translation differences transferred from translation reserve	4.8
Gain on disposal	50.1
Tax charge on gain on disposal	(2.3)
Gain on disposal net of tax	47.8

Discontinued operations

In the period to 30 September 2017 the Group's Industrial Analysis business was classified as a discontinued operation. It was considered a major class of business on the basis that it was previously an operating segment and referred to in the Group Strategic Report.

The Group results were re-presented to reflect the classification of the Group's Industrial Analysis business as a discontinued operation.

Notes on the Half Year Financial Statements (continued)

Half year ended 30 September 2018 – unaudited

6 DISPOSAL OF SUBSIDIARY AND DISCONTINUED OPERATIONS *continued*

During the period to 30 September 2018 there were no transactions relating to discontinued operations.

Note that figures included in the results of discontinued operations for the half year to 30 September 2017 were preliminary and subject to revision during the finalisation of the financial statements for the year to 31 March 2018.

<i>Results of discontinued operations – half year to 30 Sep 2017</i>	Industrial Analysis £m	Superconducting Wire £m	Total £m
Revenue	16.8	—	16.8
Expenses	(16.1)	—	(16.1)
Adjusted profit before tax	0.7	—	0.7
Income tax charge	(0.4)	—	(0.4)
Adjusted profit after tax	0.3	—	0.3
<i>Adjusting items:</i>			
Amortisation and impairment of acquired intangibles	(0.1)	—	(0.1)
One off costs arising as a result of disposal	(2.2)	—	(2.2)
Property sale costs	—	(0.2)	(0.2)
Income tax on adjusting items	0.8	—	0.8
Loss after tax	(1.2)	(0.2)	(1.4)
Gain on disposal	50.8	—	50.8
Tax on gain on disposal	(3.8)	—	(3.8)
Profit/(loss) from discontinued operations after tax	45.8	(0.2)	45.6

The one off costs arising as a result of the disposal comprise a £1.8 million impairment of capitalised development costs in respect of a project which was discontinued as a result of the sale of the Industrial Analysis division along with related on-going costs incurred in the current year.

The property sale costs related to the ongoing sale of a surplus freehold property.

<i>Results of discontinued operations – full year to 31 Mar 2018</i>	Industrial Analysis £m
Revenue	16.8
Expenses	(16.3)
Adjusted profit before tax	0.5
Income tax charge	(0.9)
Adjusted loss after tax	(0.4)
<i>Adjusting items:</i>	
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

Notes on the Half Year Financial Statements (continued)

Half year ended 30 september 2018 – unaudited

6 DISPOSAL OF SUBSIDIARY AND DISCONTINUED OPERATIONS *continued*

Earnings per share from discontinued operations

	Half year to 30 Sept 2018 £m	Half year to 30 Sept 2017 £m	Year to 31 March 2018 £m
Adjusted basic earnings/(loss) per share	—	0.5	(0.7)
Adjusted diluted earnings/(loss) per share	—	0.5	(0.7)
Total basic earnings per share	—	79.9	80.2
Total diluted earnings per share	—	79.5	80.0

Cash flows from discontinued operations

	Half year to 30 Sept 2018 £m	Half year to 30 Sept 2017 £m	Year to 31 March 2018 £m
Net cash generated from operating activities	—	1.9	3.0
Net cash generated from investing activities	—	73.0	71.2
Net cash used in financing activities	—	—	—

7 TAXATION

The total effective tax rate on profits for the half year is 23.3% (prior half year: 21.3%). The weighted average tax rate in respect of adjusted profit before tax (see note 2) for the half year is 21.2% (prior half year: 22.1%). For the full year the Group expects the tax rate in respect of adjusted profit before tax to be 22.0%.

8 EARNINGS PER SHARE

a) Basic

The calculation of basic earnings per share is based on the profit or loss for the period after taxation and a weighted average number of ordinary shares outstanding during the period, excluding shares held by the Employee Share Ownership Trust, as follows:

	Half year to 30 Sept 2018 Shares million	Half year to 30 Sept 2017 Shares million	Year to 31 March 2018 Shares million
Weighted average number of shares outstanding	57.4	57.3	57.4
Less: weighted average number of shares held by Employee Share Ownership Trust	(0.2)	(0.2)	(0.2)
Weighted average number of shares used in calculation of earnings per share	57.2	57.1	57.2

Notes on the Half Year Financial Statements (continued)

Half year ended 30 september 2018 – unaudited

8 EARNINGS PER SHARE *continued*

b) Diluted

The following table shows the effect of share options on the calculation of both adjusted and unadjusted diluted basic earnings per share.

	Half year to 30 Sept 2018 Shares million	Half year to 30 Sept 2017 Shares million	Year to 31 March 2018 Shares million
Number of ordinary shares per basic earnings per share calculations	57.2	57.1	57.2
Effect of shares under option	0.5	0.3	0.2
Number of ordinary shares per diluted earnings per share calculations	57.7	57.4	57.4

9 DIVIDENDS PER SHARE

The following dividends per share were paid by the Group:

	Half year to 30 Sept 2018 pence	Half year to 30 Sept 2017 pence	Year to 31 March 2018 pence
Previous period interim dividend	3.70	3.70	3.70
Previous period final dividend	—	—	9.30
	3.70	3.70	13.00

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

	Half year to 30 Sept 2018 pence	Half year to 30 Sept 2017 pence	Year to 31 March 2018 pence
Interim dividend	3.80	3.70	3.70
Final dividend	—	—	9.60
	3.80	3.70	13.30

The final dividend for the year to 31 March 2018 was approved by shareholders at the Annual General Meeting held on 11 September 2018. Accordingly it is no longer at the discretion of the company and has been included as a liability as at 30 September 2018. It was paid on 19 October 2018.

The interim dividend for the year to 31 March 2019 of 3.80 pence was approved by the Board on 13 November 2018 and has not been included as a liability as at 30 September 2018. The interim dividend will be paid on 8 April 2019 to shareholders on the register at the close of business on 1 March 2019.

Notes on the Half Year Financial Statements (continued)

Half year ended 30 september 2018 – unaudited

10 FAIR VALUE OF FINANCIAL INSTRUMENTS

The fair values of financial assets and liabilities together with the carrying amounts shown in the Consolidated Statement of Financial Position are as follows:

	Fair value hierarchy	Carrying amount 30 Sept 2018 £m	Fair value 30 Sept 2018 £m	Carrying amount 30 Sept 2017 £m	Fair value 30 Sept 2017 £m	Carrying amount 31 March 2018 £m	Fair value 31 March 2018 £m
Assets carried at amortised cost							
Long-term receivables		0.9	0.9	2.1	2.1	1.4	1.4
Trade receivables		49.9	49.9	53.4	51.6	61.4	61.4
Other receivables		8.3	8.3	11.1	11.1	8.2	8.2
Cash and cash equivalents		18.9	18.9	14.3	14.3	20.7	20.7
Assets carried at fair value							
Derivative financial instruments:							
– Foreign currency contracts	2	1.0	1.0	2.3	2.3	2.4	2.4
Liabilities carried at fair value							
Derivative financial instruments:							
– Foreign currency contracts	2	(1.6)	(1.6)	(1.0)	(1.0)	(0.4)	(0.4)
Liabilities carried at amortised cost							
Trade and other payables		(58.6)	(58.6)	(54.1)	(54.1)	(58.1)	(58.1)
Lease payables		(9.8)	(9.8)	—	—	—	—
Bank overdraft		—	—	(0.6)	(0.6)	—	—
Borrowings		(31.4)	(31.4)	(59.2)	(59.2)	(40.4)	(40.4)

The following summarises the major methods and assumptions used in estimating the fair values of financial instruments reflected in the above table.

Derivative financial instruments

Derivative financial instruments are marked-to-market using market prices.

Fixed and floating rate borrowings

The fair value of fixed and floating rate borrowings is estimated by discounting the future contracted principal and interest cash flows using the market rate of interest at the reporting date.

Trade and other receivables/payables

For receivables/payables with a remaining life of less than one year, the carrying amount is deemed to reflect the fair value. All other receivables/payables are discounted to determine their fair value. Advances received are excluded from other payables above as these are not considered to be financial liabilities.

Notes on the Half Year Financial Statements (continued)

Half year ended 30 September 2018 – unaudited

10 FAIR VALUE OF FINANCIAL INSTRUMENTS *continued*

Fair value hierarchy

The table above gives details of the valuation method used in arriving at the fair value of financial instruments. The different levels have been identified as follows:

Level 1: quoted prices (unadjusted) in active markets for identical assets and liabilities;

Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and

Level 3: inputs for the asset or liability that are not based on observable market data.

There have been no transfers between levels during the year.

11 RELATED PARTIES

All transactions with related parties are conducted on an arm's length basis and in accordance with normal business terms. Transactions between related parties that are Group subsidiaries are eliminated on consolidation.

During the period, the Group supplied services and materials to its associate, Scienta Omicron GmbH, on an arm's length basis. The following transactions occurred during the period:

	Revenue £m	Purchases £m	Receivables £m
Half year to 30 September 2018			
Scienta Omicron GmbH	—	0.7	2.1
	Revenue £m	Purchases £m	Receivables £m
Half year to 30 September 2017			
Scienta Omicron GmbH	—	—	3.6
	Revenue £m	Purchases £m	Receivables £m
Full year to 31 March 2018			
Scienta Omicron GmbH	0.6	—	3.0

Included on the balance sheet is a long-term loan receivable of £0.9m (September 2017: £2.1m, March 2018: £1.4m) and a current loan receivable of £1.1m (September 2017: £1.5m, March 2018: £1.1m) due from the Scienta. The loan is repayable at the end of May 2020. During the period the Group received interest charged on the loan of £0.1m (Six months to September 2017: £0.1m, Year to March 2018: £0.2m).

Principal Risks and Uncertainties

The Group has in place a risk management structure and internal controls which are designed to identify, manage and mitigate risk.

In common with all businesses, Oxford Instruments faces a number of risks and uncertainties which could have a material impact on the Group's long term performance.

On pages 35 to 38 of its 2018 Annual Report and Accounts (a copy of which is available at www.oxford-instruments.com), the Company set out what the Directors regarded as being the principal risks and uncertainties facing the Group's long term performance and these are largely reproduced in the table below, with some amendments to reflect recent changes in the assessment of certain risks. Many of these risks are inherent to Oxford Instruments as a global business and they remain valid as regards their potential impact during the remainder of the second half of the year.

The impact of the economic and end market environments in which the Group's businesses operate are considered in the Half Year Statement of this Half Year Report, together with an indication if management is aware of any likely change in this situation.

ID	Specific Risk	Context	Risk	Possible Impact	Control Mechanisms	Mitigation
1	Technical Risk	The Group provides high technology equipment and systems to its customers.	Failure of the advanced technologies applied by the Group to produce commercial products, capable of being manufactured and sold profitably.	Lower returns through loss of market share & reduced profitability. Negative impact on the Group's reputation.	'Voice of the Customer' approach to drive the product development road map; Formal new product development stage gate process to manage R&D 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.
2	Routes to market	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.	Backward vertical integration by OEMs	Loss of a key route to market; new competitors; lower sales and profitability.	Customer intimacy to match product performance to customer needs; Positioning of OI brand and marketing directly to end users	Product differentiation to promote advantages of OI equipment & solutions; Strategic marketing with OEMs to sell performance of the combined system; Broadening the OEM customer base; Direct marketing to end users

Half Year Results Announcement for the six months ended 30 September 2018

ID	Specific Risk	Context	Risk	Possible Impact	Control Mechanisms	Mitigation
3	Economic environment	Government expenditure may become constrained in key markets	Reduction in global research funding	Lower sales and profitability	Market intimacy and identification of alternative markets	Market diversification – increasing penetration into corporate customers not dependent on external funding
4	International trade risks	The Group operates in global markets and can be required to secure export licences from governments.	Changes in the geopolitical landscape resulting in a complete embargo (sanctions) on trade with specific nations / challenges to selling to specific end users. National trade disputes may result in the introduction of tariffs on both imported goods and exports.	Loss of specific export customers and markets, adversely affecting turnover Reduction in net selling price to customers in markets adversely affected by tariffs and potential increases to input costs, resulting in lower gross margins	Contract review and protection against breach in the event that export licence is withheld Regional pricing strategies. Contractual terms and conditions	Broad global customer base; contractual protection Preferential tariff rates on certain products sold
5	Brexit related risks	The UK will leave the EU	Supply chain disruption in the event of a no deal Brexit and disruption to shipping products. Lower participation in EU-funded research projects post Brexit. Tariffs on imports from EU countries to the UK; UK becomes less attractive to EU nationals as a place to work	Delays in production and shipping finished goods. Lower sales and profitability. Increased cost of production for purchases with EU content. Salary inflation. Loss of key skills, and/or increased recruitment, and/or salary costs.	Strategic supply chain review; Customer intimacy and monitoring of funded projects. Product pricing & strategic sourcing reviews. Skills and capabilities reviews. International Trade committee.	Limited stock-piling of key components; Preparing application for Authorised Economic Operator status to facilitate movement of goods. 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.

Half Year Results Announcement for the six months ended 30 September 2018

ID	Specific Risk	Context	Risk	Possible Impact	Control Mechanisms	Mitigation
6	Supply chain risk	The Group operates a strategic make or buy policy and outsources a significant proportion of the costs of production to benefit from economies of scale and natural currency hedges.	Supply chain disruption in particular for single source components leading to production delays and potentially lost revenue.	Disruption to customers. Lower sales and profitability 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
7	People	A number of the Group's employees have business critical skills.	Key employees leave and effective replacements are not recruited on a timely basis	Lower sales and profitability	HR people strategy for retention & recruitment of staff with key skills	Succession management plans; Technical career paths; Renewal of UK work permit scheme to facilitate employment of non UK / EU nationals
8	IT risk	Elements of production, financial and other systems rely on IT availability	Increasing risk of data loss / breach through cyber-attack, viruses or malware. "Zero-day" incidents, where new viruses or malware can spread before security vendors can respond represent a particularly high risk	Loss of business critical data and / or financial loss	IT security policy & associated standards and protection systems. Internal IT governance to maintain those protection systems and our incident response	On-going evolution of security levels in consultation with IT security partners to ensure changes are in-line with current threats. Inter alia, we deliver user education, improved configuration, internal testing and new tools where appropriate.
9	Operational risk	Business units' production facilities are typically located at a single site	Loss of all or part of a major production facility	Delayed shipments leading to lower sales and profitability	Business Continuity Plans in place Use of contractual protection to mitigate financial consequences of delayed delivery	Principal sites have detailed BCPs which include plans to restore or relocate production in the event of a major incident. Mechanisms such as clauses for limitation of liability / liability caps / exclusion of consequential losses in sales contracts
10	Pensions	The Group's calculated pension deficit is sensitive to changes in the actuarial assumptions.	Movements in the actuarial assumptions may have an appreciable effect on the reported pension deficit.	Additional cash required by the Group to fund the deficit. Reduction in net assets.	Regular review of investment 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.

Half Year Results Announcement for the six months ended 30 September 2018

ID	Specific Risk	Context	Risk	Possible Impact	Control Mechanisms	Mitigation
11	Foreign exchange volatility	The Group's sterling cost basis is higher than its sterling revenue sources meaning that a significant proportion of the Group's profit is made in foreign currencies.	Adverse foreign currency movements	Reduced profitability	Natural hedging to offset foreign currency sales through procurement in foreign currencies; Hedging programme	Strategic procurement in USD, Euros & Yen. Short-term exposure to volatility is managed by hedging programme (forward contracts)
12	Legal / compliance risk	The Group operates in a complex technological environment and competitors may seek to protect their position through intellectual property rights	Infringement of a third party's intellectual property	Potential loss of future revenue; financial compensation	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

Responsibility Statement of the Directors in respect of the Half Year Financial Statements

We confirm that to the best of our knowledge:

- the condensed set of financial statements has been prepared in accordance with IAS 34 Interim Financial Reporting as adopted by the EU;
- the interim management report includes a fair review of the information required by:
 - (a) DTR 4.2.7R of the Disclosure Guidance and Transparency Rules, being an indication of important events that have occurred during the first six months of the financial year and their impact on the condensed set of financial statements; and a description of the principal risks and uncertainties for the remaining six months of the year; and
 - (b) DTR 4.2.8R of the Disclosure Guidance and Transparency Rules, being related party transactions that have taken place in the first six months of the current financial year and that have materially affected the financial position or performance of the entity during that period; and any changes in the related party transactions described in the last annual report that could do so.

Ian Barkshire, Chief Executive
13 November 2018

Gavin Hill, Group Finance Director



Independent review report to Oxford Instruments plc

Conclusion

We have been engaged by the company to review the condensed set of financial statements in the half-yearly financial report for the six months ended 30 September 2018 which comprises the Condensed Consolidated Statement of Income, the Condensed Consolidated Statement of Comprehensive Income, Condensed Consolidated Statement of Financial Position, Condensed Consolidated Statement of Changes in Equity, Condensed Consolidated Statement of Cash Flows and the related explanatory notes.

Based on our review, nothing has come to our attention that causes us to believe that the condensed set of financial statements in the half-yearly financial report for the six months ended 30 September 2018 is not prepared, in all material respects, in accordance with IAS 34 *Interim Financial Reporting* as adopted by the EU and the Disclosure Guidance and Transparency Rules (“the DTR”) of the UK’s Financial Conduct Authority (“the UK FCA”).

Scope of review

We conducted our review in accordance with International Standard on Review Engagements (UK and Ireland) 2410 *Review of Interim Financial Information Performed by the Independent Auditor of the Entity* issued by the Auditing Practices Board for use in the UK. A review of interim financial information consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. We read the other information contained in the half-yearly financial report and consider whether it contains any apparent misstatements or material inconsistencies with the information in the condensed set of financial statements.

A review is substantially less in scope than an audit conducted in accordance with International Standards on Auditing (UK) and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Directors' responsibilities

The half-yearly financial report is the responsibility of, and has been approved by, the directors. The directors are responsible for preparing the half-yearly financial report in accordance with the DTR of the UK FCA.

The annual financial statements of the group are prepared in accordance with International Financial Reporting Standards as adopted by the EU. The directors are responsible for preparing the condensed set of financial statements included in the half-yearly financial report in accordance with IAS 34 as adopted by the EU.

Our responsibility

Our responsibility is to express to the company a conclusion on the condensed set of financial statements in the half-yearly financial report based on our review.

The purpose of our review work and to whom we owe our responsibilities

This report is made solely to the company in accordance with the terms of our engagement to assist the company in meeting the requirements of the DTR of the UK FCA. Our review has been undertaken so that we might state to the company those matters we are required to state to it in this report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company for our review work, for this report, or for the conclusions we have reached.

Greg Watts

for and on behalf of KPMG LLP
Chartered Accountants
One Snowhill, Snow Hill Queensway
Birmingham, B4 6GH

13 November 2018





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