

Oxford Instruments plc

Half-year Report for the six months
ended 30 September 2021

How do we make a material difference?

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Our Purpose

Our core purpose is to support our customers in addressing some of the world's most pressing challenges, enabling a greener, healthier, more connected, advanced society for all.

We provide high technology products and services to the world's leading industrial companies and scientific research communities, exploiting our world-class ability to image, analyse and manipulate materials down to the atomic and molecular level.

We make a material difference by...



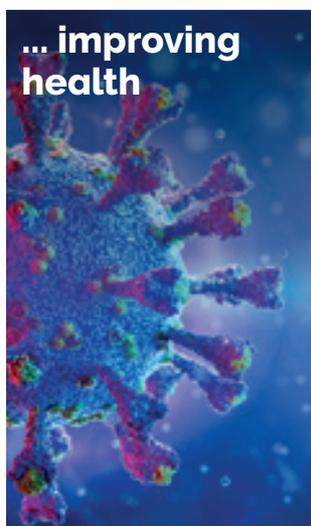
... enabling a greener economy

Our solutions are being used to develop next generation batteries.



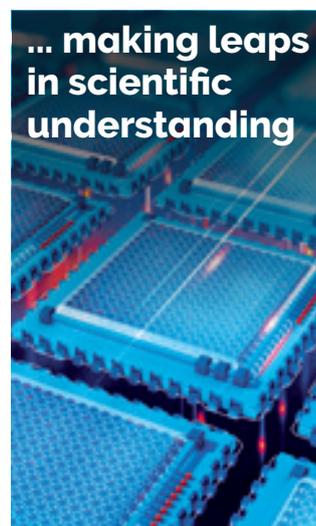
... increasing connectivity

We enable the development of more compact devices, faster processing and improved efficiency for data communications.



... improving health

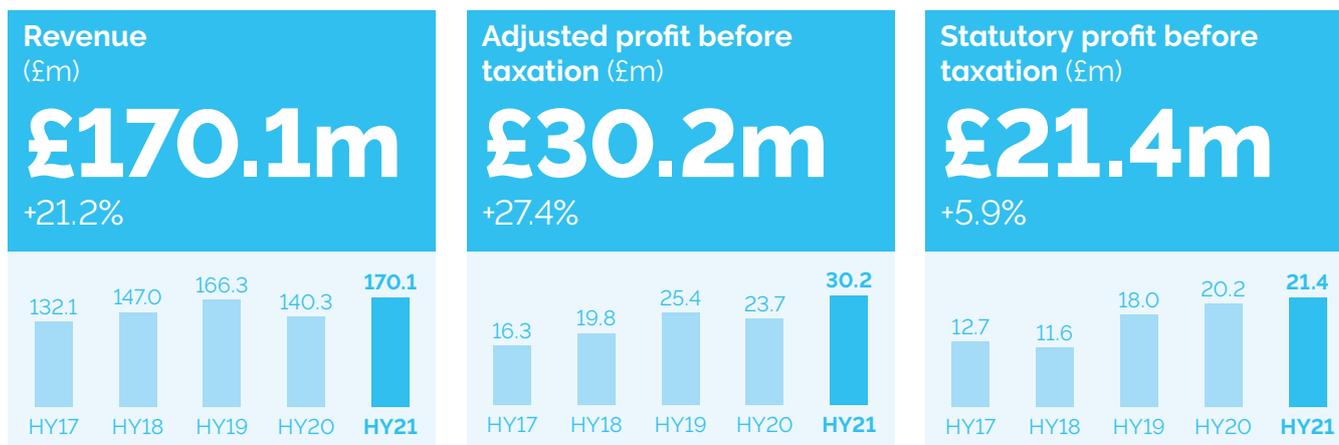
We play an important role in advancing knowledge regarding the covid virus.



... making leaps in scientific understanding

We are at the forefront of enabling quantum progress.

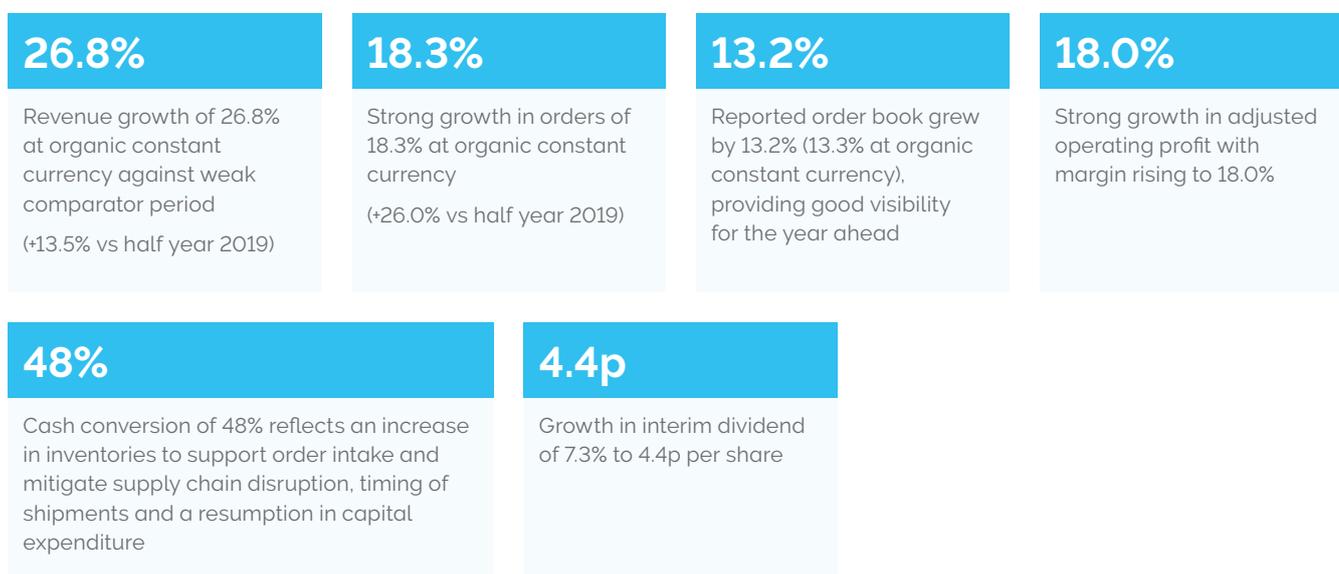
Performance Highlights



	Half year to 30 September 2021	Half year to 30 September 2020	% change reported	% change organic constant currency ⁴
Adjusted ¹				
Revenue	£170.1m	£140.3m	+21.2%	+26.8%
Adjusted operating profit	£30.6m	£24.3m	+25.9%	+28.0%
Adjusted operating profit margin	18.0%	17.3%	+70bps	
Adjusted profit before taxation	£30.2m	£23.7m	+27.4%	
Adjusted basic earnings per share	41.2p	32.8p	+25.6%	
Cash conversion ²	48%	97%		
Net cash ³	£70.1m	£81.4m		

- Adjusted items exclude the amortisation and impairment of acquired intangible assets, acquisition items, profit or loss on disposal of operations, other significant non-recurring items, and the mark-to-market movement of financial derivatives. A full definition of adjusted numbers can be found in the Finance Review and Note 1.
- Cash conversion measures the percentage of adjusted cash from operations to adjusted operating profit, as set out in the Finance Review.
- Net cash includes total borrowings, cash at bank and bank overdrafts but excludes IFRS 16 lease liabilities.
- Constant currency numbers are prepared on a month-by-month basis using the translational and transactional exchange rates which prevailed in the previous year rather than the actual exchange rates which prevailed in the year. Transactional exchange rates include the effect of our hedging programme. Organic numbers remove the impact from the acquisition of WITec.
- Return on sales is defined as adjusted profit before taxation expressed as a percentage of revenue

Financial Highlights





Statutory	Half year to 30 September 2021	Half year to 30 September 2020	% change reported
Revenue	£170.1m	£140.3m	+21.2%
Operating profit	£21.8m	£20.8m	+4.8%
Operating profit margin	12.8%	14.8%	(200 bps)
Profit before taxation	£21.4m	£20.2m	+5.9%
Basic earnings per share	28.7p	27.7p	+3.6%
Interim dividend per share for the year	4.4p	4.1p	+7.3%

Operational Highlights

Improved financial performance reflecting strong position in attractive, structural growth markets

Global sustainability agenda strengthening the structural growth drivers for our markets

Strong customer demand, with double-digit order growth across Europe, North America and Asia

Good strategic progress supporting profit growth and enhanced margin; increased investment in future growth opportunities

Strong order and revenue growth across commercial and academic customers reflecting buoyant semiconductor, advanced materials and quantum markets, with recovery in life science

WITec acquisition complements existing portfolio, providing additional opportunities for growth

Order conversion to revenue impacted by prolonged customer-related administrative processes and delays in obtaining export licences

Chief Executive's Review



We have emerged from the pandemic a stronger, more focused business, even more aligned to the needs of our customers in end markets.

Ian Barkshire
Chief Executive

Revenue

£170.1m
+21.2%

(HY 2020: £140.3m)

Adjusted operating profit

£30.6m
+25.9%

(HY 2020: £24.3m)

Adjusted operating profit margin

18.0%
70 basis points

(HY 2020: 17.3%)

Introduction

We emerge from the pandemic a stronger, more focused business, even more aligned to the needs of our customers and addressing end markets with long-term structural growth drivers providing a foundation for good growth and medium-term margin expansion.

As a global provider of high technology products and solutions to the world's leading industrial companies and foremost scientific research institutes, we recognise our responsibility and role in the advancement of society, helping to create a more sustainable future. Our purpose, to enable a greener, healthier, more connected advanced society for all, puts us at the heart of many global and corporate sustainability initiatives. This has led to increased demand for our world-class solutions and underpins our confidence in our future growth potential.

The Group delivered a strong performance in the first half with significant organic constant currency order, order book and revenue growth, reflecting a robust recovery in demand from our commercial, academic and government-funded customers across our end markets. Continued profit and margin growth in the period highlights the resilience of our business model and the operational efficiency improvements embedded through our Horizon strategy across the Group.

We have continued to make good progress in the delivery of our strategy, building further on our market intimacy, successful new product launches, and have made excellent progress with our operational excellence and service transformation programmes.

In September we acquired WITec Wissenschaftliche Instrumente und Technologie GmbH ("WITec"), a leading Raman and optical imaging solutions business, further enhancing our market offering. With excellent revenue synergies across our target markets, this acquisition will strengthen our materials analysis solutions portfolio, providing additional capabilities to our existing customers and helping us expand into new and adjacent markets.

Key to our performance in the first half has been how our employees have embraced new ways of working, helping us establish and embed more effective and efficient ways to support and engage with our global customers, optimise our internal operations and deliver our strategic product roadmaps.



The Group has successfully developed a hybrid workplace model, enabling us to better utilise our global resources and facilities whilst maintaining the essential connectivity between our teams. Our goal is to create a safe and vibrant workplace environment where employees can build successful careers, make a personal impact on the world, and enjoy a healthy work-life balance.

Strong structural market growth drivers: short-term pressures largely mitigated in the half

Our end markets have remained robust throughout the pandemic. The global economic recovery and increasing sustainability agenda have strengthened and reinforced their underlying growth drivers, providing greater impetus within governments and commercial organisations. This is resulting in increased funding within our target markets and is accelerating roadmaps for customers requiring new, higher performing, easier-to-use solutions.

This is particularly evident in the expanding demand for semiconductors, driven by the need for exponential increases in digital data, connectivity, and bandwidth. Within life sciences, the ability to accelerate the delivery of new medicines and therapies at a fraction of the cost is being made possible by understanding the fundamental disease mechanisms and the efficacy of treatments at the cellular and molecular level. Materials are the building blocks of modern society, and the development of new, higher performing materials will play an ever-more important role in delivering a pathway to a more sustainable society.

Whilst our chosen markets and customers are driving growth, there remain bottlenecks which have impacted revenue, including ongoing travel restrictions, limited access to some customer sites, as well as prolonged administrative processes and continued delays with export license.

Furthermore, the rapid recovery across the wider global economy has led to increasing supply chain disruption and inflationary pressures as we have progressed through the half. We continue to mitigate operational challenges as we move into the second half through building even stronger relationships with our strategic supply chain partners and increasing forward orders of our own inventory levels in specific areas. Throughout the first half, we experienced inflationary headwinds including elevated logistics costs and increased component and raw material pricing. The strength of our brand and ongoing gains from our operational excellence programme have provided some resilience in the first half, and will be a key part in our mitigation against ongoing inflationary pressures.

Results: strong financial performance and order momentum

The Group delivered a strong financial performance in the first half with robust constant currency order, revenue, and operating profit growth and a continued improvement in operating margin, against both H1 2020 and H1 2019, highlighting the underlying health of our end markets and the strength of our product portfolio.

	H1 2021	% reported growth vs H1 2020	% reported growth vs H1 2019	% organic constant currency growth vs H1 2020	% organic constant currency growth vs H1 2019
Orders	£198.3m	12.9%	19.7%	18.3%	26.0%
Revenue	£170.1m	21.2%	7.9%	26.8%	13.5%
Adjusted operating profit	£30.6m	25.9%	16.8%	28.0%	17.6%
Adjusted operating margin	18.0%	70bps	140bps	50bps	80bps
Statutory operating profit	£21.8m	4.8%	13.0%		
Statutory operating margin	12.8%	(200bps)	60bps		

Chief Executive's Review continued

Results continued

Reported orders for the Group increased to £198.3m (2020: £175.7m) up 12.9%, representing 18.3% growth on an organic constant currency basis against the comparative period. This growth reflected significant demand from commercial customers and good demand from academic and government-funded institutions. Compared to H1 2019, the Group saw a 26.0% increase in orders, on an organic constant currency basis, with double-digit increases in demand from both academic and commercial customers.

From an end market perspective, increased customer demand supported strong order growth across Healthcare & Lifescience, Semiconductor & Communications, Quantum Technology and Energy & Environment market segments. Orders to customers involved in Research & Fundamental Science declined in the period, due in part to ongoing covid-related disruption in this market segment.

Strong demand also led to significant order growth across the Materials & Characterisation and Research & Discovery sectors, whilst progress with our service transformation supported strong order growth in the Service & Healthcare sector.

At a regional level, we had strong double-digit order growth across Europe, North America and Asia. Within Asia, orders to China grew 19.6% on a constant currency basis (14.6% on a reported basis) supported by strong growth to commercial customers across Semiconductor, Advanced Materials, and Quantum applications.

Continued order momentum, together with the partial easing of covid-related travel and customer site access restrictions supported reported revenue growth of 21.2% to £170.1m (2020: £140.3m), also representing strong growth relative to H1 2019. WITec contributed £1.8m of revenue in the month following acquisition.

Revenue grew in each of our sectors, up 34% in Materials & Characterisation, 23% in Research & Discovery and 15% in Service & Healthcare, on an organic constant currency basis, with double-digit growth to both academic and commercial customers.

The proportion of revenue to commercial customers increased to 50% in the period (2020: 46%).

From an end market perspective, we had strong revenue growth across all our segments apart from Research & Fundamental Science due to ongoing travel and customer site restrictions. Strength of demand slightly increased the proportion of sales within Semiconductor & Communications to 31% of revenue, Advanced Materials to 30% of revenue and Quantum Technology to 7% of revenue. Healthcare & Lifescience represented 19% of revenue with Energy & Environment and Research & Fundamental Science at 8% and 5% respectively.

Regionally, revenue profiles remained strongly influenced by the timing and extent of the easing of covid-related restrictions, affecting our ability to deliver on the strong underlying customer demand seen within the order profile. This resulted in strong revenue growth into Asia and North America, with Europe broadly in line with the previous year on a constant currency basis, but behind on a reported currency basis.

Our continued focus on driving operational efficiencies supported growth in adjusted operating profit, up 25.9% to £30.6m (2020: £24.3m) and an adjusted operating margin of 18.0%, representing growth of 70 basis points on a reported basis or 10 basis points on a constant currency basis. Excluding the effect of WITec, the adjusted operating profit would have been £30.4m, an increase of 25.1%. This is despite the inflationary impacts prevalent in the wider economy that resulted in elevated logistics costs and increased component and raw material prices.

The strength of our markets and continued positive order momentum resulted in 16.9% growth in the order book since March 2021, with significant growth within the Materials & Characterisation and Service & Healthcare sectors. The organic book-to-bill ratio for the period was 1.17.

Cash conversion of 48% reflects shipment timing, an increase in inventories to support order growth and mitigate supply chain challenges, as well as a resumption in capital expenditure.

The Group closed the half year with net cash of £70.1m after the acquisition of WITec in August 2021.

Dividend

In line with the Group's progressive dividend policy, and due to the Group's robust trading performance and positive cash generation through the period, the Board is declaring an interim dividend of 4.4p per share (H1 2020: 4.1p).

Horizon strategy driving expansion in attractive markets and delivering operational efficiencies

We continue to progress with our Horizon strategy, which has underpinned financial performance in the first half. We have heightened our focus on attractive end markets with positive long-term structural growth drivers where we can sustain leadership positions, whilst maintaining our relentless product innovation and our drive to improve operational effectiveness and exploit synergies across the Group.

We are positioned in niche segments within markets that are underpinned by strong investment, where we deliver a high degree of value for our customers as our premium products are typically critical to enabling and accelerating their desired outcomes.

Our business model provides an element of resilience through the breadth of drivers within our end markets and by engaging with customers across the full technology cycle, from research to applied R&D and high-tech manufacturing. This also means that we are well positioned to benefit from each wave of commercialisation and technology disruption.

Through our market intimacy we continue to identify additional opportunities to deliver increased value to our customers and achieve expansion within our chosen markets.

We have increased our investment in R&D, with a heightened focus on new products and solutions that will create the most value for our existing customers or enable us to expand into new or adjacent markets.

Through our operational excellence programme, we continue to drive efficiencies across the Group. This includes strengthening our supply chain, building long-term strategic partnerships with fewer suppliers, embedding improved manufacturing processes and utilising centres of excellence to benefit delivery across the wider Group.

Our service transformation programme is delivering growth by providing a wider portfolio of support products targeted at increasing customer capabilities productivity throughout their full lifetime use of our products.

We are also changing the way in which we support our customers, embracing remote service and support approaches, combined with increased delivery through our regional teams supported by our global expertise. Furthermore, the digitisation of our product portfolio has allowed us to offer an increasing level of real time insights that are enhancing customer capabilities and productivity. The investment in our regional service teams and the embedding of remote digital support capabilities ensures we can deliver our global expertise locally, providing increased customer response times and reduced travel.

To date, the Horizon strategy has delivered tangible gains across the Group, improving our financial performance. Through Horizon, we continue to have significant opportunities for further gains that will support our growth and margin enhancement.

Increased R&D investment and enriched IP portfolio

We continue the development and delivery of highly innovative and market-leading products and have increased our R&D investment in the first half to support future growth. Our heightened focus on our chosen end markets drives sustainable differentiation for our products and delivers increased value for our customers. In the period we made good strategic progress with our product development roadmaps, launched several new products and further enriched our IP portfolio. R&D spend in the period of £15.1m (2020: £12.7m) has grown broadly in line with sales and represents 8.8% of revenue.

Shaping a sustainable future

We were delighted to welcome Sir Nigel Sheinwald to the Board as a Non-Executive Director in September. Sir Nigel will chair our Board's sustainability committee with effect from November 2021, when all Non-Executive Directors will also join the committee.

Nigel brings a wealth of skills and experience from his time as Chair of Shell's sustainability committee and will support the further development and delivery of our initiatives.

We believe that embedding sustainability throughout the Group creates long-term value for all our stakeholders and will secure our long-term success. In line with our purpose, we recognise that the greatest impact we can make to a sustainable, net zero world is in enabling our customers to deliver technologies that will aid the drive towards a greener, healthier, more connected advanced society. With regard to our own operations, we have an ambitious and wide-ranging sustainability agenda based on our commitment to net zero and the TCFD reporting framework.

Whilst the impact our facilities have on the environment is relatively small, we have made great strides in reducing our carbon footprint and we will continue in our efforts to minimise our impact. As the world focuses on a transition to a low-carbon economy we recognise the important role we play in supporting our customers with their net zero ambitions, as well as encouraging similar commitments throughout our supply chain.

We also believe that how we do business is as important as what we do. Being inclusive is a core company value and is based on respect for the individual and creating a sense of belonging. In support of this, and to attract, retain, and enable the best people to perform, we are dedicated to creating an inclusive environment and culture, where difference is valued, and people are recognised for what they deliver and bring to the team. This is also reflected in our Board's commitment to meeting the targets that have been set out in the Hampton-Alexander review through future appointments, building on the progress we have made in recent years. This has included Alison Wood taking the position of Senior Independent Director, resulting in two female Chairs of our committees.

Our employees and customers are increasingly engaging with our sustainability agenda. We have enhanced our communications across all our stakeholders, gathering feedback as they help to shape our future direction. This initiative is overseen by the Executive-led sustainability committee, who drive and align the activities we undertake across the Group.

We will publish our Sustainability and TCFD statements in 2022.

Investing in our employees and building on our capabilities

Our objective is to ensure that we have a high capability, diverse workforce that enables us to better understand our customers and markets. Building an organisation with a broad range of perspectives and experiences increases our ability to innovate, to make the right decisions and to exceed our customers' expectations. We continue to invest in the capabilities we need to deliver our strategy, which is underpinned by the combination of our technical, end market and broad commercial expertise. This has included the ongoing support and development of our employees and augmenting our existing talent through the recruitment of individuals with specific additional knowledge or skills.

I would like to thank all our employees for their continual support, commitment and resilience during the year, for embracing the changes we have made to our workplace model and for helping to create a culture of inclusion that underpins our ongoing success.

Summary and outlook

We have emerged from the pandemic a stronger, more focused and efficient business, even more aligned to the needs of our customers in end markets with structural growth drivers. We are increasing our investment to take advantage of these growth opportunities, providing the foundation for good growth and medium-term margin expansion.

Whilst supply chain pressures will moderate conversion of orders to revenue and drive cost inflation in the second half, our strategic alignment to a range of attractive end markets, combined with our strong opportunity pipeline and healthy order book, provides us with good momentum going into the second half. Our expectations for further progress in the year are unchanged.

Ian Barkshire
Chief Executive

8 November 2021



Materials & Characterisation

The Materials & Characterisation sector has a broad customer base across a wide range of applications for the imaging and analysis of materials down to the atomic level (Asylum Research, NanoAnalysis, Magnetic Resonance and newly acquired WITec) as well as the fabrication of semiconductor devices and structures through our range of advanced semiconductor etch and deposition process systems (Plasma Technology).

The sector has a strong focus on accelerating our customers' applied R&D, enabling the development of new devices and next generation higher performing materials as well as enhancing productivity in advanced manufacturing, quality assurance (QA) and quality control (QC).

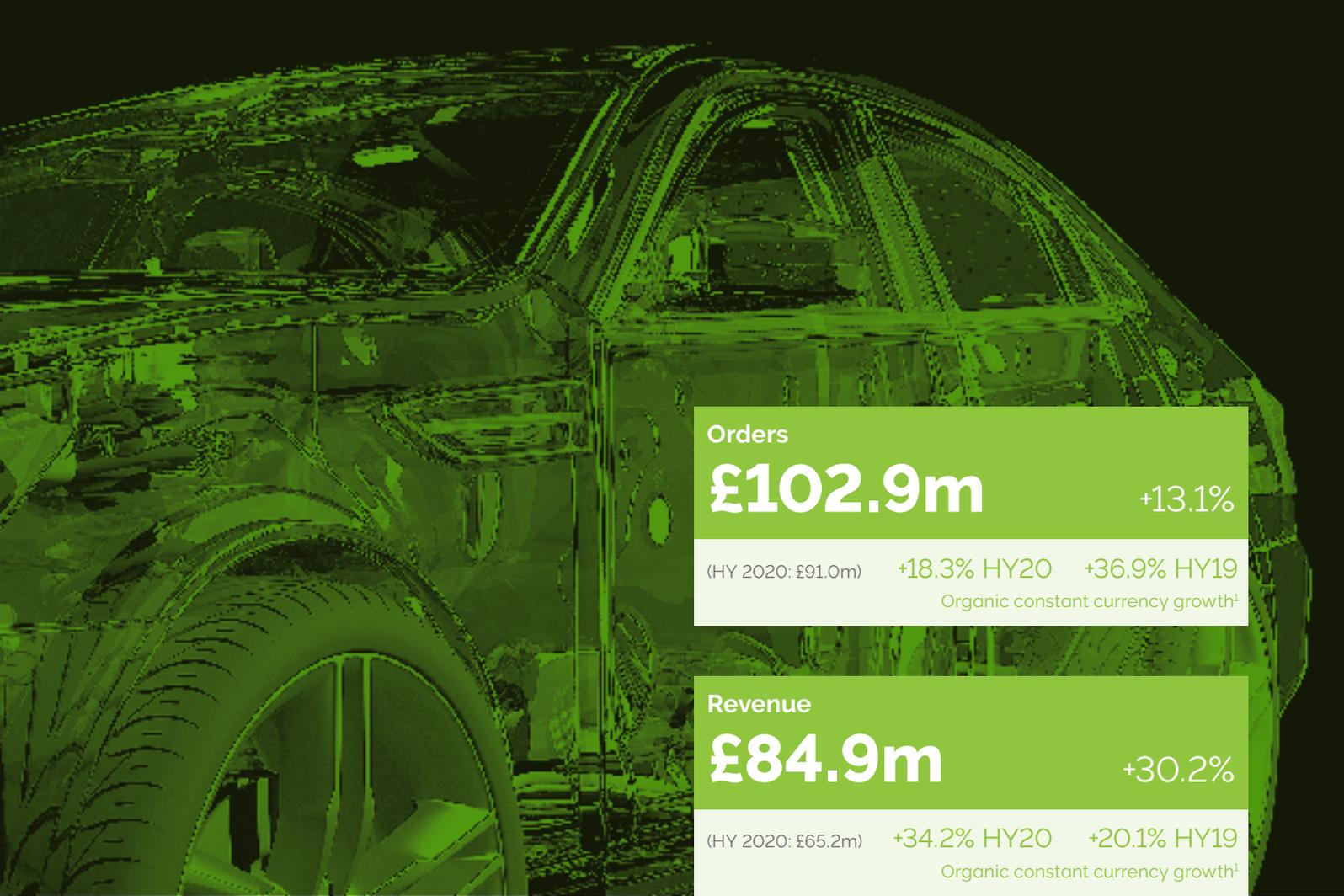
Our portfolio of imaging and analysis systems includes our range of market-leading X-ray and electron analysis systems used in conjunction with electron and ion microscopes, as well as our performance-leading atomic force microscopes and magnetic resonance analysers. Through our leading product performance, ease of use and advanced analytics we enhance our customers' capabilities, provide actionable insights and increase their productivity.

WITec's leading Raman microscopy solutions provide a complementary offering to our existing portfolio of characterisation products being used widely across our existing academic and commercial customers for fundamental research, applied R&D and quality control. The technique, which is used in conjunction with and alongside our existing characterisation solutions, broadens the capabilities that we can offer to our existing customers whilst expanding opportunities in new market areas. The acquisition, which completed on 31 August, will enable the further exploitation of synergies across the sales, marketing and service teams and increases the role we can play in supporting our customers.

Our portfolio of advanced semiconductor etch and deposition processing systems provide our customers with the ability to create and manipulate materials with atomic scale accuracy and are used in the fabrication of the advanced semiconductor devices used across a wide range of industries.

We have leading expertise in compound semiconductor processing with a portfolio of high-performance products specifically optimised for R&D or high-volume manufacturing. Construction has begun on our new facility, which will increase our capacity, comprising both a state-of-the-art manufacturing area and advanced laboratories to support the further development of our leading-edge technologies.

The Materials & Characterisation sector delivered strong growth and improved profitability supported by recovery in the global economy and continued increased demand from semiconductor, electronics and advanced materials end markets. Strong order growth reflected positive demand across North America, Europe and Asia and all our end markets. Order growth was strengthened by our increased market focus and the success of recently launched products, with significant growth to commercial customers, supported by continued strong demand from academia.



Orders

£102.9m

+13.1%

(HY 2020: £91.0m)

+18.3% HY20

+36.9% HY19

Organic constant currency growth¹

Revenue

£84.9m

+30.2%

(HY 2020: £65.2m)

+34.2% HY20

+20.1% HY19

Organic constant currency growth¹

The initial easing of customer and travel-related covid restrictions continued to influence the regional revenue profile in the period, and resulted in strong growth to Asia and North America, with Europe slightly down on the previous year.

As with order growth, revenue was also driven by commercial customers, supported by good growth to academia, reflecting end market demand and a positive funding environment.

Consequently, the proportion of revenue from commercial customers increased to 61% (2020: 52%). Performance in the period reflected the strength of end markets and represented strong order and revenue growth relative to H1 2019. The order book for future deliveries increased to £99.3m, representing reported growth of 32.9% compared to March 2021.

From an end market perspective, we continued to see strong underlying order growth from the Semiconductor & Communications and Advanced Materials segments, building on growth in the previous year. This was supported by ongoing strong order growth into Healthcare & Lifescience as we expanded our customer propositions within the segment.

Adjusted² operating profit

£13.0m

(HY 2020: £8.9m)

Adjusted² operating margin

15.3%

(HY 2020: 13.7%)

Statutory operating profit

£11.2m

(HY 2020: £7.8m)

1. For definition refer to note on page 2.

2. Details of adjusting items can be found in Note 2 to the Half Year Financial Statements.

Operations Review continued

Materials & Characterisation



Year-on-year order growth into the Energy & Environment segment reflects a recovery in customer activity relative to the previous year. Strong revenue growth for the sector comprised double-digit growth across Healthcare & Lifescience, Semiconductor & Communications, Energy & Environment, and the Advanced Materials segment. Quantum-related revenue was down in the period due to the phasing of shipments. The Semiconductor & Communications segment increased to 51% of revenue for the sector in line with our increasing product portfolio and end market growth, with Advanced Materials 32%, Energy & Environment 12% and Healthcare & Lifescience 4%.

Semiconductor & Communications

This is a key focus for the sector and delivered strong double-digit order and revenue growth in the period. Growth has been driven by the ongoing need for higher performing, more energy efficient solutions to meet the demands of a burgeoning data economy, the focus on reduced environmental impacts and the proliferation of semiconductor chips within consumer electronics. The ramp up in global manufacturing capacity of mainstream silicon chips and increased investment in the development of next generation products has driven strong demand for our imaging and dedicated analysis solutions. These are used for quality control at multiple process stages in the fabrication of semiconductor devices, such as helping to identify and characterise defects.

Our solutions are also being used to monitor the composition and structure of the nanoscale vertical stacks within semiconductor devices to ensure each new manufacturing process will deliver the required final performance. As devices shrink in size and increase in structural complexity, our characterisation solutions are increasingly critical in enabling the development of next generation devices and their effective transfer to production.

The compound semiconductor market remains buoyant with long-term structural growth drivers due to their ability to transform communications and increase the energy efficiency of power systems and consumer electronics. This has driven strong demand for our advanced compound semiconductor systems and proprietary semiconductor processes. The development of our comprehensive portfolio of production-dedicated systems over the past years, combined with our strategic focus on providing improved process performance for the critical layers within devices, has supported strong growth to commercial customers. In data communications, the increasing demands for faster data processing and connectivity are driving the development of 5G and 6G networks, alongside hyperscale data centres. Our expertise with gallium arsenide (GaAs) and indium phosphide (InP) is helping drive our growth into these end device applications, as they enable faster speeds, improve bandwidth and can operate at higher temperatures.

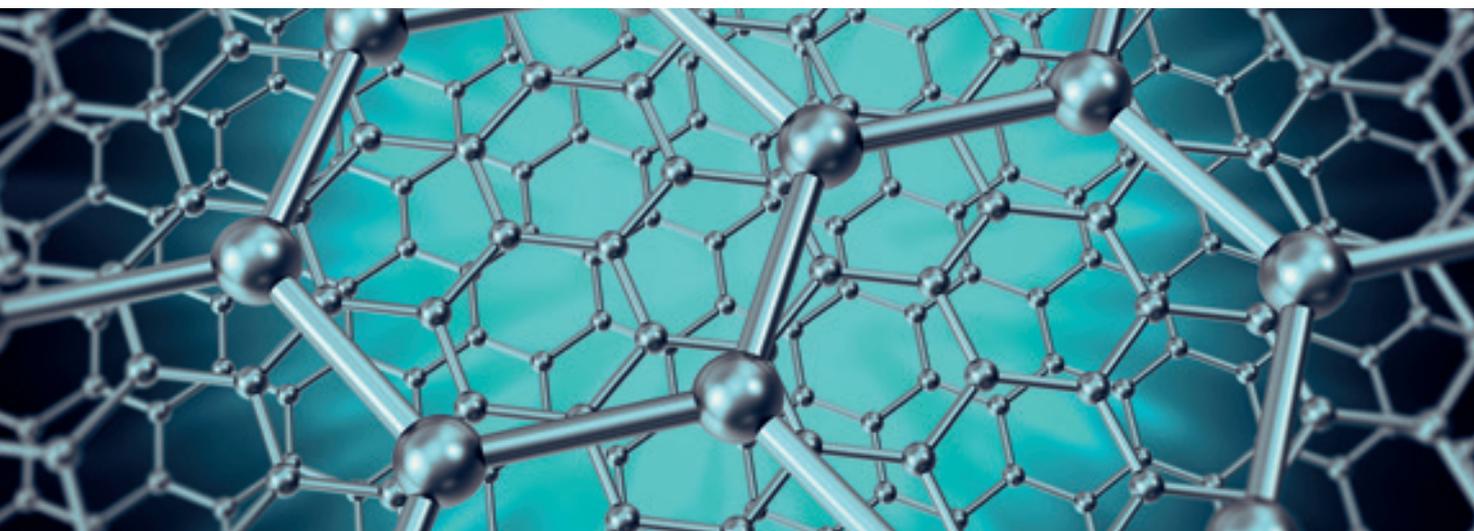
We also had growth for our dedicated solutions for the manufacture of devices used in augmented reality applications. These include micro-LEDs and the 3D sensors that are increasingly being deployed in mobile phones, cameras, cars and even glasses.

Compound semiconductors play a significant role in providing a pathway to net zero. The time criticality of shifting to a low carbon economy continues to drive the shift towards increased electricity usage and requires more efficient conversion, generation and storage for power devices and consumer electronics. This is driving strong growth for our silicon carbide (SiC) and gallium nitride (GaN) solutions.

Within academia we had strong growth for our semiconductor solutions as universities invested in the latest capabilities within their central facilities and specialist clean rooms supported by government funding.

Advanced Materials

Advanced Materials are the building blocks of modern society, enabling everything from touch screens on handheld devices and thinner drinks cans to the lightweight super alloys that provide structural integrity in cars. Our market-leading portfolio of imaging and analysis solutions support our customers to develop, control and repeatably manufacture stronger, lighter and higher performing materials across a broad range of end applications.



We have a particular focus on increasing our customers' productivity, with our products providing additional value through the tailoring of solutions for specific end applications. Furthermore, we use our market intimacy to identify new opportunities, markets and customers that might have not used our equipment before. For example, our recently launched Xplore elemental analyser, which is specifically designed to enable routine analysis for non-expert users.

Strong order and revenue growth across our imaging and analytical products came from a broad range of end applications and industries, including steels, super alloys, textiles and polymers. This was driven by end customer demand and market-leading performance across our portfolio.

In particular, strong growth into advanced steels and super alloys has supported the ability of our products to rapidly measure with precision and reliability the nanoscale material structure, which strongly determines the physical properties and inherent value of the material. Our new advanced analytics greatly simplifies the interpretation of the data, providing actionable insights removing the need for specialist operators.

Our products are also used in the development of exotic new materials such as graphene-like structures with ongoing research working towards the long-term goal of transforming battery life and semiconductor performance.

Energy & Environment

Strong growth in the Energy & Environment segment is underpinned by sustained growth into battery-related markets and the partial recovery across a range of end markets, including forensics and environmental science.

Within batteries, the requirement for energy storage grows almost daily, from the ubiquitous use of portable electric devices to the rapidly growing market for electric vehicles. Ensuring that this demand can be met requires the development of new technology utilising different materials that will deliver enhanced performance with less reliance on the finite and expensive rare earth materials which are currently used. With the active elements of a battery operating at the nanoscale, our products help researchers better understand the fundamental chemistry and mechanisms that affect battery capacity, charging rate and lifetime. We have also experienced growth related to the increase in global battery manufacturing capacity, with existing sites expanding and new manufacturing facilities coming online. Our solutions are adopted to ensure quality control, including particle analysis to detect potentially harmful contamination within the powder feedstock materials. We continue to develop our solutions to drive improvements, with our new Feature Express™ product reducing the measurement time by a factor of four, further enhancing customer throughput and productivity.

Our benchtop NMR analysers and WITec Raman portfolio offer academic researchers and industrial manufacturers the ability to measure critical parameters that directly impact charging rates and battery lifetime, as well as helping accelerate the development of next generation battery material.

In support of the green economy, more people are choosing to reduce their meat consumption and are increasingly adopting plant-based alternatives. Our benchtop NMR is helping producers of these meat substitutes to characterise fat and water content, accelerating the development of healthy meat replacement products that are comparable in taste.

Healthcare & Lifescience

We have continued to see growth in the Healthcare & Lifescience sector, with increasing demand for our solutions to aid quality control of electronics used in medical devices, such as respirators, and microscale failure analysis of metallic catheters. Our dedicated pharma solutions continue to help with contamination analysis and the identification of counterfeit medicines. Whilst a relatively small proportion of the sector, Lifescience remains an area of focus with continued opportunity for growth as we build on our market intimacy and tailor solutions for these applications. The acquisition of WITec will further enhance our offerings in this space as the technique is ideally suited for the study of living cells, with our new Raman imaging techniques being used to develop new drug formulations and delivery systems to improve patient healthcare.



Research & Discovery

The Research & Discovery sector, comprising Andor Technology, NanoScience and X-Ray Technology, provides advanced solutions and unique environments that enable imaging and analytical measurements down to the atomic and molecular level, predominantly used across scientific research and applied R&D, with a higher proportion of sales to academia and a growing number of commercial customers as we develop application-specific, easy-to-use solutions based on our high-end research orientated platforms.

Our imaging and analytical portfolio includes market-leading scientific cameras, confocal microscopes, spectrometers, laser engines and X-ray tubes. Our ultra-low temperature cryogenic and high magnetic field platforms provide both versatile research platforms as well as dedicated systems for more applied and increasingly routine use.

In addition to selling directly to end customers, where we have a strong brand presence, we also exploit our position across a broad range of additional end markets by providing our key enabling technologies to strategic OEM partners.

The sector's products play a key role across a broad range of life, material, and physical science applications, with a critical role within the development and advancement of quantum technologies.

The underlying growth drivers in end markets have remained robust, leading to strong order growth relative to the previous year, as well as H1 2019. This comprised of sustained growth to Quantum Technology and Advanced Materials applications and strong recovery within Lifescience applications, which were significantly subdued by covid in the previous year. The growth within Healthcare & Lifescience was despite a return to normal run rates from the surge in demand in the previous year for products used directly in the fight against covid. From a regional perspective, this resulted in double-digit order growth to Europe, North America and Asia, with all regions booking orders ahead of the comparator period in H1 2019.

The sector delivered strong revenue growth, up 23% on a constant currency basis in the period and growth ahead of H1 2019. However, the phasing and status in easing of covid-related restrictions at our customers' sites continued to impact the profile by application and region. Profitability for the sector was further enhanced in the period with reported profit increasing to £8.7m (2020: £6.4m), representing an adjusted operating margin of 15.5% (2020: 13.3%). This was supported by the continued realisation of tangible gains through our Horizon strategy despite the previously mentioned inflationary headwinds.



Orders

£60.5m

+11.4%

(HY 2020: £54.3m)

+18.2% HY20

+10.8% HY19

Organic constant currency growth¹

Revenue

£56.3m

+16.6%

(HY 2020: £48.3m)

+23.2% HY20

+3.6% HY19

Organic constant currency growth¹

Strong underlying demand and a healthy order book resulted in double-digit revenue growth across Healthcare & Lifescience, Quantum Technology and Advanced Materials market segments, with broadly in line contributions from the Semiconductor & Communications and Energy & Environment segments. Revenue to customers within the Research & Fundamental Science segment declined in the year, with a slower covid recovery for these typically larger and centrally funded projects.

Healthcare & Lifescience represented 37% of revenue, with Advanced Materials and Quantum Technology increasing to 27% and 18% respectively. Research & Fundamental Science fell to 14%, with Semiconductor & Communications and Energy & Environment representing 3% and 2% of revenue respectively.

Adjusted² operating profit

£8.7m

(HY 2020: £6.4m)

Adjusted² operating margin

15.5%

(HY 2020: 13.3%)

Statutory operating profit

£5.5m

(HY 2020: £3.2m)

1. For definition refer to note on page 2.

2. Details of adjusting items can be found in Note 1 to the Financial Statements.

Operations Review continued

Research & Discovery



By geography, revenue grew strongly in North America and Asia due to the earlier easing of travel restrictions, increasing their proportion of sales to 35% and 38% respectively. Europe remained broadly in line with the previous year on a constant currency basis, representing 26% of revenue. Considerable revenue growth to academic customers increased their proportion of revenue to 71%, outperforming high single-digit constant currency growth to commercial customers.

Healthcare & Lifescience

The positive momentum in the second half of last year continued within the Healthcare & Lifescience segment with an increasing number of customers' labs and facilities re-opening around the world after temporary closures. The long-term market growth drivers of improving the health and wellbeing of society remain robust, driven by an ageing population and an increasing focus on improved and cost-effective healthcare provision. This is subsequently driving the need for more successful, faster drug discovery and the enhanced efficacy of new treatments, therapies and medicines. Strong demand supported double-digit order and revenue growth in the period with orders ahead of the comparative period in H1 2019.

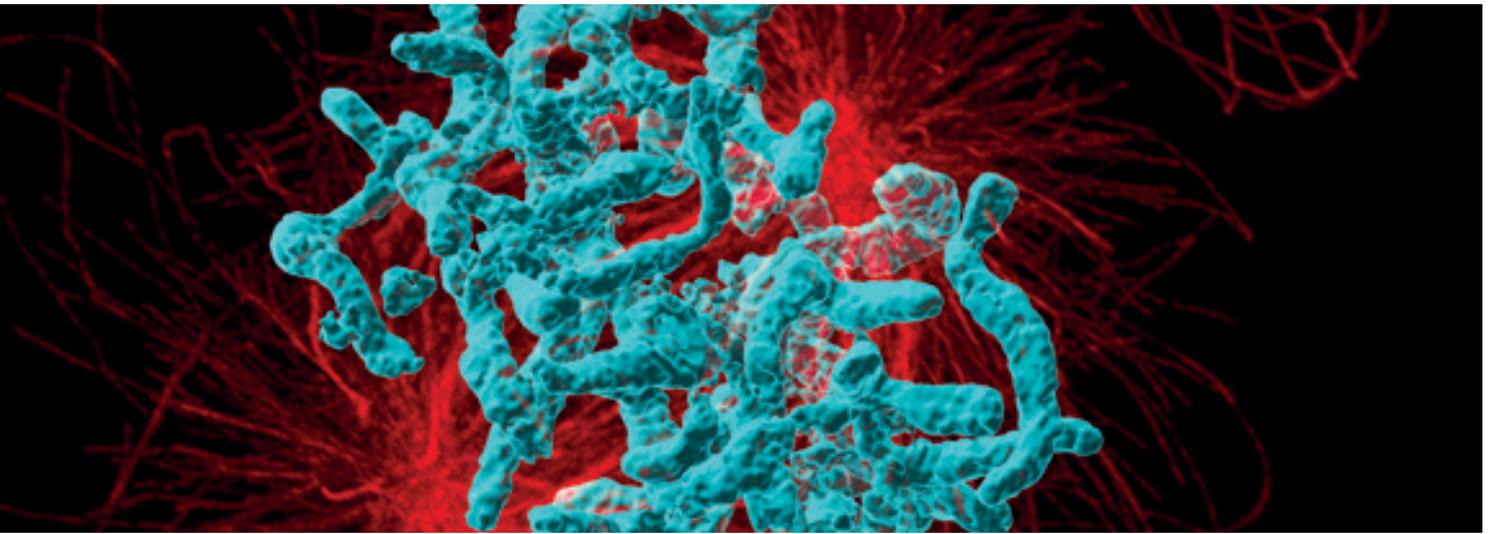
Our solutions help end users to better understand the fundamental disease mechanisms leading to disease states, such as Alzheimer's, Parkinson's, diabetes and cancer at a cellular and molecular level. Through our market intimacy initiatives, we have continued to develop solutions and key enabling technologies that specifically address the needs of customers within these fields. For example, in cancer research, we have seen strong growth for our high sensitivity scientific cameras for tumour imaging, enabling rapid and accurate diagnostic screening of patient samples. There is also growing interest in the smaller but emerging field of real time operating theatre imaging, enabling surgeons to directly observe the location and extent of the tumour, ensuring all cancer cells are removed, whilst reducing the removal of healthy tissue. Within research, our microscopy systems, combined with our recently launched cancer analysis software package, are providing new insights into the mechanisms that cause tumour, growth by identifying proteins that counteract uncontrolled cell division and suppress tumours. One such protein is polo kinase, which has now been the focus of 34 clinical trials for cancer treatment.

We have had strong growth into pharma applications, where our key enabling technologies are at the heart of strategic OEM partners' equipment across a broad range of applications including diagnostic X-ray imaging, cell analysis and gene sequencing.

In the period, we saw a reduction in the sales to covid-related applications, such as on-chip diagnostic testing and screening, as adequate levels of infrastructure were established around the world. We are now seeing run rates return to pre-covid levels for this market segment.

Quantum Technology

We continue to see the transition of quantum computing into applied R&D and commercial applications due to the recent breakthroughs in technology and the hugely disruptive potential of this technology to existing markets, such as pharmaceuticals, logistics, and financial services. This is driving further investment by national governments and corporates across fundamental research, applied R&D and commercially available systems, resulting in an emerging eco-system of national laboratories, technology start-ups, global service providers and end users.



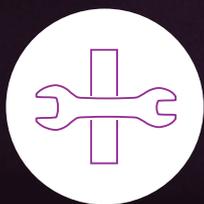
As a result, we are seeing increased demand across our portfolio of cryogenic platforms tailored to enable both high throughput screening of new quantum devices and commercial quantum computing platforms for the emerging cloud-based quantum computing market. The development of secure communication systems based on quantum technology drove growth in demand for our scientific cameras.

Advanced Materials

Growth in the Advanced Materials segment reflected continued and sustained customer demand to explore and characterise the properties of materials across a broad range of applications including sensors, semiconductors and batteries. This has driven increased sales of our cryogenic and high magnetic field measurement systems which enable the measurement of fundamental parameters such as the electron transport and superconductivity within new and exotic materials as well as graphene-like structures. We are also seeing increased demand for our optical spectrometers and scientific cameras to researchers as well as within a range of instruments through strategic OEM relationships.

Research & Fundamental Science

Within Research & Fundamental Science we continue to see long-term customer interest in our specialised cryogenic and superconducting magnet systems, and high-end scientific cameras across a broad range of research themes including astronomy, chemistry and physics research. These orders, which tend to be lumpy in nature, were slightly down in the period compared to the previous year despite a positive forward-looking pipeline. In the period, we were able to install further systems for the multi-system order to the extreme environments laboratory in the Institute of Beijing.



Service & Healthcare

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, and the support and service of third-party MRI scanners in Japan.

We have continued to drive our service transformation, building on the successful progress in the previous year and resulting in strong order and revenue growth.

Furthermore, good progress resulted in adjusted operating profit and margin being significantly ahead of H1 2019, however margin was slightly depressed relative to the comparator period, with an increase in service delivery costs as travel restrictions eased. Orders and revenues related to the support of third-party MRI scanners in Japan were broadly in line with the previous year.

Our service offerings complement our market-leading product performance, providing a key differentiator for us in our markets. Our service transformation builds on our excellent reputation, developing a broader suite of service offerings to better support our customers, increase their capabilities and accelerate their outcomes throughout the lifetime usage of our products.

As part of our service transformation, and building on our market intimacy, we are developing a portfolio of tailored service offerings for specific end applications as well as for academic and commercial customers. Providing connectivity across our products enables increased levels of remote support as well as the provision of actionable insights to improve productivity.

Building on our positive experiences of delivering high levels of service continuity through the peak of the pandemic, we are moving to a regionally led service model where our global processes are implemented locally through our regional teams. By exploiting the synergies across our local teams, utilising remote centres of excellence and cross-product trained field engineers, we can respond more quickly to customer requests, improve our efficiency and reduce our travel footprint.

Orders

£34.9m

+14.8%

(HY 2020: £30.4m)

+22.7% HY20

+27.3% HY19

Organic constant currency growth¹

Revenue

£28.9m

+7.8%

(HY 2020: £26.8m)

+15.3% HY20

+16.9% HY19

Organic constant currency growth¹

To support our transformation, we are implementing a Group-wide Field Service Management system, which will be integrated into our overall Customer Management System.

Whilst we are still in the early phases of our transformation, we have already delivered strong growth and have significant scope for further developments that will increase the value and breadth of our portfolio and contribute to the ongoing success of our Horizon strategy.

Adjusted² operating profit

£8.9m

(HY 2020: £9.0m)

Adjusted² operating margin

30.8%

(HY 2020: 33.6%)

Statutory operating profit

£8.9m

(HY 2020: £9.0m)

1. For definition refer to note on page 2.

2. Details of adjusting items can be found in Note 1 to the Financial Statements.

Finance Review



Reported revenue increased by 21.2% to £170.1m (2020: £140.3m). Organic revenue, excluding currency effects, increased by 26.8%.

Gavin Hill
Group Finance Director

Strong order growth

up 18.3% at organic constant currency to £198.3m

[Read more on page 20.](#)

Order book growth

up 13.3% at organic constant currency to £231.6m

[Read more on page 20.](#)

Improved margin

18.0%

[Read more on page 21.](#)

Cash conversion supporting growing business and managing supply chain disruption

£70.1m net cash

[Read more on page 24.](#)

Summary

Oxford Instruments plc uses certain alternative performance measures to help it effectively monitor the performance of the Group as management believe that these represent a more consistent measure of underlying performance. Adjusted items exclude the amortisation and impairment of acquired intangible assets; acquisition-related items; profit or loss on disposal of operations; other significant non-recurring items; and the mark-to-market movement of financial derivatives. All of these are included in the statutory figures. Note 2 provides further analysis of the adjusting items in reaching adjusted profit measures. Definitions of the Group's material alternative performance measures along with reconciliation to their equivalent IFRS measure are included within the Finance Review.

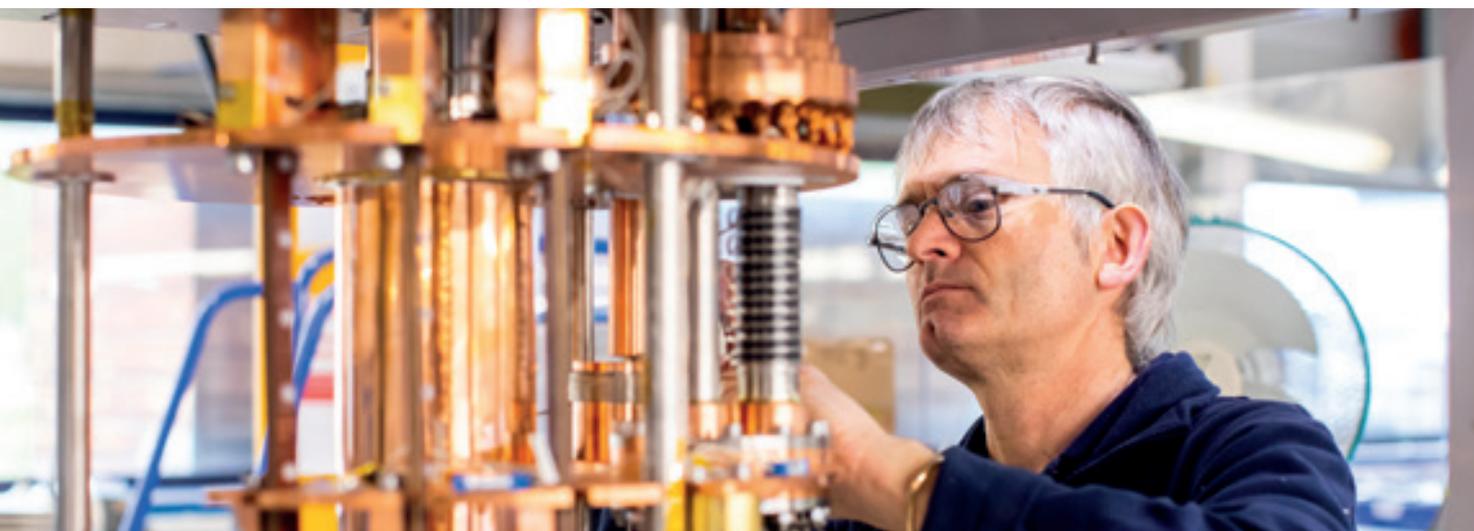
The Group trades in many foreign currencies and makes reference to constant currency numbers to remove the impact of currency effects in the year. These are prepared on a month-by-month basis using the translational and transactional exchange rates which prevailed in the previous year rather than the actual exchange rates which prevailed in the year. Transactional exchange rates include the effect of our hedging programme.

The acquisition of WITec was completed on 31 August 2021. Growth rates expressed on an organic basis remove the impact of the acquired business for the period under ownership.

Reported orders increased by 12.9% to £198.3m (2020: £175.7m), an organic constant currency increase of 18.3%. At the end of the period, the Group's order book for future deliveries stood at £231.6m (30 September 2020: £204.6m). The order book grew 13.2% on a reported basis and 13.3% at organic constant currency.

Reported revenue increased by 21.2% to £170.1m (2020: £140.3m). Organic revenue, excluding currency effects, increased by 26.8%, with the movement in average currency exchange rates over the year reducing reported revenue by £9.6m.

Adjusted operating profit increased by 25.9% to £30.6m (2020: £24.3m). Organic adjusted operating profit, excluding currency effects, increased by 28.0%, with a currency headwind in the year of £0.7m. Adjusted operating margin increased by 70 basis points to 18.0% (2020: 17.3%). Excluding currency effects, adjusted operating margin increased by 10 basis points to 17.4%.



Statutory operating profit includes the amortisation of acquired intangibles of £3.8m, acquisition-related costs of £0.3m, a £0.9m margin adjustment relating to the sale of WITec inventories in the period that had been revalued on acquisition, and a charge of £3.8m relating to the movement in the mark-to-market valuation of uncrystallised currency hedges for future years. Statutory operating profit of £21.8m (2020: £20.8m) grew by 4.8%.

Adjusted profit before tax grew by 27.4% to £30.2m (2020: £23.7m), representing a margin of 17.8% (2020: 16.9%).

Statutory profit before tax grew by 5.9% to £21.4m (2020: £20.2m), representing a margin of 12.6% (2020: 14.4%). The decline on last year was due to the mark-to-market movement on currency hedges and the WITec gross margin adjustment.

Adjusted basic earnings per share grew by 25.6% to 41.2p (2020: 32.8p). Basic earnings per share were 28.7p (2020: 27.7p), growth of 3.6%.

Cash generated from operations of £17.5m (2020: £23.3m) represents 48% (2020: 97%) cash conversion. Cash conversion was depressed by raw material

purchases to support business growth and mitigate shortages. In addition, timing of shipments led to an increase in receivables, and we also resumed capital investments. Net cash decreased from £97.6m on 31 March 2021 to £70.1m on 30 September 2021, after consideration paid (net of cash acquired) of £30.0m for the acquisition of WITec.

At the end of September, our revolving credit facility remained undrawn, leaving approximately £100m of committed facilities. This represents total headroom of approximately £172m.

Income Statement

The Group's Income Statement is summarised below.

	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m	Change
Revenue	170.1	140.3	+21.2%
Adjusted operating profit	30.6	24.3	+25.9%
Amortisation of acquired intangible assets	(3.8)	(4.3)	
Non-recurring items	(1.2)	—	
Mark-to-market of currency hedges	(3.8)	0.8	
Statutory operating profit	21.8	20.8	+4.8%
Net finance costs	(0.4)	(0.6)	
Adjusted profit before taxation	30.2	23.7	+27.4%
Statutory profit before taxation	21.4	20.2	+5.9%
Adjusted effective tax rate	21.5%	20.7%	
Effective tax rate	22.9%	21.3%	
Adjusted earnings per share – basic	41.2p	32.8p	+25.6%
Earnings per share – basic	28.7p	27.7p	+3.6%
Dividend per share (interim)	4.4p	4.1p	+7.3%

Finance Review continued

Income Statement continued

Orders and revenue

Following the acquisition of WITec, the business is recorded within the Materials & Characterisation segment. Growth rates expressed on an organic basis exclude the impact of WITec.

Total reported orders grew by 12.9% (+18.3% at organic constant currency) to £198.3m. Reported orders grew by 13.1% (+16.9% at organic constant currency) for Materials & Characterisation, by 11.4% (+18.2% at constant currency) for Research & Discovery and by 14.8% (+22.7% at constant currency) for Service & Healthcare.

Reported revenue of £170.1m (2020: £140.3m) increased by 21.2% (+26.8% at organic constant currency) against a weak comparator period impacted by the covid-19 pandemic. Reported revenue grew by 30.2% for Materials & Characterisation (+34.2% at organic constant currency), with strong growth for our semiconductor processing tools and analysers for electron microscopes. WITec contributed revenue of £1.8m to the Group's result for the period.

Strong revenue growth for our cryogenic and complex magnets, in addition to improved deliveries from our imaging and microscopy business following a weak comparator period, resulted in growth for Research & Discovery of 16.6% (+23.2% at constant currency). Revenue growth from service of our own products resulted in reported growth of 7.8% (+15.3% at constant currency) for Service & Healthcare.

The book-to-bill ratio (orders received to goods and services billed in the period) for the year was 117% (2020: 125%).

On a geographical basis, revenue fell by 3.0% in Europe (-0.7% at constant currency) due to the phasing of deliveries and a planned reduction in the number of bespoke orders for semiconductor processing tools. Revenue for North America increased by 22.2% on a reported basis and by 32.8% at constant currency, supported by good demand for electron microscope analysers and a recovery in demand for our imaging and microscopy products. Asia delivered strong growth of 36.8% (+44.1% at constant currency), strongly driven by demand for our semiconductor processing tools and analysers for electron microscopes.

Orders and revenue for China during the half constituted 27% and 30% respectively of the Group total.

Geographic revenue growth

	Half year to 30 September 2021		Half year to 30 September 2020		Change £m	% growth	% growth at constant currency
	£m	% of total	£m	% of total			
Europe	39.3	23%	40.5	29%	(1.2)	(3.0%)	(0.7%)
North America	41.3	24%	33.8	24%	+7.5	+22.2%	+32.8%
Asia	87.4	52%	63.9	46%	+23.5	+36.8%	+44.1%
Rest of World	2.1	1%	2.1	1%	—	—	+19.0%
	170.1	100%	140.3	100%	+29.8	+21.2%	+28.1%

The total reported order book grew by 13.2% (13.3% at organic constant currency) against 30 September 2020. The order book, at organic constant currency, compared to 30 September 2020, increased by 25.9% for Materials & Characterisation, with strong growth across all constituent businesses. Research & Discovery fell slightly by 1.5% at constant currency, with good recovery in orders for our imaging products offset by a planned acceptance of fewer complex orders in our cryogenic and magnet business, combined with a phasing difference in OEM orders for X-Ray Technology. Continued focus on own product service resulted in growth of 33.8% from Service & Healthcare.

£m	Materials & Characterisation	Research & Discovery	Service & Healthcare	Total
Revenue: half year to 30 September 2020	65.2	48.3	26.8	140.3
Constant currency growth/(decline)	22.3	11.2	4.1	37.6
Revenue at organic constant currency: half year to 30 September 2021	87.5	59.5	30.9	177.9
Acquisition	1.8	—	—	1.8
Foreign exchange	(4.4)	(3.2)	(2.0)	(9.6)
Revenue: half year to 30 September 2021	84.9	56.3	28.9	170.1
Revenue growth: reported	+30.2%	+16.6%	+7.8%	+21.2%
Revenue growth: organic constant currency	+34.2%	+23.2%	+15.3%	+26.8%

Gross profit

Gross profit grew by 22.7% to £86.8m (2020: £71.5m), representing a gross profit margin of 51.0%. The adjusted gross profit margin of 51.6% is 60 basis points over last year.

Adjusted operating profit and margin

Following the acquisition of WITec, the business is recorded within the Materials & Characterisation segment. Growth rates expressed on an organic basis exclude the impact of WITec.

Adjusted operating profit increased by 25.9% to £30.6m (2020: £24.3m), representing an adjusted operating profit margin of 18.0%, an increase of 70 basis points against last year. At constant currency, the adjusted operating profit margin was 17.4%, an increase of 10 basis points.

Reported Materials & Characterisation adjusted operating profit increased by 46.1% (+42.7% at organic constant currency) with reported margin increasing by 160 basis points to 15.3% (2020: 13.7%). This was attributable to growth from our higher margin material analysis systems. WITec contributed adjusted operating profit of £0.2m in the period following completion.

Research & Discovery's adjusted operating margin increased to 15.5% (2020: 13.3%), growth of 220 basis points. At constant currency, the margin was 15.1%, an increase of 180 basis points, with strong trading improving margins across our optical imaging and cryogenic and complex magnet businesses.

Service & Healthcare margin decreased by 280 basis points to 30.8% (2020: 33.6%). At constant currency, the margin was 30.4%, a decrease of 320 basis points, due to an increase in service delivery cost as travel restrictions eased.

Currency effects (including the impact of transactional currency hedging) have reduced adjusted operating profit by £0.7m when compared to blended hedged exchange rates for the comparative period.

£m	Materials & Characterisation	Research & Discovery	Service & Healthcare	Total
Adjusted operating profit: half year to 30 September 2020	8.9	6.4	9.0	24.3
Constant currency growth	3.8	2.6	0.4	6.8
Adjusted operating profit at organic constant currency: half year to 30 September 2021	12.7	9.0	9.4	31.1
Acquisition	0.2	—	—	0.2
Currency	0.1	(0.3)	(0.5)	(0.7)
Adjusted operating profit: half year to 30 September 2021	13.0	8.7	8.9	30.6
Adjusted operating margin ¹ : half year to 30 September 2020	13.7%	13.3%	33.6%	17.3%
Adjusted operating margin ¹ : half year to 30 September 2021	15.3%	15.5%	30.8%	18.0%
Adjusted operating margin ¹ (constant currency): half year to 30 September 2021	14.4%	15.1%	30.4%	17.4%

1. Adjusted margin is calculated as adjusted operating profit divided by revenue. Adjusted margin at constant currency is defined as adjusted operating profit at constant currency divided by revenue at constant currency.

Statutory operating profit and margin

Statutory operating profit increased by 4.8% to £21.8m (2020: £20.8m), representing an operating profit margin of 12.8%, a decrease of 200 basis points against last year, due to the mark-to-market charge on currency hedges and the WITec gross margin adjustment on acquisition. Statutory operating profit is after the amortisation and impairment of acquired intangible assets; acquisition-related items; profit or loss on disposal of operations; other significant non-recurring items; and the mark-to-market of financial derivatives.

Adjusting items

Amortisation of acquired intangibles of £3.8m relates to intangible assets recognised on acquisitions, being the value of technology, customer relationships, and brands.

Non-recurring items comprise £0.3m of professional fees on the acquisition of WITec GmbH. In addition, a charge of £0.9m has been taken to eliminate the profit arising in the acquired WITec business from a revaluation of their inventories to fair value, in accordance with accounting standards.

The Group uses derivative products to hedge its short-term exposure to fluctuations in foreign exchange rates. Our hedging policy allows for forward contracts to be entered into up to 18 months forward from the end of the next reporting period. Group policy is to have in place at the beginning of the financial year hedging instruments to cover approximately 80% of its forecast transactional exposure for the following twelve months and, subject to pricing, up to 20% of exposures for the next six months. 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 mark-to-market derivatives in respect of transactional currency exposures of the Group in future periods are disclosed in the Income Statement as foreign exchange and excluded from our calculation of adjusted profit before tax. In the half year this amounted to a charge of £3.8m (2020: £0.8m credit). The fall in the net asset for derivative financial instruments over the half year reflects an uncrystallised reduction in the mark-to-market valuation of forward contracts from 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 18 months.

Finance Review continued

Income Statement continued

Net finance costs

The Group's adjusted net interest costs fell by £0.2m to £0.4m (2020: £0.6m), principally due to the repayment of private placement notes at the year end.

Adjusted profit before tax and margin

Adjusted profit before tax increased by 27.4% to £30.2m (2020: £23.7m). The adjusted profit before tax margin of 17.8% (2020: 16.9%) was above last year due to an increase in the adjusted operating margin and lower net finance costs.

Reconciliation of statutory profit before tax to adjusted profit before tax

	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m
Statutory profit before tax	21.4	20.2
Add back (Note 1):		
Amortisation of acquired intangible assets	3.8	4.3
Other non-recurring items	1.2	—
Mark-to-market of currency hedges	3.8	(0.8)
Adjusted profit before tax	30.2	23.7

Statutory profit before tax and margin

Statutory profit before tax increased by 5.9% to £21.4m (2020: £20.2m). Statutory profit before tax is after the amortisation and impairment of acquired intangible assets; acquisition-related items; profit or loss on disposal of operations; other significant non-recurring items; and the mark-to-market of financial derivatives. The profit before tax margin of 12.6% (2020: 14.4%) was lower than last year due to the charge from the mark-to-market movement on financial derivatives and WITec gross margin adjustment on inventories.

Taxation

The adjusted tax charge of £6.5m (2020: £4.9m) represents an effective tax rate of 21.5% (2020: 20.7%). The tax charge of £4.9m (2020: £4.3m) represents an effective tax rate of 22.9% (2020: 21.3%). The increase in tax rate reflects the revaluation of deferred tax provisions arising from the announced increase in the UK corporation tax rate with effect from 1 April 2023.

Earnings per share

Adjusted basic earnings per share increased by 25.6% to 41.2p (2020: 32.8p); adjusted diluted earnings per share grew by 25.6% to 40.7p (2020: 32.4p). Basic earnings per share increased by 3.6% to 28.7p (2020: 27.7p); diluted earnings per share grew by 3.3% to 28.3p (2020: 27.4p).

The number of undiluted weighted average shares increased to 57.5m (2020: 57.3m).

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 26% of Group revenue was denominated in Sterling, 46% in US Dollars, 17% in Euros, 9% in Japanese Yen and 2% in other currencies. Translational exposures arise on the consolidation of overseas company results into Sterling. Transactional exposures arise where the currency of sale or purchase transactions differs from the functional currency in which each company prepares its local accounts.

The Group's foreign currency exposure for the half year is summarised below.

£m (equivalent)	Revenue	Adjusted operating profit
Sterling	45.3	(13.5)
US Dollar	78.0	22.2
Euro	29.1	13.8
Japanese Yen	15.0	8.4
Chinese Renminbi	2.3	0.4
Other	0.4	(0.7)
	170.1	30.6

The Group maintains a hedging programme against its net transactional exposure using internal projections of currency trading transactions expected to arise over a period extending from 12 to 24 months. As at 30 September 2021, the Group had currency hedges in place extending up to 18 months forward.

For the full year 2021/22, our assessment of the currency impact is, based on hedges currently in place and forecast currency rates, a headwind of approximately £17.0m to revenue and £1.8m to profit. Forecast currency rates for the full year are: GBP:USD 1.38; GBP:EUR 1.18; GBP:JPY 156. For the full year 2022/23, using the same assumptions, there is an additional headwind of £5.7m to profit owing to the unwinding of currency hedges that have a positive benefit in 2021/22. This impact is prior to mitigating pricing and cost actions. Currency headwind guidance is lower than given at the previous year end owing to a small favourable movement in currency. Uncertain volume and timing of shipments and acceptances, currency mix and FX volatility may significantly affect full-year currency forecast effects.

Acquisition of WITec GmbH

On 31 August 2021, the Group completed the purchase of 100% of the share capital in WITec GmbH for an initial consideration of €37.0m (£31.7m). Additional consideration of up to €5m (£4.3m) is conditional on trading performance over a period of twelve months following completion.

Dividend

The Group's policy is to increase the dividend each year in line with the increase in underlying earnings, considering movements in currency. After a strong half year of trading, the Board has declared an interim dividend of 4.4p per share (2020: 4.1p per share), equivalent to growth of 7.3%. The interim dividend will be paid on 14 January 2022.

Cash flow

The Group's cash flow is summarised below.

	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m
Adjusted operating profit	30.6	24.3
Depreciation and amortisation	4.1	4.1
Adjusted¹ EBITDA	34.7	28.4
Working capital movement	(14.2)	(3.0)
Equity settled share schemes	1.1	1.1
Non-recurring items	(0.3)	0.5
Pension scheme payments above charge to operating profit	(3.8)	(3.7)
Cash from operations	17.5	23.3
Interest	(0.5)	(1.0)
Tax	(4.0)	(4.0)
Capitalised development expenditure	(0.2)	(0.5)
Expenditure on tangible and intangible assets	(5.5)	(1.1)
Acquisition of subsidiaries, net of cash acquired	(30.0)	—
Dividends paid	(2.4)	—
Proceeds from issue of share capital and exercise of share options	0.1	0.1
Payments made in respect of lease liabilities	(1.3)	(1.3)
Decrease in borrowings	—	—
Net increase in cash and cash equivalents from continuing operations	(26.3)	15.5

1. Adjusted EBITDA is defined as adjusted operating profit before depreciation and amortisation of capitalised development costs. The Consolidated Statement of Cash Flows provides further analysis of the definition of adjusted EBITDA.

Cash from operations

Cash from operations was £17.5m (2020: £23.3m). After adjusting for non-recurring items and pension scheme payments above the charge to operating profit, less capitalised development expenditure, capital expenditure and payments made in respect of lease liabilities gives an adjusted cash from operations figure of £14.6m (2020: £23.6m). This represents 48% (2020: 97%) cash conversion, reflecting timing of shipments and planned inventory increases, along with a resumption in capital expenditure, some of which related to the new facility for our semiconductor business.

Finance Review continued

Cash flow continued

Cash from operations continued

Reconciliation of cash generated from operations to adjusted operating cash flow

	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m
Cash from operations	17.5	23.3
Add back:		
Non-recurring items	0.3	(0.5)
Pension scheme payments above charge to operating profit	3.8	3.7
Capitalised development expenditure	(0.2)	(0.5)
Expenditure on tangible and intangible assets	(5.5)	(1.1)
Payments made in respect of lease liabilities	(1.3)	(1.3)
Adjusted cash from operations	14.6	23.6
Cash conversion % (adjusted cash from operations/adjusted operating profit)	48%	97%

Working capital increased by £14.2m. In addition to business growth placing upward pressure on inventories, we are increasing our inventory levels to mitigate supply chain disruptions, especially across electronic components. Furthermore, delays in the introduction of a new duty free certificate regime in China has led to a rise in finished goods; this is expected to unwind during the second half of the year. As a result, inventories rose by £1.7m; we expect higher inventory levels to remain in place for the foreseeable future until we see greater resilience in the supply chain. Receivables increased by £5.9m, primarily due to some large shipments made close to the half year end. Payables and customer deposits decreased by £6.6m.

We have commenced construction of our new facility near Bristol for our Plasma Technology business. Delays due to the sourcing of materials will result in the deferral of some expenditure into next year. We now expect costs of approximately £12m to be incurred in the financial year 2021/22, with £20m falling into the following year. The business will enter a 20-year lease on completion of construction, which is anticipated during the second half of the 2022/23 financial year.

Pension

Pension recovery payments above charge to operating profit total £3.8m (2020: £3.7m).

Interest

Net interest paid was £0.5m (2020: £1.0m), the reduction reflecting the repayment of private placement notes at the end of the last financial year.

Tax

Tax paid was £4.0m (2020: £4.0m), with cash tax in both years benefitting from utilisation of prior year losses carried forward.

Investment in Research and Development (R&D)

Total cash spend on R&D in the half year was £15.1m, equivalent to 8.8% of sales (2020: £12.7m, 9.0% of sales). A reconciliation between the adjusted amounts charged to the Income Statement and the cash spent is given below:

	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m
R&D expense charged to the Income Statement	15.4	13.2
Depreciation of R&D-related fixed assets	(0.1)	—
Amounts capitalised as fixed assets	0.3	—
Amortisation and impairment of R&D costs capitalised as intangibles	(0.7)	(1.0)
Amounts capitalised as intangible assets	0.2	0.5
Total cash spent on R&D during the half year	15.1	12.7

Net cash and funding

Net cash after borrowings

Cash from operations in the half year was offset by the payment of initial consideration for the acquisition of WITec GmbH, resulting in a decrease in the Group's net cash position from £97.6m at 31 March 2021 to £70.1m on 30 September 2021. Cash generated from operations was £17.5m (2020: £23.3m). The Group invested in capitalised development costs of £0.2m and tangible and intangible assets of £5.5m, with investments in semiconductor processing development tools and infrastructure. Of the total capital expenditure of £5.5m, £0.9m relates to payments associated with the new semiconductor facility currently under construction.

Movement in net cash	£m
Net cash as at 31 March 2021	97.6
Cash generated from operations	17.5
Interest	(0.5)
Tax	(4.0)
Capitalised development expenditure	(0.2)
Capital expenditure on tangible and intangible assets	(5.5)
Acquisition of subsidiaries	(30.0)
Dividends paid	(2.4)
Other items	(2.4)
Net cash after borrowings as at 30 September 2021	70.1

	As at 30 September 2021 £m	As at 30 September 2020 £m
Net cash including lease liabilities		
Net cash after borrowings	70.1	81.4
Lease liabilities	(12.9)	(7.3)
Net cash and lease liabilities after borrowings	57.2	74.1

Funding

On 2 July 2018, the Group entered into an unsecured multi-currency revolving facility agreement, which is committed until June 2024 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 (£42m) and a US Dollar-denominated multi-currency facility of \$80.0m (£58m). The facility has been extended by one year to June 2025.

Debt covenants are net debt to EBITDA less than 3.0 times and EBITDA to interest greater than 4.0 times. As at 31 March and 30 September 2021 the business had net cash.

Pensions

The Group has a defined benefit pension scheme in the UK. This has been closed to new entrants since 2001 and closed to future accrual from 2010.

On an IAS 19 basis, the surplus arising from our defined benefit pension scheme obligations on 30 September 2021 was £25.0m (31 March 2021: £16.3m). The value of scheme assets increased to £359.3m (31 March 2021: £340.2m). Scheme liabilities increased to £334.3m (31 March 2021: £323.9m) due to movements in the discount rate and inflation rates. The discount rate decreased from 2.1% to 2.0% because of a reduction in bond yields, and the assumed inflation rates for RPI and CPI have increased from 3.1% to 3.3% and from 2.5% to 2.7% respectively, reflecting economic conditions at the balance sheet date.

The scheme's actuarial valuation review, rather than the accounting basis, determines our cash payments into the scheme. The cash contributions into the scheme are expected to continue until 2025/26, at which point we expect, based on current assumptions, the scheme to achieve self-sufficiency. In the half year 2021, these contributions amounted to £3.8m. We are reviewing the results of the recent triennial review although we do not expect any changes to the current recovery plan. The scheme rules provide that in the event of a surplus remaining after settling contractual obligations to members, the Group may determine how the surplus is utilised.

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 Highlights, Chief Executive's Review and Operations Review sections of this Half-year Report. The financial position of the Group, its cash flows, liquidity position and borrowing facilities are described in the Finance Review.

Trading for the Group has been strong during the first half of the year. The Group has prepared and reviewed a number of scenarios for the Group based on key risks noted for the business and the potential impact on orders, trading and cash flow performance. In addition, the Group has overlaid the risk of long-term adverse movements in foreign exchange rates to our cash flow forecasts. The Board is satisfied, having considered the sensitivity analysis, as well as its funding facilities, 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

8 November 2021

Principal Risks and Uncertainties

Information regarding the risk management process in place at the Group is set out on page 66 of the 2021 Report and Financial Statements. The principal risks and uncertainties identified through that process are set out on pages 66 to 70 of the 2021 Report and Financial Statements and can be found on the Group's website at www.oxinst.com.

In keeping with the risk management process, the Group has performed a quarterly update of its risk register as at 30 September 2021.

It has evaluated the disclosures made on pages 66 to 70 of the 2021 Report and Financial Statements and has concluded that all but one of the risks identified remain relevant for the remainder of the year ending 31 March 2022 and that there are no other significant risks to be disclosed. A summary of the risks and uncertainties identified in the 2021 Report and Financial Statements is set out below:

- impact of covid-19;
- political risk;
- routes to market;
- technical risk;
- supply chain risk;
- cyber risk;
- legal/compliance risk;
- adverse movements in long-term foreign currency rates;
- people;
- operational risk; and
- pensions.

The Board considers the Brexit-related risks set out on page 69 of the 2021 Report and Financial Statements are no longer significant. While the Group has experienced some additional costs associated with freight into the EU, the financial impact has not been significant. Further, the other Brexit-related risks identified have not materialised to date, although the potential shortage of key skills remains relevant. However, this is covered in the people risk.

Regarding covid-19, the Group has been largely resilient to its effects. However, the potential for disruption at an operational and customer level remains, albeit mitigated by widespread vaccinations and revised working practices.

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 UK adopted IAS 34 Interim Financial Reporting; and
- 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

Gavin Hill
Group Finance
Director

8 November 2021

Condensed Consolidated Statement of Income

Half year ended 30 September 2021

	Note	Half year to 30 September 2021			Half year to 30 September 2020		
		Adjusted £m	Adjusting items ¹ £m	Total £m	Adjusted £m	Adjusting items ¹ £m	Total £m
Revenue	4	170.1	—	170.1	140.3	—	140.3
Cost of sales		(82.4)	(0.9)	(83.3)	(68.8)	—	(68.8)
Gross profit		87.7	(0.9)	86.8	71.5	—	71.5
Research and development	5	(15.4)	—	(15.4)	(13.2)	—	(13.2)
Selling and marketing		(22.9)	—	(22.9)	(19.8)	—	(19.8)
Administration and shared services		(21.2)	(4.1)	(25.3)	(14.6)	(4.3)	(18.9)
Foreign exchange gain/(loss)		2.4	(3.8)	(1.4)	0.4	0.8	1.2
Operating profit		30.6	(8.8)	21.8	24.3	(3.5)	20.8
Interest credit on pension scheme net assets		0.2	—	0.2	0.4	—	0.4
Other financial income		0.1	—	0.1	0.1	—	0.1
Financial income		0.3	—	0.3	0.5	—	0.5
Financial expenditure		(0.7)	—	(0.7)	(1.1)	—	(1.1)
Profit/(loss) before income tax	4	30.2	(8.8)	21.4	23.7	(3.5)	20.2
Income tax (expense)/credit		(6.5)	1.6	(4.9)	(4.9)	0.6	(4.3)
Profit/(loss) for the half year attributable to equity Shareholders of the parent		23.7	(7.2)	16.5	18.8	(2.9)	15.9
Earnings per share		pence		pence	pence		pence
Basic earnings per share	3						
From profit for the half year		41.2		28.7	32.8		27.7
Diluted earnings per share	3						
From profit for the half year		40.7		28.3	32.4		27.4
Dividends per share	8						
Dividends paid				4.1			—
Dividends proposed				4.4			4.1

1. Adjusted numbers are stated to give a better understanding of the underlying business performance. Details of adjusting items can be found in Note 2.

Year to 31 March 2021

	Note	Adjusted £m	Adjusting items ¹ £m	Total £m
Revenue	4	318.5	—	318.5
Cost of sales		(153.7)	—	(153.7)
Gross profit		164.8	—	164.8
Research and development	5	(30.0)	(1.3)	(31.3)
Selling and marketing		(44.5)	—	(44.5)
Administration and shared services		(34.5)	(8.8)	(43.3)
Foreign exchange gain		0.9	6.4	7.3
Operating profit		56.7	(3.7)	53.0
Interest credit on pension scheme net assets		0.9	—	0.9
Other financial income		0.2	—	0.2
Financial income		1.1	—	1.1
Financial expenditure		(1.9)	—	(1.9)
Profit/(loss) before income tax	4	55.9	(3.7)	52.2
Income tax (expense)/credit		(10.8)	0.4	(10.4)
Profit/(loss) for the year attributable to equity Shareholders of the parent		45.1	(3.3)	41.8
Earnings per share		pence		pence
Basic earnings per share	3			
From profit for the year		78.6		72.8
Diluted earnings per share	3			
From profit for the year		77.6		71.9
Dividends per share	8			
Dividends paid				—
Dividends proposed				17.0

1. Adjusted numbers are stated to give a better understanding of the underlying business performance. Details of adjusting items can be found in Note 2.

The attached notes form part of these Financial Statements.

Condensed Consolidated Statement of Comprehensive Income

Half year ended 30 September 2021

	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m	Year to 31 March 2021 £m
Profit for the period	16.5	15.9	41.8
Other comprehensive income/(expense):			
Items that may be reclassified subsequently to Consolidated Statement of Income			
Foreign exchange translation differences	1.3	(2.0)	(4.9)
Items that will not be reclassified to Consolidated Statement of Income			
Remeasurement gain/(loss) in respect of post-retirement benefits	4.7	(33.7)	(30.8)
Tax (charge)/credit on items that will not be reclassified to Consolidated Statement of Income	(1.2)	6.4	5.5
Total other comprehensive income/(expense)	4.8	(29.3)	(30.2)
Total comprehensive income/(expense) for the period attributable to equity Shareholders of the parent	21.3	(13.4)	11.6

Condensed Consolidated Statement of Financial Position

As at 30 September 2021

	Note	As at 30 September 2021 £m	As at 30 September 2020 as restated ¹ £m	As at 31 March 2021 £m
Assets				
Non-current assets				
Property, plant and equipment		25.6	20.5	21.1
Right-of-use assets		12.4	7.0	7.3
Intangible assets		148.7	130.3	122.6
Derivative financial instruments	9	—	—	1.1
Retirement benefit asset		25.0	1.1	16.3
Deferred tax assets		14.2	13.9	13.1
		225.9	172.8	181.5
Current assets				
Inventories		66.3	59.1	58.7
Trade and other receivables		86.9	68.1	75.6
Current income tax receivables		0.6	0.2	1.9
Derivative financial instruments	9	2.6	1.0	5.0
Cash and cash equivalents		119.3	136.6	128.0
		275.7	265.0	269.2
Total assets		501.6	437.8	450.7
Equity				
Capital and reserves attributable to the Company's equity Shareholders				
Share capital		2.9	2.9	2.9
Share premium		62.5	62.4	62.4
Other reserves		0.2	0.2	0.2
Translation reserve		7.9	9.5	6.6
Retained earnings		205.4	164.5	194.1
		278.9	239.5	266.2
Liabilities				
Non-current liabilities				
Lease payables		10.1	5.1	4.9
Derivative financial instruments	9	0.5	—	—
Provisions		—	0.7	0.7
Deferred tax liabilities		7.3	1.1	4.9
		17.9	6.9	10.5
Current liabilities				
Bank loans and overdrafts	2	49.2	55.2	30.4
Trade and other payables		137.9	120.4	126.1
Lease payables		2.8	2.2	2.6
Current income tax payables		5.3	4.5	6.2
Derivative financial instruments	9	—	1.1	—
Provisions		9.6	8.0	8.7
		204.8	191.4	174.0
Total liabilities		222.7	198.3	184.5
Total liabilities and equity		501.6	437.8	450.7

1. Details of restatement of prior period numbers can be found in Note 1.

The Financial Statements were approved by the Board of Directors on 8 November 2021 and signed on its behalf by:

Ian Barkshire

Director

Company number: 775598

Gavin Hill

Director

Condensed Consolidated Statement of Changes in Equity

Half year ended 30 September 2021

	Share capital £m	Share premium £m	Other reserves £m	Translation reserve £m	Retained earnings £m	Total £m
As at 1 April 2021	2.9	62.4	0.2	6.6	194.1	266.2
Total comprehensive income/(expense):						
Profit for the half year	—	—	—	—	16.5	16.5
Other comprehensive income/(expense):						
- Foreign exchange translation differences	—	—	—	1.3	—	1.3
- Remeasurement gain in respect of post-retirement benefits	—	—	—	—	4.7	4.7
- Tax charge on items that will not be reclassified to Consolidated Statement of Income	—	—	—	—	(1.2)	(1.2)
Total comprehensive income attributable to equity Shareholders of the parent	—	—	—	1.3	20.0	21.3
Transactions with owners recorded directly in equity:						
- Credit in respect of employee service costs settled by award of share options	—	—	—	—	1.1	1.1
- Tax credit in respect of share options	—	—	—	—	—	—
- Proceeds from shares issued	—	0.1	—	—	—	0.1
- Dividends	—	—	—	—	(9.8)	(9.8)
Total transactions with owners recorded directly in equity:	—	0.1	—	—	(8.7)	(8.6)
As at 30 September 2021	2.9	62.5	0.2	7.9	205.4	278.9
As at 1 April 2020	2.9	62.2	0.2	11.5	174.8	251.6
Total comprehensive income/(expense):						
Profit for the half year	—	—	—	—	15.9	15.9
Other comprehensive (expense)/income:						
- Foreign exchange translation differences	—	—	—	(2.0)	—	(2.0)
- Remeasurement loss in respect of post-retirement benefits	—	—	—	—	(33.7)	(33.7)
- Tax credit on items that will not be reclassified to Consolidated Statement of Income	—	—	—	—	6.4	6.4
Total comprehensive expense attributable to equity Shareholders of the parent	—	—	—	(2.0)	(11.4)	(13.4)
Transactions with owners recorded directly in equity:						
- Credit in respect of employee service costs settled by award of share options	—	—	—	—	1.1	1.1
- Tax credit in respect of share options	—	—	—	—	—	—
- Proceeds from shares issued	—	0.2	—	—	—	0.2
- Dividends	—	—	—	—	—	—
Total transactions with owners recorded directly in equity:	—	0.2	—	—	1.1	1.3
As at 30 September 2020	2.9	62.4	0.2	9.5	164.5	239.5

	Share capital £m	Share premium £m	Other reserves £m	Translation reserve £m	Retained earnings £m	Total £m
As at 1 April 2020	2.9	62.2	0.2	11.5	174.8	251.6
Total comprehensive income/(expense):						
Profit for the half year	—	—	—	—	41.8	41.8
Other comprehensive (expense)/income:						
– Foreign exchange translation differences	—	—	—	(4.9)	—	(4.9)
– Remeasurement loss in respect of post-retirement benefits	—	—	—	—	(30.8)	(30.8)
– Tax credit on items that will not be reclassified to Consolidated Statement of Income	—	—	—	—	5.5	5.5
Total comprehensive (expense)/income attributable to equity Shareholders of the parent	—	—	—	(4.9)	16.5	11.6
Transactions with owners recorded directly in equity:						
– Credit in respect of employee service costs settled by award of share options	—	—	—	—	1.8	1.8
– Tax credit in respect of share options	—	—	—	—	1.0	1.0
– Proceeds from shares issued	—	0.2	—	—	—	0.2
– Dividends	—	—	—	—	—	—
Total transactions with owners recorded directly in equity:	—	0.2	—	—	2.8	3.0
As at 31 March 2021	2.9	62.4	0.2	6.6	194.1	266.2

Other reserves comprise the capital redemption reserve, which represents the nominal value of shares repurchased and then cancelled during the year ended 31 March 1999.

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

Condensed Consolidated Statement of Cash Flows

Half year ended 30 September 2021

	Note	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m	Year to 31 March 2021 £m
Profit for the period		16.5	15.9	41.8
Adjustments for:				
Income tax expense		4.9	4.3	10.4
Net financial expense		0.4	0.6	0.8
Fair value movement on financial derivatives		3.8	(0.8)	(6.4)
Restructuring costs		0.3	—	0.4
WITec post-acquisition gross margin adjustment		0.9	—	—
Impairment of capitalised development costs		—	—	1.3
Amortisation of acquired intangibles		3.8	4.3	8.4
Depreciation of right-of-use assets		1.6	1.4	2.8
Depreciation of property, plant and equipment		1.8	1.7	3.8
Amortisation of capitalised development costs		0.7	1.0	2.5
Adjusted earnings before interest, tax, depreciation and amortisation		34.7	28.4	65.8
Charge in respect of equity settled employee share schemes		1.1	1.1	1.8
Restructuring costs (paid)/received		(0.3)	0.5	0.3
Cash payments to the pension scheme more than the charge to operating profit		(3.8)	(3.7)	(15.5)
Operating cash flows before movements in working capital		31.7	26.3	52.4
Increase in inventories		(1.7)	(0.6)	(1.3)
(Increase)/decrease in receivables		(5.9)	2.1	(10.5)
Increase/(decrease) in payables and provisions		(6.7)	(8.4)	11.3
Increase/(decrease) in customer deposits		0.1	3.9	(2.2)
Cash generated from operations		17.5	23.3	49.7
Interest paid		(0.5)	(1.0)	(1.6)
Income taxes paid		(4.0)	(4.0)	(6.3)
Net cash from operating activities		13.0	18.3	41.8
Cash flows from investing activities				
Proceeds from sale of property, plant and equipment		—	0.1	0.2
Acquisition of property, plant and equipment		(5.5)	(1.2)	(4.2)
Acquisition of subsidiaries, net of cash acquired		(30.0)	—	—
Capitalised development expenditure		(0.2)	(0.5)	(0.9)
Net cash used in investing activities		(35.7)	(1.6)	(4.9)
Cash flows from financing activities				
Proceeds from issue of share capital		0.1	0.1	0.2
Payments made in respect of lease liabilities		(1.3)	(1.3)	(2.8)
Repayment of borrowings		—	—	(27.9)
Dividends paid		(2.4)	—	—
Net cash used in financing activities		(3.6)	(1.2)	(30.5)
Net (decrease)/increase in cash and cash equivalents		(26.3)	15.5	6.4
Cash and cash equivalents at beginning of the period		97.6	95.4	95.4
Effect of exchange rate fluctuations on cash held		0.8	(1.6)	(4.2)
Cash and cash equivalents at end of the period		72.1	109.3	97.6
Cash and cash equivalents as per the Consolidated Statement of Financial Position		119.3	136.6	128.0
Bank overdrafts	9	(47.2)	(27.3)	(30.4)
Net cash and cash equivalents in the Consolidated Statement of Financial Position		72.1	109.3	97.6

Notes to the Half-year Financial Statements

Half year ended 30 September 2021

1 Basis of preparation

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 UK. 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 2021.

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 2021 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 2021.

Prior period restatement

In early 2021, the Financial Reporting Council (FRC) submitted a request for further information on the Group's Report and Financial Statements for the year ended 31 March 2020. The review conducted by the FRC was based solely on the Group's published Report and Financial Statements and does not provide any assurance that the Report and Financial Statements are correct in all material respects.

Following the completion of this review, the Directors concluded during the prior full year that the overdraft balances of Group entities should be separately presented gross on the Consolidated Statement of Financial Position, rather than netted off against cash and cash equivalents held either by the same entity, or other Group entities, with the same bank. These overdrafts are held with the Group's relationship banks. More details can be found in the Accounting Policies note of the 2021 Report and Financial Statements where the prior year was restated.

As a result, the Consolidated Statement of Financial Position as at 30 September 2020 has been restated as follows:

	As at 30 September 2020 (as reported) £m	Restatement £m	As at 30 September 2020 (restated) £m
Consolidated Statement of Financial Position			
Current assets			
Cash and cash equivalents	109.3	27.3	136.6
Current liabilities			
Bank loans and overdrafts	(27.9)	(27.3)	(55.2)
Net assets	81.4	—	81.4

The restatement did not result in any change to reported profit, earnings per share, net assets or cash flows reported in the 2020 half-year report.

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 2021.

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.

Notes to the Half-year Financial Statements continued

Half year ended 30 September 2021

1 Basis of preparation continued

Exchange rates

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

Period end rates	Half year to 30 September 2021	Half year to 30 September 2020	Year to 31 March 2021
US Dollar	1.35	1.29	1.38
Euro	1.16	1.10	1.17
Japanese Yen	150	136	152

Average translation rates	US Dollar	Euro	Japanese Yen
Half year to 30 September 2021			
April	1.38	1.16	152
May	1.40	1.16	153
June	1.40	1.16	154
July	1.39	1.17	153
August	1.38	1.17	152
September	1.36	1.16	151

Average translation rates	US Dollar	Euro	Japanese Yen
Year to 31 March 2021			
April	1.25	1.14	134
May	1.25	1.13	134
June	1.24	1.11	133
July	1.27	1.11	136
August	1.33	1.11	140
September	1.32	1.11	139
October	1.29	1.11	136
November	1.34	1.12	139
December	1.35	1.12	140
January	1.37	1.12	142
February	1.39	1.14	146
March	1.39	1.16	151

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 period, 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 3. 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 operations

	Half year to 30 September 2021		Half year to 30 September 2020		Year to 31 March 2021	
	Operating profit £m	Profit before income tax £m	Operating profit £m	Profit before income tax £m	Operating profit £m	Profit before income tax £m
Statutory measure	21.8	21.4	20.8	20.2	53.0	52.2
Business reorganisation items	0.3	0.3	—	—	0.4	0.4
WITec post-acquisition gross margin adjustment	0.9	0.9	—	—	—	—
Impairment of capitalised development costs	—	—	—	—	1.3	1.3
Amortisation and impairment of acquired intangibles	3.8	3.8	4.3	4.3	8.4	8.4
Fair value movement on financial derivatives	3.8	3.8	(0.8)	(0.8)	(6.4)	(6.4)
Total non-GAAP adjustments	8.8	8.8	3.5	3.5	3.7	3.7
Adjusted measure	30.6	30.2	24.3	23.7	56.7	55.9
Adjusted income tax expense		(6.5)		(4.9)		(10.8)
Adjusted profit for the period	30.6	23.7	24.3	18.8	56.7	45.1
Adjusted effective tax rates		21.5%		20.7%		19.3%

Business reorganisation items

These represent the costs of one-off charges incurred at the balance sheet date relating to the acquisition of WITec Wissenschaftliche Instrumente und Technologie GmbH ("WITec").

WITec post-acquisition gross margin adjustment

The finished goods and work in progress inventories were revalued to provisional fair value, based on selling price less costs to sell. The £0.9m adjustment relates to the gross margin which would have been earned on post-acquisition sales to 30 September 2021, but which has been absorbed into the acquisition date fair value. This will not recur, once all such inventory at the acquisition date has been delivered to customers.

Impairment of capitalised development costs

During the year to 31 March 2021, the Group reviewed the capitalised development costs to ensure they remained directly related to targeted product or software developments. The one-off non-cash impairment relates to delays in market launch of specific development projects within the Materials & Characterisation segment.

Amortisation and impairment of acquired intangibles

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

Fair value movement on financial derivatives

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.

Adjusted income tax expense

Adjusting items include the income tax on each of the items described above.

Notes to the Half-year Financial Statements continued

Half year ended 30 September 2021

2 Non-GAAP measures continued

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

	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m	Year to 31 March 2021 £m
Net (decrease)/increase in cash and cash equivalents	(26.3)	15.5	6.4
Effect of exchange rate fluctuations on cash held	0.8	(1.6)	(4.2)
	(25.5)	13.9	2.2
Repayment of borrowings	—	—	279
Increase in borrowings	(2.0)	—	—
Movement in net cash in the period	(27.5)	13.9	30.1
Net cash at start of the year	97.6	67.5	67.5
Net cash at the end of the period	70.1	81.4	97.6

Reconciliation of net cash to Statement of Financial Position

	Half year to 30 September 2021 £m	Half year to 30 September 2020 as restated ¹ £m	Year to 31 March 2021 £m
Loan notes – unsecured	—	(27.9)	—
Covid-19 loan at WITec	(2.0)	—	—
Overdrafts	(47.2)	(27.3)	(30.4)
Cash and cash equivalents	119.3	136.6	128.0
Net cash at the end of the period	70.1	81.4	97.6

1. Prior period numbers have been restated. Details can be found in Note 1.

3 Earnings per share

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

	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m	Year to 31 March 2021 £m
Profit for the year attributable to equity Shareholders of the parent	16.5	15.9	41.8
Adjusting items:			
Business reorganisation items	0.3	—	0.4
WITec post-acquisition gross margin adjustment	0.9	—	—
Impairment of capitalised development costs	—	—	1.3
Amortisation and impairment of acquired intangibles	3.8	4.3	8.4
Fair value movement on financial derivatives	3.8	(0.8)	(6.4)
Adjusted income tax expense	(1.6)	(0.6)	(0.4)
Adjusted profit for the year	23.7	18.8	45.1

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

	Half year to 30 September 2021 Shares million	Half year to 30 September 2020 Shares million	Year to 31 March 2021 Shares million
Weighted average number of shares outstanding	57.6	57.4	57.5
Less: weighted average number of shares held by Employee Share Ownership Trust	(0.1)	(0.1)	(0.1)
Weighted average number of shares used in calculation of basic earnings per share	57.5	57.3	57.4

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

	Half year to 30 September 2021 Shares million	Half year to 30 September 2020 Shares million	Year to 31 March 2021 Shares million
Number of ordinary shares per basic earnings per share calculations	57.5	57.3	57.4
Effect of shares under option	0.8	0.7	0.7
Number of ordinary shares per diluted earnings per share calculations	58.3	58.0	58.1

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

4 Segment information

The Group has eight 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 aggregated operating segments are as follows:

- 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 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 reporting to the Group's Board of Directors.

Results from operations

	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Total £m
Half year to 30 September 2021				
Total segment revenue	84.9	56.3	28.9	170.1
Segment adjusted operating profit	13.0	8.7	8.9	30.6
Half year to 30 September 2020				
Total segment revenue	65.2	48.3	26.8	140.3
Segment adjusted operating profit	8.9	6.4	9.0	24.3
Year to 31 March 2021				
Total segment revenue	148.6	113.4	56.5	318.5
Segment adjusted operating profit	20.3	19.5	16.9	56.7

Revenue in the Materials & Characterisation and Research & Discovery segments represents the sale of products. Revenue in the Service & Healthcare segment relates to service income.

Notes to the Half-year Financial Statements continued

Half year ended 30 September 2021

4 Segment information continued Reconciliation of reportable segment profit

Half year to 30 September 2021	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Unallocated Group items £m	Total £m
Segment adjusted operating profit	13.0	8.7	8.9	—	30.6
Restructuring costs	(0.3)	—	—	—	(0.3)
WITec post-acquisition gross margin adjustment	(0.9)	—	—	—	(0.9)
Amortisation and impairment of acquired intangibles	(0.6)	(3.2)	—	—	(3.8)
Fair value movement on financial derivatives	—	—	—	(3.8)	(3.8)
Financial income	—	—	—	0.3	0.3
Financial expenditure	—	—	—	(0.7)	(0.7)
Profit/(loss) before income tax	11.2	5.5	8.9	(4.2)	21.4

Half year to 30 September 2020	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Unallocated Group items £m	Total £m
Segment adjusted operating profit	8.9	6.4	9.0	—	24.3
Amortisation and impairment of acquired intangibles	(1.1)	(3.2)	—	—	(4.3)
Fair value movement on financial derivatives	—	—	—	0.8	0.8
Financial income	—	—	—	0.5	0.5
Financial expenditure	—	—	—	(1.1)	(1.1)
Profit before income tax	7.8	3.2	9.0	0.2	20.2

Year to 31 March 2021	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Unallocated Group items £m	Total £m
Segment adjusted operating profit	20.3	19.5	16.9	—	56.7
Restructuring costs	(0.4)	—	—	—	(0.4)
Impairment of capitalised development costs	(1.3)	—	—	—	(1.3)
Amortisation and impairment of acquired intangibles	(2.0)	(6.4)	—	—	(8.4)
Fair value movement on financial derivatives	—	—	—	6.4	6.4
Financial income	—	—	—	1.1	1.1
Financial expenditure	—	—	—	(1.9)	(1.9)
Profit before income tax	16.6	13.1	16.9	5.6	52.2

5 Research and development (R&D)

The total Research and Development spend by the Group is as follows:

	Half year to 30 September 2021 £m	Half year to 30 September 2020 £m	Year to 31 March 2021 £m
R&D expense charged to the Consolidated Statement of Income	15.4	13.2	30.0
Depreciation of R&D-related fixed assets	(0.1)	—	(0.1)
Amounts capitalised as fixed assets	0.3	—	0.6
Amortisation and impairment of R&D costs previously capitalised as intangible assets	(0.7)	(1.0)	(2.5)
Amounts capitalised as intangible assets	0.2	0.5	0.9
Total cash spent on R&D during the period	15.1	12.7	28.9

6 Acquisition of WITec

On 31 August 2021, the Group acquired 100% of the issued share capital of WITec Wissenschaftliche Instrumente und Technologie GmbH ("WITec") on a cash-free, debt-free basis for consideration of €42m, of which €5m is conditional on trading performance over a period of twelve months from the acquisition. The conditions for the deferred consideration are meeting certain revenue, order and margin thresholds. In the calculations below, it has been assumed that these thresholds have been met. WITec is a leading designer and manufacturer of Raman microscopy imaging solutions, based in Ulm, Germany.

The book and provisional fair value of the assets and liabilities acquired is given in the table below. Provisional values have been used for all assets and liabilities other than inventory because the initial acquisition accounting is incomplete at the date of this report. As a result, the amount of tax deductible goodwill is not known as at the date of this report. The business is being integrated into the Materials & Characterisation segment.

	Book value £m	Provisional adjustments £m	Provisional fair value £m
Property, plant and equipment	0.2	—	0.2
Right-of-use assets	2.7	—	2.7
Inventories	5.7	4.0	9.7
Trade and other receivables	1.9	—	1.9
Cash and cash equivalents	1.7	—	1.7
Trade and other payables	(2.0)	—	(2.0)
Lease payables	(2.7)	—	(2.7)
Provisions	(0.5)	—	(0.5)
Bank loans	(2.0)	—	(2.0)
Net assets acquired	5.0	4.0	9.0
Goodwill			27.0
Total cash spent on R&D during the period			36.0
Cash acquired			(1.7)
Deferred consideration			(4.3)
Net cash outflow relating to the acquisition			30.0

The goodwill arising is considered to represent the value of the acquired workforce and the value of technology that has not yet been individually fair valued.

Acquisition-related costs of £0.3m (£0.4m in the year to 31 March 2021) have been expensed in the Condensed Consolidated Statement of Income and recorded as an adjusting item due to the one-off nature (see Note 2).

The acquisition contributed revenue of £1.8m, adjusted operating profit of £0.2m and a statutory loss before tax of £0.7m to the Group's result for the period.

7 Taxation

The total effective tax rate on profits for the half year is 22.9% (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 21.5% (prior half year: 20.7%).

For the full year, the Group expects the tax rate in respect of adjusted profit before tax to be 22.4%.

Notes to the Half-year Financial Statements continued

Half year ended 30 September 2021

8 Dividends per share

The following dividends per share were paid by the Group:

	Half year to 30 September 2021 pence	Half year to 30 September 2020 pence	Year to 31 March 2021 pence
Previous period interim dividend	4.1	—	—
Previous period final dividend	—	—	—
	4.1	—	—

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

	Half year to 30 September 2021 pence	Half year to 30 September 2020 pence	Year to 31 March 2021 pence
Interim dividend	4.4	4.1	4.1
Final dividend	—	—	12.9
	4.4	4.1	17.0

The final dividend for the year to 31 March 2021 was approved by Shareholders at the Annual General Meeting held on 21 September 2021. Accordingly, it is no longer at the discretion of the Company and has been included as a liability as at 30 September 2021. It was paid on 15 October 2021.

The interim dividend for the year to 31 March 2022 of 4.4 pence was approved by the Board on 8 November 2021 and has not been included as a liability as at 30 September 2021. The interim dividend will be paid on 14 January 2022 to Shareholders on the register on the record date of 3 December 2021. The ex-dividend date will be 2 December 2021. The last date of election for the Dividend Reinvestment Plan (DRIP) is 21 December 2021. This represents a change from the previously indicated timetable, which suggested that the ex-dividend, record and DRIP election dates would occur in March 2022.

9 Financial instruments

Fair values of financial assets and liabilities

The following table shows the carrying amounts and fair values of financial assets and financial liabilities, including their levels in the fair value hierarchy. It does not include fair value information for financial assets and financial liabilities not measured at fair value if the carrying amount is a reasonable approximation of fair value.

	Half year to 30 September 2021			Half year to 30 September 2020 as restated ¹		Year to 31 March 2021	
	Fair value hierarchy level	Carrying amount £m	Fair value £m	Carrying amount £m	Fair value £m	Carrying amount £m	Fair value £m
Assets carried at amortised cost							
Trade receivables		66.8		54.4		59.3	
Other receivables and accrued income		14.1		9.7		12.2	
Cash and cash equivalents		119.3		136.6		128.0	
Assets carried at fair value							
Derivative financial instruments:							
– Foreign currency contracts	2	2.6	2.6	1.0	1.0	6.1	6.1
Liabilities carried at fair value							
Derivative financial instruments:							
– Foreign currency contracts	2	(0.5)	(0.5)	(1.1)	(1.1)	—	—
Liabilities carried at amortised cost							
Trade and other payables		(64.0)		(57.5)		(67.7)	
Bank overdrafts		(47.2)		(27.3)		(30.4)	
Borrowings		(2.0)		(27.9)		—	
Lease payables		(12.9)		(7.3)		(7.5)	

1. Prior period numbers have been restated. Details can be found in Note 1.

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.

Lease payables

The lease liability is measured at amortised cost using the effective interest method.

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.

10 Retirement benefit obligations

The Group operates a defined benefit plan in the UK. A full actuarial valuation of the UK plan was carried out as at 31 March 2018 which, for reporting purposes, has been updated to 30 September 2021 by a qualified independent actuary.

At 31 March 2021, the scheme actuary calculated a retirement benefit asset of £16.3m. In the period to 30 September 2021, there has been a reduction in the discount rate from 2.1% to 2.0%, and an increase in the assumed level of CPI and RPI inflation rates by 0.2% (to 2.7% and 3.3% from 2.5% and 3.1% respectively at 31 March 2021). The impact of these changes has increased the benefit obligation to £334.3m (31 March 2021: £323.9m).

The Group has agreed a basis for deficit recovery payments with the trustees of the UK pension scheme. The deficit recovery payments are payable through to and including 2026 and will rise by approximately 3% per annum. The deficit recovery payment for the period was £4.0m (year to 31 March 2021: £7.8m plus an additional one-off payment of £8.1m). In addition, the scheme's assets generated a higher return than the discount rate. As a result, the fair value of plan assets increased to £359.3m (31 March 2021: £340.2m).

The overall effect is that for the purposes of IAS 19 the surplus on the scheme increased from £16.3m to £25.0m.

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 the Company and its subsidiaries, which are related parties, have been eliminated on consolidation and are not disclosed in this note.

Independent Review Report to Oxford Instruments plc

Introduction

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 2021 which comprises the Condensed Consolidated Statement of Income, Condensed Consolidated Statement of Comprehensive Income, Condensed Consolidated Statement of Financial Position, Condensed Consolidated Statement of Changes in Equity and Condensed Consolidated Statement of Cash Flows.

We have read the other information contained in the half-yearly financial report and considered whether it contains any apparent misstatements or material inconsistencies with the information in the condensed set of financial statements.

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 Disclosure Guidance and Transparency Rules of the United Kingdom's Financial Conduct Authority.

As disclosed in note 1, the annual financial statements of the group will be prepared in accordance with UK adopted international accounting standards. The condensed set of financial statements included in this interim financial report has been prepared in accordance with UK adopted International Accounting Standard 34, "Interim Financial Reporting".

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.

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 Financial Reporting Council for use in the United Kingdom. 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.

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.

Conclusion

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 2021 is not prepared, in all material respects, in accordance with UK adopted International Accounting Standard 34 and the Disclosure Guidance and Transparency Rules of the United Kingdom's Financial Conduct Authority.

Use of our report

Our report has been prepared in accordance with the terms of our engagement to assist the Company in meeting its responsibilities in respect of half-yearly financial reporting in accordance with the Disclosure Guidance and Transparency Rules of the United Kingdom's Financial Conduct Authority and for no other purpose. No person is entitled to rely on this report unless such a person is a person entitled to rely upon this report by virtue of and for the purpose of our terms of engagement or has been expressly authorised to do so by our prior written consent. Save as above, we do not accept responsibility for this report to any other person or for any other purpose and we hereby expressly disclaim any and all such liability.

BDO LLP

Chartered Accountants
Reading, UK

8 November 2021

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).

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