Oxford Instruments plc

Announcement of Preliminary Results for the year ended 31 March 2022

Strong performance over the year provides the foundation for sustainable growth and continued medium-term margin expansion

Oxford Instruments plc, a leading provider of high technology products and systems for industry and research, today announces its preliminary results for the year ended 31 March 2022.

Adjusted[1]	**Year ended 31 March 2022**	Year ended 31 March 2021	% change reported	% change organic constant currency[4]
Revenue	**£367.3m**	£318.5m	+15.3%	+14.5%
Adjusted operating profit	**£66.3m**	£56.7m	+16.9%	+15.2%
Adjusted operating profit margin	**18.1%**	17.8%	+30bps	
Adjusted profit before taxation	**£65.9m**	£55.9m	+17.9%	
Adjusted basic earnings per share	**94.3p**	78.6p	+20.0%	
Cash conversion[2]	**84%**	102%		
Net cash[3]	**£85.9m**	£97.6m		

Statutory	**Year ended 31 March 2022**	Year ended 31 March 2021	% change reported
Revenue	**£367.3m**	£318.5m	+15.3%
Operating profit	**£48.3m**	£53.0m	(8.9%)
Operating profit margin	**13.2%**	16.6%	
Profit before taxation	**£47.6m**	£52.2m	(8.8%)
Basic earnings per share	**67.1p**	72.8p	(7.8%)
Dividend per share for the year	**18.1p**	17.0p	+6.5%

1. Adjusted items exclude the amortisation and impairment of acquired intangible assets, acquisition items, 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.
2. Cash conversion measures the percentage of adjusted cash from operations to adjusted operating profit, as set out in the Finance Review.
3. Net cash includes total borrowings, cash at bank and bank overdrafts but excludes IFRS 16 lease liabilities.
4. 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 of the acquisition of WITec.

FINANCIAL HIGHLIGHTS

- Organic revenue growth of 14.5%, partially constrained by supply chain disruption. Reported revenue growth bolstered by WITec acquisition
- Strong growth in orders of 19.9% at organic constant currency
- Reported order book of £260.2m, growth of 26.6% at organic constant currency
- Strong growth in adjusted operating profit of 16.9%, with margin rising to 18.1%
- Statutory profit measures include a £6.4m charge as a result of the unwind of the brought forward £6.1m financial derivative asset
- Growth and phasing of orders and revenue led to an increase in working capital, resulting in normalised cash conversion of 84%
- Growth in total dividend for the year of 6.5%

OPERATIONAL HIGHLIGHTS

- Resilience of our business model and product strength underpinned improved financial performance despite significant inflationary pressures
- Strong order growth across each of our end markets supported by long-term structural growth drivers and global sustainability agenda
- Investment in semiconductor markets drives strong growth across our materials analysis and etch and deposition portfolio
- Research and development of advanced materials supports strong demand for our range of analysis and imaging systems
- Launch of advanced benchtop microscopy system complements our imaging technology, increasing our product reach and capability into Healthcare & Lifescience
- Quantum computing research and evolving commercial market drive demand for our cryogenic systems and scientific cameras
- Strong performance from WITec acquisition in first year with key applications across advanced materials and life science research

Ian Barkshire, Chief Executive of Oxford Instruments plc, commented on performance and outlook:

“We have successfully navigated the turbulence of the last two years, and, through the dedication of our talented global team and the successful execution of our Horizon strategy, we have emerged as a stronger, more focused business, even better aligned to meet the needs of our customers in attractive end markets with long-term structural growth drivers.

“The business has performed strongly this year, despite supply chain disruption impacting the conversion of orders into revenue and cost inflation holding back margin progression. Looking ahead, we do not foresee short term relief from the current economic headwinds and ongoing supply chain constraints. However, our diverse end-markets remain resilient, and we enter the year with good visibility due to a strong order book and continued order growth. This supports full year outlook in line with our expectations.

“Our products play a critical role for our customers in enabling a greener, healthier, more connected, and advanced society which puts us at the heart of creating a more sustainable future. Our leading product portfolio, the strength of our brand and our relentless drive for continuous operational improvement provide the foundation for sustainable organic growth and continued margin expansion over the medium-term, while our strong financial position supports augmenting growth through synergistic acquisitions.”

The financial information set out above does not constitute the group’s statutory accounts for the years ended 31 March 2022 or 2021, but is derived from those accounts. Statutory accounts for 2021 have been delivered to the Registrar of Companies and those for 2022 will be delivered following the company’s Annual General Meeting. The auditors have reported on those accounts: their reports were unqualified, did not draw any attention to any matters by way of emphasis and do not contain statements under s498(2) or (3) of the Companies Act 2006.

Issued for and on behalf of Oxford Instruments plc

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CHAIR’S STATEMENT

I am proud of the role we play in making a positive impact on the world around us, driven by our core purpose to enable a greener, healthier, more connected, advanced society.

Neil Carson
Chair

This is further enhanced by the deep insights we gain through the value-driven relationships we have with our customers. By nurturing these relationships, and through strategic collaborations, we build a unique understanding of our customers’ current and future needs, informing our development efforts and enabling us to sustain our leadership positions, and allowing our customers to deliver on their goals.

Impressive performance against a challenging backdrop
The strength of our end markets, the quality of our market-leading portfolio and the resilience of our business model are demonstrated by the Group’s strong performance in the year, which has been delivered despite global supply chain shortages and inflationary pressures.

The unprovoked attack on Ukraine by Russia has shocked the world and, as a global company committed to upholding our values, the Board strongly condemns this abhorrent action and fully supports the decision to cease trading in the territories of the Russian Federation and Belarus.

Throughout the ongoing covid-related disruptions, with regional lockdowns intermittently in place across some of our territories, we have remained committed to protecting the health, safety and wellbeing of all our employees and for the Group to provide additional support where required.

We have further developed our hybrid workplace model, driving efficiencies across the Group, maintaining business continuity throughout, and providing improved support for our customers.

Clear opportunities ahead with execution of Horizon strategy
The successful execution of our strategy to date has driven a track record of improved financial performance by keeping our focus on attractive end markets with strong growth drivers, many of which are further strengthened by the global sustainability agenda, alongside driving operational efficiency improvements and the transformation of our service offering.

The Board remains fully supportive of the ongoing delivery and evolution of Horizon and is excited by the expansive opportunities ahead as we build scale and enhance the capabilities across our well-established platform. We believe the investments being made in the business will continue to drive future growth, including our growing, commercially driven R&D programme, our new facilities, and the successful execution of selective acquisitions, as demonstrated by the acquisition of Wissenschaftliche Instrumente und Technologie GmbH (WITec).

We can also see the clear benefits of the investment that has been made in enhancing the talent and capabilities within the Group, including commercial, technical and service, as well as in the transformation of our customer services' infrastructure.

As per the announcements made in February and March 2022, we note the unsolicited proposal from Spectris plc which was withdrawn. The Board remains highly confident that the Group has a clear and compelling strategy to achieve growth and create value for Shareholders over the medium term.

Advancing our sustainability agenda
The establishment of the Board's Sustainability Committee has elevated the oversight and leadership of the Group's sustainability agenda and re-emphasises our view that embedding sustainability throughout the Group creates long-term value for all our stakeholders and will secure our long-term success.

This year, the Group has focused on developing our frameworks and processes to adopt and align with the various reporting frameworks. We are delighted to be publishing our first Task Force on Climate-Related Financial Disclosures (TCFD) Statement in our Report and Financial Statements and our first standalone Sustainability Report this year.

Diversity throughout the organisation
The Board and executive team have spent considerable time this year looking at ways to build on the culture of diversity that is already strong within the Group. With inclusivity being a key value, the Group encourages all employees to bring their authentic self to work, recognising how mutually beneficial diversity is to us and our employees.

We are committed to promoting diversity, equality, and inclusion, both on the Board and throughout the Group. We also have a clear action plan which will help us to reach gender and diversity representation recommendations at Board level, as proposed by the FTSE Women Leaders Review and the Parker Review. In the immediate-term, we are aiming to exceed 33% female representation on the Board by July 2022, with the appointment of a further female Director with specific capabilities and experiences which meet the needs of the Board now and in the future.

Board changes
During the year Thomas Geitner and Steve Blair stepped down from the Board. I thank them for their valued service to the Group. Alison Wood has also taken up the role of Senior Independent Director and has already made a much-valued contribution in this position. We also welcomed Nigel Sheinwald in September as a Non-Executive Director and Chair of the newly formed Sustainability Committee.

Sir Martin Wood: 1927-2021
The Board and I were saddened to learn of the passing of the Oxford Instruments founder, Sir Martin Wood, in November 2021. Martin's brilliance, innovations and enthusiasm provided the foundation for ground-breaking developments that have saved millions of lives and transformed our understanding of chemistry. As a company we were fortunate to benefit from his vision and consider him one of the great minds in scientific advancement. We again offer our sincere condolences to his wife, Lady Audrey Wood, and their extended family.

Our employees
The Board and I are extremely grateful for the commitment and innovation of our employees in their approach to maintaining and growing the business despite the many challenges we have all faced. We thank them for embracing new approaches to working and for adapting quickly to new ways of supporting our customers. In recognition of the impact the rising cost of living has had, we fully support the action the executive team have taken to help our employees, implementing a notable pay rise ahead of the usual time to do so.

During the year, we took the opportunity to engage further with employees, gathering their feedback to ensure we can best consider their interests as part of our decision-making process. The Board looks forward to continuing this programme in the year ahead, by visiting sites and meeting employees in person.

Dividend

In line with our progressive dividend policy and robust trading performance in the year, the Board is proposing a final dividend of 13.7 pence per share (2021: 12.9 pence per share), which is subject to shareholder approval at our Annual General Meeting on 28 July 2022.

Looking ahead

Over the last five years, we have delivered a compound annual growth rate for revenue and adjusted profit before tax of 6% and 16% respectively. Our operating margin has grown from 13.6% in 2017 to 18.1% in 2022, along with sustained high cash conversion year on year.

Despite the challenges during the past two years, the Group has delivered significant progress, emerging even stronger and further aligned with structurally growing end markets. This reflects the excellent execution of Horizon, the highly talented employees we have around the world, our high-quality products and services, and our brand leadership. The Board remains confident in the Group's strategic direction as a platform to deliver sustainable growth and further margin enhancement.

Neil Carson
Chair
13 June 2022

CHIEF EXECUTIVE'S REVIEW

As I look back on the past twelve months, I am extremely proud of the Group's performance and am even more excited about the future growth and margin expansion opportunities that lie ahead.

We have successfully navigated the turbulence of the last two years, and, thanks to the dedication of our talented global team and the successful execution of our Horizon strategy, we have emerged as a stronger, more focused business. We are now even better aligned to meet the needs of our customers in attractive end markets with long-term structural growth drivers.

As a global provider of high technology products and services we are aware of the critical role we play in the overall advancement of society by enabling leading industrial companies and scientific research institutes to tackle some of the world's most complex challenges and growth opportunities.

From healthcare to climate change to digital communications and quantum computing, we work with our customers to create the products they need to generate meaningful change and market growth. This fuels our mission to enable a greener, healthier, more connected, and advanced world – and puts us at the heart of creating a more sustainable future.

During the year we delivered strong order, revenue and profit growth with further improvement in operating margin despite inflationary pressures, supply chain challenges and ongoing covid-related disruptions. This is testament to the resilience of our business model, the quality of our product portfolio, the strength of our end markets and our commitment to continuous improvement. The results also represent considerable growth relative to the 2020 pre-covid year.

Our resilience and commitment have been demonstrated throughout the year, including through the way in which our employees embraced new ways of working, how we have optimised our internal operations in response to supply chain challenges, and the transformation of our sales, marketing and customer service approaches to support the shifting needs of our customers.

At the end of August 2021, we completed the acquisition of Wissenschaftliche Instrumente und Technologie GmbH, (WITec), a leading Raman and optical imaging business, further enhancing our materials analysis product portfolio. The business has performed in line with our expectations, and I have been delighted with its integration into the Group. Their additional capabilities are already benefitting our existing customers as well as allowing us to expand into adjacent markets.

We have also made significant investments to support our future growth, including in talent, product R&D, business systems and remote digital support capabilities, as well as building a new state-of-the-art facility in Bristol, UK for our compound semiconductor systems business.

I am particularly pleased with the progress across the Group in our multi-faceted approach to sustainability, including the further development of our roadmaps across environmental, social and governance aspects of our agenda, not least as it is a topic that I am personally very passionate about.

Our holistic approach to building a stronger business has helped us to make significant improvements not only in our financial performance, but also in how we support our customers, key markets, employees, communities, and strategic partners. These will all strengthen our position for future growth.

Bringing higher value to markets with long-term structural growth drivers

The health and resilience of our chosen end markets has played a critical role in our improved performance. The global economic recovery and increasing sustainability agenda have reinforced their structural drivers in both the academic and commercial sectors.

This has stimulated increased funding within our target markets, accelerating our customers' roadmaps, and increasing demand for our solutions and services across each of our end markets. To meet the evolving needs and expand our global leadership, we are building scale and capability in each of our chosen markets, increasing the value we bring through a more targeted portfolio of higher performing, easier-to-use solutions.

- Within **Semiconductor & Communications** the exponential increases in digital data and connectivity, the requirement for more energy-efficient power devices and the increased deployment of human-machine interfaces (e.g. facial recognition) is driving strong demand for our specialised analysis solutions as well as our compound semiconductor processing systems.
- Within **Healthcare & Lifescience**, an understanding of the fundamental disease mechanisms and the efficacy of treatments at the cellular and molecular levels is helping accelerate the creation of new medicines and therapies at a fraction of the cost, driving growth across our portfolio of optical microscopy systems and scientific cameras.
- The deployment of and search for new **Advanced Materials**, which serve as the building blocks for modern society, are driving improved performance and more sustainable use of valuable and finite resources in nearly all end markets and continues to drive demand across our materials analysis portfolio.
- In the **Quantum Technology** market, we are working with the leaders in the field as the market continues its evolution from earlier stage research into applied R&D and the rapidly evolving commercial market. We are well positioned to power this growing market and take advantage of its growth, as it remains poised to disrupt applications from drug discovery to logistics and financial services across government and commercial entities alike.
- In the **Energy & Environment** market, the transition away from fossil fuels is accelerating the investment in batteries, solar cells and more energy-efficient devices, where our systems provide invaluable insights for research and applied R&D, as well as the critical quality assurance measurements needed for high-volume manufacturing.

As we look to the future, we believe our strong position in these end markets – and their structural growth drivers – will continue to create value for our customers and present significant opportunities for sustainable economic growth.

Strong order, revenue and profit growth

We delivered continued financial progress with strong order, revenue and operating profit growth and further improvement in operating margin despite the challenging external operating environment. The results also reflect significant growth for each of these key metrics relative to the financial year ended 31 March 2020, highlighting the underlying health of our end markets and the strength of our portfolio. The enhanced performance was delivered across our portfolio with an improved performance in each of the Materials & Characterisation, Research & Discovery and Service & Healthcare sectors.

Group	**FY22**	Constant currency Growth vs 2021	Constant currency Growth vs 2020
Orders	**£423m**	24%	32%
Revenue	**£367m**	19%	21%
Adjusted operating profit	**£66.3m**	20%	35%
Operating margin	**18.1%**	30bps	220bps

Reported orders increased by 19.6% to £423.1m (2021: £353.7m), representing growth of 24.0% on a constant currency basis with strong increased global demand resulting in high double-digit growth in North America, Europe and Asia. We had strong growth across all of our target markets apart from Research & Fundamental Science, which reduced in the period due in part to lower external investment in these projects and our own increased focus on our other, higher-value end markets.

The superior performance of our products and the notable funding into our target markets supported high double-digit growth to academic customers. Our heightened market intimacy focus on commercial applications, combined with the launch of new targeted products and services for high-volume manufacturing, Quality Assurance (QA) & Quality Control (QC), as well as corporate R&D, drove even stronger growth with commercial customers, which grew to account for 50% of orders in the year (2021: 46%).

Reported revenue grew 15.3% to £367.3m, representing growth of 19.2% at constant currency despite the global supply chain challenges for materials and electronic components which hindered conversion of the growing order book throughout the period.

Revenue grew in each of our sectors, up 28.9% in Materials & Characterisation, 9.3% in Research & Discovery and 13.5% in Service & Healthcare on a constant currency basis. There was strong growth to both commercial and academic customers, with the proportion of revenue to commercial customers increasing to 47% (2021: 45%) in the year.

From an end markets perspective, we had particularly strong growth in the Semiconductor & Communications, Advanced Materials and Quantum Technology markets. Revenue in both Energy & Environment and Healthcare & Lifescience markets grew strongly, ending the year ahead of their 2020 levels after a subdued 2021. Revenue in Research & Fundamental Science declined in line with reduced customer activity and our own decreased focus in this area.

Group revenue by segment

Market segment	**2022 segment revenue growth**	**2022 proportion of revenue**	2021 proportion of revenue
Healthcare & Lifescience	**5.4%**	**20%**	22%
Semiconductor & Communications	**21.4%**	**29%**	28%
Quantum Technology	**36.2%**	**9%**	7%
Energy & Environment	**13.9%**	**8%**	8%
Advanced Materials	**21.9%**	**28%**	27%
Research & Fundamental Science	**(20.0)%**	**6%**	8%

Revenue profiles were distorted by region relative to demand due to the staggered timing and extent of easing of covid-related restrictions. This resulted in strong revenue growth in Asia and North America and good growth in Europe, strengthened by an improving situation through the second half of the year.

Our continued focus on driving operational efficiencies and a policy of proactive offsetting of inflationary pressures through price management supported growth in reported adjusted operating profit, up 16.9% to £66.3m and further margin enhancement to 18.1%, an increase of 30 basis points, notwithstanding our continued investment to fuel future growth.

The strength of our end markets and continued positive order momentum resulted in a book-to-bill ratio of 1.15 and order book growth of 31.5% to £260.3m (2021: £197.9m). Continued focus on quality of profits resulted in strong cash conversion of 84% (excluding the investment in our new facility for our semiconductor systems business) and a net cash position of £85.9m at year end after the acquisition of WITec GmbH at the end of August 2021.

Horizon: our strategy for creating value
Our financial success is underpinned by our Horizon strategy, launched in 2017 to drive sustainable growth and the margins commensurate with a high technology company and the value we create for our customers.

The key elements of our strategy are:

- The transformation of the business into a customer-centric, market driven Group, whereby we deliberately focus on building scale and capability in specific end markets, with long-term structural growth drivers where we can sustain leadership positions for technologies and products that create high value for customers.
- Proactive engagement with customers across the full technology cycle, from research to applied R&D to high-volume manufacturing, to maximise the returns from our core technologies whilst positioning us to benefit from rapid growth and each wave of technology disruption.
- Our own unique operating framework which creates expertise and balance across the four pillars of Market Intimacy, Innovation & Product Development, Operational Excellence and Customer Service & Support.
- A relentless dedication to continuous improvement driving ongoing synergies, efficiencies, and strong commercial processes across the Group.
- Drive above-market growth through organic investments further augmented by synergistic acquisitions.

We made continued progress in the execution of our Horizon strategy in the year, further strengthening our capabilities within the four pillars of our operating model.

- Through our commitment to **market intimacy**, we have developed stronger, more personalised relationships with our target customers, deepened our understanding of core markets, and opened opportunities for expansion into new and adjacent markets. By establishing an intimate knowledge of our customers' worlds, anticipating their challenges, and responding with a portfolio of products and solutions that helps them achieve their goals, we have grown our business in all our major markets. In addition to nurturing these relationships, we have used our market knowledge to expand into adjacent markets, driving new and incremental sales. This expansion supports our growth objectives and is currently being applied with great success in larger, faster growth commercial markets. In the year, we built on our market intimacy strength, bringing in new talent with specific domain knowledge to augment our existing team.

- **Innovation and product development** is central to our business strategy and our heritage of innovation. We invest in creating differentiated products and key enabling technologies, informed by our customer and market intimacy. By understanding not just customer requirements, but also the challenges and opportunities they face – near and long-term – we have been able to invest in the development of more strategic solutions that deliver greater value and returns on investment. These are the products and solutions that shift the paradigm of what is possible for our customers, transforming their capabilities and fuelling their growth and ours. In the year, we have increased our investment in strategic R&D, with a dual focus on new products and solutions that not only create maximum value for our existing customers but also enable us to expand into new or adjacent markets and support future growth, such as our new optical microscopy system, BC43, which offers research-level performance in a revolutionary ease of use benchtop system, with a significantly more accessible price point.

  Our R&D spend increased 9.7% to £31.7m (2021: £28.9m), growing broadly in line with sales and representing 8.6% of revenue. To underpin our barriers to entry, we are more focused on protecting and expanding our intellectual property portfolio across our core markets. Our vitality index, representing the revenue from products launched in the last three years, was a healthy 34% of increased Group revenues (2021: 38%).

- Our **operational excellence** programme has enabled us to drive efficiencies and synergies across the Group which directly impact performance and growth. This includes strengthening our supply chain through executing a procurement strategy focused on leveraging our scale and building long-term strategic relationships with fewer suppliers, which has enabled us to mitigate the industry-wide supply chain challenges. In addition, we embedded improved manufacturing processes and created centres of excellence to promote delivery across the wider Group. As we emerge from the pandemic, these investments in operational excellence will continue to support our performance this year and beyond.
- The covid-related travel restrictions of the past two years have heightened the importance of service continuity and the expectations from global customers. Through our **customer service** transformation programme, we are exploiting our market intimacy to provide service offerings tailored to the specific needs and goals of our customers for their usage, application and region, throughout the lifetime use of our products. We have increased our investment in our regional service teams and have embedded remote digital support capabilities across our portfolio, ensuring we can deliver our global expertise locally, enhancing customer capabilities and productivity, with improved operational efficiency.

Through Horizon, we have delivered substantial tangible gains across the Group, leading to improved financial performance. In the year, we undertook a comprehensive review of our strategy, capabilities and opportunities for further improvement in order to deliver our full potential. This confirmed the compelling opportunities that still lie ahead to extract further value as we continue with our strategy, driving sustainable growth and margin enhancement, while uncovering efficiency opportunities Company wide.

Shaping a sustainable future
Sustainability is a cornerstone of our long-term strategy to drive stakeholder value. We recognise the role we, and our technologies, can play to create a positive impact on the environment and society and, in line with our values and purpose, we are passionate about being a positive influence on the world. By taking a holistic approach to sustainability, led by myself and the executive team, with enhanced oversight at Board level through our newly established Sustainability Committee, we review all aspects of our business to drive positive change and believe that embedding sustainability throughout the Group is the best way to secure our long-term success.

I am delighted with the progress we have made in the development and execution of our sustainability initiatives as well as the enthusiasm across the business for a progressive and ambitious sustainability agenda.

Since its establishment during the financial year, our Board-level Sustainability Committee has embraced the importance of its role in driving the Group's sustainability agenda at Board level and overseeing activity within the Company. Upon his appointment to the Board in September 2021, Nigel Sheinwald has chaired this committee and brings a wealth of experience to our organisation from his previous role as chair of Shell's sustainability committee.

Environment
We have embraced the adoption of the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations and reporting framework to help to expand the environmental aspects of our sustainability agenda and effectively communicate our work in this area. We are delighted to be publishing our first TCFD Statement as well as our first standalone Sustainability Report.

Whilst the impact our facilities have on the environment is relatively small, we have made great strides in reducing our carbon footprint and waste products from our manufacturing processes and facilities (Scope 1 and 2 emissions) and are committed to building on this progress. To accurately assess our overall environmental impact, and in support of the TCFD reporting framework, we have engaged with the specialist advisers EcoAct. Working together we have confirmed our Scope 1 and 2 emissions and have made good progress in mapping the contribution through our supply chain, distribution, and customer use of our products (Scope 3). Once this phase is completed, we will set our targets in line with the best practice guidance, validated by the Science Based Targets initiative. We also recognise our role in supporting our customers in achieving their sustainability ambitions, as well as encouraging similar commitments from our supply chain. We have created ethical and environmental standards for our suppliers and partners to follow and are building broad sustainability considerations into our product development guidelines.

Social and governance
Whilst our environmental focus is extremely important, it is only one part of our overarching sustainability agenda. We believe how we do business is as important as what we do. This is embedded within our approach to the social and governance aspects of business too.

Being inclusive, and creating a diverse workplace where difference is valued and people are recognised for what they bring to the team, is a core Company value and a key element in delivering business excellence. Through our recruitment, employment policies and a Company culture based on respect and creating a sense of belonging, we look to attract and retain an incredibly talented, diverse workforce.

Communication has also been critical to our overall success. We have invested in increasing connectivity and communication between our teams and have embraced our hybrid workplace model, focused on an outcomes-based approach to work and management. This shift, along with additional investments in technology, has enabled us to create a more rewarding and collaborative working environment for our people, where employees can build successful careers, make a personal impact on the world and enjoy a healthy work-life balance. At the same time, this increases efficiencies across our teams and unlocks new synergies across business units and regions. It has also led to accelerated innovation and cross-business product developments which further enhance our market intimacy and improve the way in which we reach, work with, and support our customers.

In line with our values, after the unprovoked attack on Ukraine by Russia, we decided to cease trading in the territories of the Russian Federation and Belarus (this represents less than 1% of Group revenue). In addition, the Board approved a charitable donation of £30,000 (with £10,000 of this dedicated to matching employee donations) to the International Red Cross or UNICEF, to support those displaced or otherwise in need, because of the conflict.

Sustainability, in its broadest sense, is one of the most transformative opportunities in our lifetimes, and one that brings us closer to realising our mission of “changing the art of the possible”. It is with this mindset that we are committed to making even greater progress this year and beyond.

Investing in building our capabilities
The capabilities and dedication of our employees are critical to our success and the delivery of our strategy, which is underpinned by the combination of our technical, market and commercial expertise. To support our growth, we have continued to invest in our existing team to build on their skills and experience as well as providing the development opportunities to enable them to reach their full potential. This has included the launch of a Group-wide project aiming to better facilitate and promote employee mobility within the organisation and throughout their careers. During the past year, we have been delighted to see over 11% of our employees being promoted or taking on new responsibilities to augment their development. In addition, we have continued to build on our team with the recruitment of individuals with specific knowledge or capabilities. Our goal for all our employees is simple: 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.

I am extremely proud of how our employees and leadership team have navigated through the ongoing challenges caused by the external operating environment to deliver our improved performance. By embracing alternative ways of working, which provide additional flexibility, we have been able to better meet the needs of our customers as well as increase the essential connectivity needed between teams to drive and foster innovation.

I would like to thank all our employees for their continued support, commitment, and resilience during the year, and for their ongoing investment in a culture that helps underpin our success.

Summary and outlook
We have successfully navigated the turbulence of the last two years, and, through the dedication of our talented global team and the successful execution of our Horizon strategy, we have emerged as a stronger, more focused business, even better aligned to meet the needs of our customers in attractive end markets with long-term structural growth drivers.

The business has performed strongly this year, despite supply chain disruption impacting the conversion of orders into revenue and cost inflation holding back margin progression. Looking ahead, we do not foresee short term relief from the current economic headwinds and ongoing supply chain constraints. However, our diverse end-markets remain resilient, and we enter the year with good visibility due to a strong order book and continued order growth. This supports full year outlook in line with our expectations.

Our products play a critical role for our customers in enabling a greener, healthier, more connected, and advanced society which puts us at the heart of creating a more sustainable future. Our leading product portfolio, the strength of our brand and our relentless drive for continuous operational improvement provide the foundation for sustainable organic growth and continued margin expansion over the medium-term, while our strong financial position supports augmenting growth through synergistic acquisitions.

Ian Barkshire
Chief Executive

13 June 2022

OPERATIONS REVIEW
MATERIALS & CHARACTERISATION

Key highlights

Orders
£219.2m
+25.3%
(2021: £175.0m)
Constant currency growth[1]
vs 2021: 29.8%
(vs 2020: 48.4%)

Revenue

£185.5m
+24.8%
(2021: £148.6m)
Constant currency growth[1]
vs 2021: 28.9%
(vs 2020: 32.7%)

Adjusted[2] operating profit
£26.1m
+28.6%
(2021: £20.3m)
Constant currency growth[1]
vs 2021: 30.4%
(vs 2020: 26.1%)

Adjusted[2] operating margin
14.1%
(2021: 13.7%)

Statutory operating profit
£20.8m
(2021: £16.6m)

1. For definition refer to note on page 1.
2. Details of adjusting items can be found in Note 1.

The Materials & Characterisation sector delivered strong growth, underpinned by the strength of our portfolio and increased demand across all our target end markets.

Materials & Characterisation overview
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 where our leading product performance, ease of use and advanced analytics enhance our customers' capabilities, provide actionable insights and increase their productivity. Our portfolio of systems (across Asylum Research, NanoAnalysis, Magnetic Resonance and newly acquired WITec) include our range of market-leading X-ray and electron analysis systems, used in conjunction with electron microscopes, and our performance-leading atomic force and Raman microscopes, and magnetic resonance analysers
- the fabrication of semiconductor devices and structures, where our portfolio of advanced semiconductor etch and deposition process systems (Plasma Technology) provide our customers with the ability to create and manipulate materials with atomic scale accuracy to fabricate advanced compound semiconductor devices

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, and enhancing productivity in advanced manufacturing, quality assurance (QA) and quality control (QC).

Operational and strategic progress
During the year, we broadened the capabilities that we offer our existing customers through the acquisition of WITec, which brought complementary leading Raman microscopy solutions to our portfolio and can be used in conjunction with our existing characterisation solutions. The acquisition, which completed on 31 August 2021, enables the further exploitation of synergies across the sales, marketing and service teams, and increases the role we can play in supporting our customers, and provides access into new adjacent markets.

In line with our Horizon strategy, we have enhanced our market-leading semiconductor etch and deposition processing systems for R&D and now also provide a suite of dedicated systems for use in high-volume manufacturing. Construction on our new state-of-the-art facility for the business has progressed well, with completion expected later in 2022.

A strong performance in the year
The Materials & Characterisation sector delivered strong growth, underpinned by the strength of our portfolio and increased demand across all our target end markets, with particularly strong growth from semiconductor, electronics, and advanced materials. Strong order growth reflected significant uplift in demand across North America and Asia as well as strong growth in Europe. Order growth was also supported by our increased market focus and the launch of new products tailored for specific end applications and customers workflows, for example our portfolio semiconductor processing systems dedicated for high-volume manufacturing. Our market intimacy approach and end application focus supported strong double-digit growth to academic customers with twice the growth into commercial customers as we continued to nurture existing accounts and expand into new adjacent opportunities.

Despite the well-publicised global shortages of semiconductors and electronics, the sector delivered strong revenue growth through positive engagement with our strategic suppliers. The phasing of the easing of travel and access restrictions to customers' sites strongly influenced the regional delivery of the growing order book, resulting in strong revenue growth into Asia with good growth into North America and Europe as the situation improved in these regions through the second half of the year. In line with orders, we had strong double-digit revenue growth to academic customers with even stronger growth to commercial organisations, resulting in the proportion of revenue to commercial customers increasing slightly to 57% in the year (2021: 56%). The continued growth of the sector over the past two years reflects the resilience of the end market drivers and the positive positioning of our products within them. The order book for future deliveries increased by more than 50% in the year to £116.0m (2021: £74.3m).

From an end market perspective, the sector had strong double-digit order growth into each of our target end markets, with a similar pattern for revenue growth apart from the Quantum Technologies segment, which remained in line with the previous year due to the phasing of shipments. Revenue in the sector is dominated by the Semiconductor & Communications and Advanced Materials markets, representing 46% and 33% of revenue, respectively. Energy & Environment and Healthcare & Lifescience both grew strongly to represent 14% and 6% of revenue, with Quantum Technology and Research & Fundamental Science each representing 1%.

The book-to-bill of 1.18 led to a 56.1% increase in the order book for future deliveries to £116.0m (2021: £74.3m).

Profitability for the sector was further enhanced in the period with reported profit increasing to £26.1m (2021: £20.3m), representing an adjusted operating margin of 14.1% (2021: 13.7%).

Semiconductor & Communications
This market is a key focus for us, in which we delivered strong double-digit order and revenue growth across both our imaging and analysis portfolio and semiconductor processing systems. Growth was aided by the long-term structural drivers within this market, including the ramp up in global demand due to their burgeoning use into everyday consumer products such as cars and computers, as well as commercial products. This is leading to an increase in production capacity as well as the development of the next generation of devices with the relentless drive to reduce feature sizes to drive manufacturing efficiency, increased processing power and reduced costs. Our imaging and analysis solutions are used to measure the composition and structure of the devices down to the nanoscale which, as dimensions shrink in size, becomes ever more critical in the development of next generation devices, their successful transfer to manufacturing, and for quality control in high volume production. The leading precision and resolution of our solutions is a core differentiator and allows us to support our customers to deliver their demanding roadmaps and increase their productivity.

In addition to the mainstream silicon market, exponential increases in digital data flow, driven by surging demand for connectivity, the requirement for more energy-efficient devices, and the increased deployment of human-machine interfaces (e.g. facial recognition), are all driving strong demand for compound semiconductors with improved performance and higher manufacturing yields. This is leading to strong orders for our compound semiconductor processing systems, specifically designed for commercial R&D and high-volume production. Within these applications, our market intimacy has helped us to focus on developing solutions for the critical layers within devices that have the biggest impact on end device performance, cost, and yield. For example, we have seen strong growth in demand for our indium phosphide (InP) solutions which are used to manufacture the optical devices with the fibre optic networks that are supporting 5G and cloud-based systems. Furthermore, infrastructure with improved connectivity is a critical enabler to the introduction of electric vehicles and expansion of the Internet of Things. For example, a moving, connected electric vehicle produces 25GB of data per hour (more than 5x the average person's monthly usage) and this is forecast to rise to between 1TB and 19TB per hour with the introduction of autonomous vehicles.

We have also seen strong growth in demand for our gallium nitride (GaN) solutions which enable manufacturers to produce more efficient power devices for consumer electronics products, and our silicon carbide (SiC) solutions are enabling the production of faster charging and enhanced power management to improve the range and reliability of electric vehicles. In addition, the expansion of human-device interaction, such as virtual reality and facial recognition on mobile phones and within autonomous driving vehicles, is driving growth into vertical cavity lasers (VCSELs) and 3D sensing devices where our proprietary processes offer significant performance and yield advantages.

Advanced Materials
Double-digit order and revenue growth into advanced materials applications were underpinned by them being the building blocks of modern society, enabling everything from the screens we watch and the cars we drive to the batteries that power our world. Of increasing importance is the pivotal role that advanced materials will play in enabling a sustainable, net zero future through their ability to transform product performance and providing a roadmap to the more sustainable use of our valuable and finite resources. All materials and products undergo some form of analysis, driving increasing demand for our market-leading product portfolio of imaging and analysis systems, which allows our customers to measure down to the nanoscale, optimising the performance and the subsequent economic production of these lighter, stronger and higher functioning materials across a diverse range of end applications.

The automotive industry is a good example of a market undertaking transformational change due to increasingly stringent emissions regulations and customer demand for higher electric vehicle range and improved safety. This drives the need for dramatic reductions in weight whilst also improving structural integrity, which is particularly relevant for electric and hybrid vehicles where lighter and stronger materials must offset the additional weight of the batteries. This is driving the increased use of carbon fibre composites and lightweight alloys, and new advanced steels. As such, there is significant investment into the understanding and control of composition and structure at the nanoscale, which enables the design of materials with performance tailored for the end application, such as stronger car safety cages or crash absorption crumple sections. Steel manufacturers are also investing in transforming their highly emission-intensive manufacturing processes, which contribute about 8% of global CO_2 emissions.

This is leading to further investment in the characterisation of nanostructures and precise composition of their products, supporting increased demand for our imaging and analysis systems. Our growth has been further supported by our new products which provide the ability to observe even smaller features, with dramatically faster throughput and ease of use, making them ideal for both research and development as well as QA and QC.

Another area of increasing focus is additive manufacturing, which is gaining both government and commercial impetus. The approach requires the creation of complex, strong and lightweight structures with optimised production methods which dramatically reduce material usage and waste.

Our electron microscopy products are helping researchers unlock the full potential of 3D printing, allowing them to quickly understand the microstructure impact of key properties ensuring they deliver the same performance as traditional materials, for example checking the risk of corrosion damage or the potential for a reduced lifetime of new products.

Our products are also used in the research and development of exotic new materials such as graphene-like structures, with the long-term goal of transforming the performance of next generation semiconductors and batteries.

Energy & Environment
Strong growth in the Energy & Environment segment for our analysis products has been underpinned by sustained investment within the global battery market and the continued recovery of markets such as forensics and environmental science, after reduced customer activity during the peak of the covid-related lockdowns.

Batteries play a key role in the transition from fossil fuels, enabling sustainable travel and providing efficient and affordable storage to complement renewable energy generation. This is driving continued investment into new, improved materials and battery structures in the pursuit of lower cost, higher performing, more environmentally friendly solutions.

As is the case for steels, battery performance is determined by the material properties at the nanoscale and how these change through the lifetime of charging cycles. This has led to strong growth across our Materials & Characterisation portfolio and investment into development and production control applications. Over the past few years, as a result of our market intimacy, we have supported this growing market by launching a tailored portfolio of solutions dedicated to the nuances of the battery market, from our new "Feature Express" product that reduces the time to identify contaminants by a factor of four, to our benchtop NMR and newly acquired Raman systems which characterise the performance of the analyte which enables the flow of charge across the battery. Our portfolio supports our customers' roadmaps, providing insights to give them a competitive edge and eliminating defects that compromise safety and performance.

In addition to the environmental impacts of global warming, reducing pollution remains a key part of a sustainable future. We have started to develop analysis solutions for this critical market, including our benchtop NMR systems which can measure the fats, oils and grease in wastewater, providing a cost-effective solution for environmental authorities and industries to monitor pollution releases into river and sewer systems as well as preventing harmful blockages.

Healthcare & Lifescience
We have continued to see strong growth in this segment, with dedicated solutions for the pharmaceutical industry. Our Raman imaging techniques are used to assess and ensure the safety and therapeutic effect of medications. This is further supported by our dedicated, regulatory-approved pharmaceutical software for our electron microscopy products, which screens for foreign body contamination within and on tablet surfaces. Our material characterisation tools are also being used to develop and monitor the performance of the increasing range and complexity of medical implants such as micro-sized stents and joint replacements, to understand the size and distribution of nanoscale precipitates that can cause a reaction.

Quantum Technology
We continue to see opportunities in quantum technology markets. Through the combination of our expertise in semiconductor processing and characterisation, and our intimacy with customers within the quantum market, we are providing compound semiconductor processing systems for the fabrication of high performing qubits and their subsequent characterisation.

RESEARCH & DISCOVERY

Key highlights

Orders
£133.9m
+15.7%
(2021: £115.7m)
Constant currency growth[1]
vs 2021: 19.6%

(vs 2020: 13.0%)

Revenue
£120.3m
+6.1%
(2021: £113.4m)
Constant currency growth[1]
vs 2021: 9.3%
(vs 2020: 6.9%)

Adjusted[2] operating profit
£21.3m
+9.2%
(2021: £19.5m)
Constant currency growth[1]
vs 2021: 10.5%
(vs 2020: 48.7%)

Adjusted[2] operating margin
17.7%
(2021: 17.2%)

Statutory operating profit
£15.0m
(2021: £13.1m)

1. For definition refer to note on page 1.
2. Details of adjusting items can be found in Note 1.

The sector, which comprises Andor Technology, NanoScience and X-Ray Technology, provides advanced solutions and technologies that enable imaging and analytical measurements down to the atomic and molecular level, as well as ultra-low temperature and high magnetic field environments, used across scientific research, applied R&D, and commercial applications.

Research & Discovery overview
There are a higher proportion of sales to academia and a growing proportion to commercial customers as we develop application-specific, easy-to-use solutions based on our high-end research orientated platforms.

Our imaging and analytical systems portfolio includes market-leading scientific cameras, confocal microscopes, spectrometers, lasers 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 in the development and advancement of quantum technologies.

A positive performance
The Research & Discovery sector delivered a good performance with double-digit order growth, good growth in revenue and improved profitability.

Positive market drivers led to increased demand, which, combined with our leading product portfolio and targeted product launches, have led to strong order growth relative to the previous year across each of our end markets. The exception being Research & Fundamental Science, which declined in the year due in part to our increased focus on higher value markets as well as slower customer activity in the period. Europe continued its first half recovery with particularly strong growth in the year, complemented by double-digit growth in both North America and Asia. This included strong order growth to academia with even stronger growth to commercial customers, with commercial customers growing to 33% of orders for the sector (2021: 26%).

The sector delivered strong constant currency revenue growth, up 9.3%. Supply chain challenges through the second half of the year and ongoing customer site restrictions hindered revenue despite strong demand and impacted regional profiles.

This resulted in strong growth in North America and Asia, with Europe improving in the second half and ending in line with the previous year. Revenue grew strongly to both academic and commercial customers, with the proportion to commercial customers only increasing slightly to 26% (2021: 25%) due to the phasing of delivery of the orders.

From an end market perspective, Healthcare & Lifescience represented 37% of revenue, with Advanced Materials and Quantum Technology 23% and 21% respectively. Research & Fundamental Science fell to 14%, with Semiconductor & Communications and Energy & Environment representing 4% and 1% of revenue respectively.

The book-to-bill ratio of 1.11 led to a 12.9% increase in the order book for future deliveries to £108.7m (2021: £96.2m).

Profitability for the sector was further enhanced in the period with adjusted operating profit increasing to £21.3m (2020: £19.5m), representing an adjusted operating margin of 17.7% (2020: 17.2%). This was supported by the continued realisation of tangible gains through our Horizon strategy despite considerable inflationary headwinds.

Healthcare & Lifescience

The positive momentum of the first half continued with increased demand and strong double-digit order growth in the year. This was supported by an increasing number of customer sites re-opening and recommencing programmes after temporary covid-related closures in the previous year. Long-term market growth drivers, such as a focus on improving the health and wellbeing of society, driven by an ageing population and an increased focus on improved and cost-effective healthcare provision, also strengthened. The emergence of covid showed that understanding fundamental disease mechanisms at a molecular level and using this knowledge to rapidly develop effective treatments transformed the global approach to dealing with a pandemic. Our products and technologies have been key to this and are being increasingly applied by our customers to accelerate similar transformations across a range of conditions including cancer, Alzheimer's, cystic fibrosis and diabetes. This has supported strong growth in supply to the research community of our imaging solutions and scientific camera portfolio. Furthermore, we have seen strong growth into the broader life science and pharma markets through our strategic OEM partnerships where our key enabling technologies sit at the heart of their products; for example, gene sequencers and 3D micro-CT scanners, which are increasingly being used to undertake breast cancer screening as well as biopsy sample analysis.

Through our market intimacy focus, we have continued to develop solutions and key enabling technologies that specifically address the needs of customers in cell biology, neuroscience, immunology and personalised medicine.

Our new benchtop microscopy system, BC43, has been designed to provide research grade capability, with unprecedented ease of use at a much more affordable price point. This is already proving popular with those working in early cancer research by dramatically improving productivity and the understanding of cell dynamics and response to stimuli. The new details and insights that our products facilitate are accelerating personalised treatment plans, which will deliver optimal outcomes for cancer patients and those battling other debilitating conditions such as cystic fibrosis.

In addition to the success of BC43, our Dragonfly portfolio has continued to grow, and is targeting the most challenging of applications as well as central research facilities, where several different teams utilise the equipment. Its ability to undertake high-speed imaging over and through large samples with unprecedented resolution has supported particularly strong growth into cell biology and neuroscience applications.

In the year we had a reduction in sales to covid-related applications, such as on chip diagnostic testing and screening, and are now seeing volumes similar to the pre-covid era.

Quantum Technology

The quantum market continues its evolution into applied R&D and more commercial applications with growing investment across governments and increasingly commercial organisations such as Google, Amazon, IBM and a plethora of smaller enterprises. The driver continues to be the realisation of the potential and increasing likelihood that quantum computers could radically disrupt existing markets such as pharmaceuticals, logistics and financial services, as well as providing the ability to maintain long-term data security. This is leading to an increase in research and development investment as nations and corporates seek to gain leadership positions as well as an emerging commercial cloud-based quantum computing market and ecosystem with pay-per-use services.

This has supported strong growth across our portfolio of cryogenic platforms and scientific cameras. Thanks to our strong collaborations with many of the key players in the market, we can use the insights gained to develop solutions tailored for the specific needs of customers. This ranges from rapid exchange systems enabling a tenfold increase in productivity for qubit development through to highly stable platforms for commercial quantum computers and high-speed cameras for secure communication applications.

We remain well positioned to support the growth of this exciting market and are building our plans for future products to enable our customers' roadmaps.

Advanced Materials

Strong growth in the Advanced Materials segment reflects increased investment and customer demand to explore and characterise the more fundamental properties of materials for a broad range of applications from sensors, semiconductors, and batteries. This has led to increased demand for our materials analysis systems which combine ultra-low temperatures and high magnetic fields environments, allowing researchers to fully characterise the fundamental properties of existing materials and gain the necessary insights to design future candidates that will transform markets and create new possibilities. To support our evolving market, we have developed easier to operate systems with increased automation and data analytics capabilities to improve productivity and broaden the accessibility of the product. We also received increased demand for our scientific cameras and optical spectrometers to customers developing more efficient catalysts and new chemicals.

Energy & Environment
In the year we saw strong order growth for our scientific cameras across a range of applications in this segment. This included a recovery in OEM demand for airport security scanners after being heavily subdued during the travel restrictions of the past few years, and our ultrafast cameras that are used to study and optimise the critical phases of nuclear fusion experiments. Due to the timing of orders, revenue remained extremely low in the year.

Research & Fundamental Science
The Research & Fundamental Science market has been subdued in recent years, especially for those programmes that have required multi-institution and international collaboration. This, combined with our own decision to accept fewer orders for one-off specialised cryogenic and high magnetic field systems that do not benefit our own product roadmap or margin expectations, led to a decline in orders and revenue in the year. Within these parameters we continue to see a healthy forward-looking pipeline for our portfolio across a broad range of research themes including astronomy, chemistry, and physics.

Within astronomy, our Balor large area camera is being used on the Extremely Large Telescope (ELT) in Chile to align the mirrors to ensure precision measurements. The ELT is the largest ground-based telescope in the world and will gather a billion times more light than the human eye. It will help tackle some of the greatest scientific challenges today, including the search for other earth-like planets and measuring the properties of the earliest stars and galaxies.

SERVICE & HEALTHCARE

Key highlights

Orders
£70.0m
+11.1%
(2021: £63.0m)
Constant currency growth[1]
vs 2021: 16.0%
(vs 2020: 29.3%)

Revenue
£61.5m
+8.8%
(2021: £56.5m)
Constant currency growth[1]
vs 2021: 13.5%
(vs 2020: 20.6%)

Adjusted[2] operating profit
£18.9m
+11.8%
(2021: £16.9m)
Constant currency growth[1]
vs 2021: 19.3%
(vs 2020: 34.5%)

Adjusted[2] operating margin
30.7%
(2021: 29.9%)

Statutory operating profit
£18.9m
(2021: £16.9m)

1. For definition refer to note on page 1.
2. Details of adjusting items can be found in Note 1.

The Service & Healthcare sector comprises the Group's service and support products related to Oxford Instruments' own products, and the support and service of third-party MRI scanners in Japan.

Service & Healthcare overview
The sector delivered continued strong order, revenue and increased profitability, driven by the service activities related to our products, with orders and revenues related to the service of third-party MRI systems broadly in line with the previous year.

With customer support being more highly appreciated than it ever has been before, our service transformation programme provides the opportunity to create significant additional customer value, support our expansion into commercial markets, and provide meaningful growth and margin enhancement for the Group. We made excellent progress with our transformational programme in the year, which underpinned constant currency order growth of 19% for services related to our own products, with strong double-digit growth in Europe, North America and Asia, and into both academic and commercial customers. Revenue growth, as was the case for the other sectors, was restricted by supply chain challenges in the year. Adjusted operating margin increased to 30.8% (2021: 29.9%) despite significant investments in our service infrastructure.

As part of our service transformation, we utilised our deep market knowledge to develop a portfolio of tailored service offerings for specific end markets, customer types and regions that better address the full life cycle use of our products, creating value linked to their specific situation and workflows. This included building on our digital and remote service capabilities, with connectivity across our products increasing response times and enabling us to reach customers that have previously been difficult to support effectively because of their location. We have also developed digital analytics packages which are providing actional insights for end users and OEM partners, increasing productivity and efficiency.

Secondly, we have also adopted a flexible approach to service bundling to better address our full install base by optimising the service elements that create value for individual customers. As an example, our self-sufficiency packages that are designed to provide fast response and parts guarantees have driven strong growth to production customers with their own in-house support teams.

Thirdly, building on our positive experiences throughout the pandemic we have transitioned to a regionally led service model, where our global processes are implemented and delivered locally. By exploiting synergies across our local teams, investing in digital infrastructure and cross-product training for our field engineers, we can respond more quickly to our customer requests and improve our efficiency whilst dramatically reducing our travel footprint.

FINANCE REVIEW

We delivered a strong financial performance with growth in orders, revenue and underlying cash flow. We have increased capital investment and maintained a robust balance sheet and enter the new financial year with a healthy order book.

Summary

Oxford Instruments 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 items; other significant non-recurring items; and the mark-to-market movement of financial derivatives. All of these are included in the statutory figures. Note 1 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 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 19.6% to £423.1m (2021: £353.7m), an increase of 19.9% at organic constant currency. At the end of the period, the Group's order book for future deliveries stood at £260.2m (31 March 2021: £198.0m). The order book grew 31.4% on a reported basis and 26.6% at organic constant currency.

Reported revenue increased by 15.3% to £367.3m (2021: £318.5m). Organic revenue, excluding currency effects, increased by 14.5%, with the movement in average currency exchange rates over the year reducing reported revenue by £12.4m.

Adjusted operating profit increased by 16.9% to £66.3m (2021: £56.7m). Organic adjusted operating profit, excluding currency effects, increased by 15.2%, with a currency headwind in the year of £1.9m. Adjusted operating margin increased by 30 basis points to 18.1% (2021: 17.8%). Excluding currency effects, adjusted operating margin increased by 20 basis points to 18.0%.

Statutory operating profit includes the amortisation of acquired intangibles of £9.5m, acquisition-related costs of £0.4m, a margin adjustment relating to the sale of WITec inventories in the period of £1.7m, and a charge of £6.4m relating to unwind of the brought forward financial derivative asset.Statutory operating profit of £48.3m (2021: £53.0m) fell by 8.9%, principally due to the mark-to-market charge on currency hedges relative to a large credit the previous year.

Adjusted profit before tax grew by 17.9% to £65.9m (2021: £55.9m), representing a margin of 17.9% (2021: 17.6%).

Statutory profit before tax fell by 8.8% to £47.6m (2021: £52.2m), following the non-cash uncrystallised charge on currency hedges and increase in amortisation of acquired intangibles following the acquisition of WITec. This represents a margin of 13.0% (2021: 16.4%).

Adjusted basic earnings per share grew by 20.0% to 94.3p (2021: 78.6p). Basic earnings per share were 67.1p (2021: 72.8p), a decline of 7.8%.

Cash from operations of £58.4m (2021: £49.7m) represents 72% (2021: 101%) cash conversion. During the year, we incurred expenditure of £7.4m on the construction of our new semiconductor facility near Bristol; cash conversion on a normalised basis that excludes this expenditure was 84%. Net cash decreased from £97.6m on 31 March 2021 to £85.9m on 31 March 2022, after the €37.0m initial consideration for the acquisition of WITec.

At the end of March, our revolving credit facility remained undrawn, leaving approximately £103m of committed facilities. This represents total headroom of just under £190m.

Income Statement

The Group's Income Statement is summarised below.

	Year ended 31 March 2022 £m	Year ended 31 March 2021 £m	Change
Revenue	**367.3**	318.5	+15.3%
Adjusted operating profit	**66.3**	56.7	+16.9%
Amortisation of acquired intangible assets	**(9.5)**	(8.4)	
Non-recurring items	**(2.1)**	(1.7)	
Mark-to-market of currency hedges	**(6.4)**	6.4	
Statutory operating profit	**48.3**	53.0	(8.9%)
Net finance costs[1]	**(0.7)**	(0.8)	
Adjusted profit before taxation	**65.9**	55.9	+17.9%
Statutory profit before taxation	**47.6**	52.2	(8.8%)
Adjusted effective tax rate	**17.8%**	19.3%	
Effective tax rate	**18.9%**	19.9%	
Adjusted earnings per share – basic	**94.3p**	78.6p	+20.0%
Earnings per share – basic	**67.1p**	72.8p	(7.8%)
Dividend per share (total)	**18.1p**	17.0p	+6.5%

1. Net finance costs for 2022 include a non-cash charge of £0.3m against the unwind of discount on WITec contingent consideration.

Revenue and orders

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

Reported revenue of £367.3m (2021: £318.5m) increased by 15.3% (+14.5% at organic constant currency). Reported revenue grew by 24.8% for Materials & Characterisation (+18.9% at organic constant currency), with strong growth for our electron microscope analysers and semiconductor processing tools. Good demand for our optical imaging and microscopy systems, and cryogenic and complex magnets as we progress with fulfilment of the large order from the Institute of Physics in China, resulted in reported revenue growth for Research & Discovery of 6.1% (+9.3% at constant currency). Revenue growth from service of our own products resulted in reported growth of 8.8% (+13.5% at constant currency) for Service & Healthcare.

Total reported orders grew by 19.6% (+19.9% at organic constant currency) to £423.1m. Reported orders grew by 25.3% (+21.5% at organic constant currency) for Materials & Characterisation and by 15.7% (+19.6% at constant currency) for Research & Discovery. Service & Healthcare increased by 11.1% (+16.0% at constant currency).

The book-to-bill ratio (orders received to goods and services billed in the period) for the year was 115% (2021: 111%).

On a geographical basis, revenue grew by 2.1% in Europe (down 2.2% at organic constant currency), impacted by fewer shipments of semiconductor process tools due to supply constraints, in addition to a strategic move away from tenders with high-configured systems. Organic constant currency orders grew by 14.9%.

Revenue for North America increased by 10.7% on a reported basis and by 12.3% at organic constant currency, with good demand for our electron microscope analysers, and imaging and microscopy products. Orders grew by 22.8% at organic constant currency, with strong demand across the breadth of our product portfolio.

Asia delivered strong growth of 25.6% (+25.6% at organic constant currency) with strong demand for our electron microscope analysers, semiconductor processing tools, and cryogenic systems. Asia remains our largest region by revenue, with China constituting

55% of regional revenue and 28% of total Group revenue. Orders for the region at organic constant currency grew by 21.5%, driven by demand for electron microscope analysers, semiconductor processing tools, and our imaging and microscopy products.

Geographic revenue growth

£m	**2021/22 £m**	**2021/22 % of total**	2020/21 £m	2020/21 % of total	**Change £m**	**% growth**	**% growth at constant currency**	**% organic growth constant currency**
Europe	**89.0**	**24%**	87.2	27%	**+1.8**	**2.1%**	**5.5%**	**(2.2%)**
North America	**84.9**	**23%**	76.7	24%	**+8.2**	**10.7%**	**14.6%**	**12.3%**
Asia	**188.6**	**51%**	150.2	47%	**+38.4**	**25.6%**	**29.6%**	**25.6%**
Rest of World	**4.8**	**2%**	4.4	2%	**+0.4**	**9.1%**	**18.2%**	**11.4%**
	367.3	**100%**	318.5	100%	**+48.8**	**15.3%**	**19.2%**	**14.5%**

The total reported order book grew by 31.4% (26.6% at organic constant currency). The order book, at organic constant currency, compared to 31 March 2021, increased by 45.2% for Materials & Characterisation, with strong growth across all constituent businesses. Strong order growth in the final quarter means that related shipments are scheduled to be made in the 2022/23 financial year, the timing of which will be subject to timely deliveries of components. Research & Discovery grew by 12.9% (+12.3% at constant currency), with strong demand for our imaging and microscopy products and X-ray tubes. Supply chain disruption has led to slower order conversion than would normally be expected, placing upward pressure on the order book. Continued focus on own product service resulted in growth of 29.5% (+26.6% at constant currency) from Service & Healthcare.

£m	Materials & Characterisation	Research & Discovery	Service & Healthcare	Total
Revenue: 2020/21	148.6	113.4	56.5	318.5
Constant currency growth	28.1	10.6	7.6	46.3
Revenue at organic constant currency: 2020/21	176.7	124.0	64.1	364.8
Acquisition	14.9	—	—	14.9
Currency	(6.1)	(3.7)	(2.6)	(12.4)
Revenue: 2021/22	**185.5**	**120.3**	**61.5**	**367.3**
Revenue growth: reported	24.8%	6.1%	8.8%	15.3%
Revenue growth: organic constant currency	18.9%	9.3%	13.5%	14.5%

Gross profit

Gross profit grew by 14.0% to £187.8m (2021: £164.8m), representing a gross profit margin of 51.1%, a reduction of 60 basis points over last year, due to increases to component costs, particularly for electronics.

Adjusted operating profit and margin

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

Adjusted operating profit increased by 16.9% to £66.3m (2021: £56.7m), representing an adjusted operating profit margin of 18.1%, an increase of 30 basis points against last year. At constant currency, the adjusted operating profit margin was 18.0%, an increase of 20 basis points.

Reported Materials & Characterisation adjusted operating profit increased by 28.6% (+16.1% at organic constant currency) with reported margin increasing by 40 basis points to 14.1% (2021: 13.7%). This was attributable to a revenue scale benefit from our higher-margin imaging and analysis systems, and the partial release of a warranty provision on a particular product in their portfolio where the liability is less than originally anticipated. Supply chain disruption led to a weaker than expected performance from our scanning probe microscopy business.

Research & Discovery's adjusted operating margin increased to 17.7% (2021: 17.2%), growth of 50 basis points. At constant currency, the margin was 17.4%, an increase of 20 basis points, supported by a strong improvement in margin from our X-Ray Technology business.

Service & Healthcare margin increased by 80 basis points to 30.7% (2021: 29.9%). At constant currency, the margin was 31.5%, an increase of 160 basis points owing to our focus on improving service revenue on our own products.

Currency effects (including the impact of transactional currency hedging) have reduced reported adjusted operating profit by £1.9m when compared to blended hedged exchange rates for the comparative period.

£m	Materials & Characterisation	Research & Discovery	Service & Healthcare	Total

Adjusted operating profit: 2020/21	20.3	19.5	16.9	56.7
Constant currency growth	3.3	2.1	3.2	8.6
Adjusted operating profit at organic constant currency: 2020/21	23.6	21.6	20.1	65.3
Acquisition	2.9	—	—	2.9
Currency	(0.4)	(0.3)	(1.2)	(1.9)
Adjusted operating profit: 2021/22	**26.1**	**21.3**	**18.9**	**66.3**
Adjusted operating margin[1]: 2020/21	13.7%	17.2%	29.9%	17.8%
Adjusted operating margin[1]: 2021/22	14.1%	17.7%	30.7%	18.1%
Adjusted operating margin[1] (constant currency): 2021/22	13.8%	17.4%	31.5%	18.0%

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 fell by 8.9% to £48.3m (2021: £53.0m), representing an operating profit margin of 13.2%. Statutory operating profit is after the amortisation and impairment of acquired intangible assets; acquisition items; other significant non-recurring items; and the mark-to-market of financial derivatives. The reduction in statutory operating profit is principally due to a large charge arising from the movement in the mark-to market valuation on financial derivatives.

Adjusting items

Amortisation of acquired intangibles of £9.5m relates to intangible assets recognised on acquisitions, being the value of technology, customer relationships and brands. The increase in the charge from last year reflects the intangibles recognised following the acquisition of WITec.

Non-recurring items comprise £0.4m of professional fees on the acquisition of WITec. In addition, a charge of £1.7m has been taken that eliminates the profit arising in the acquired WITec business from revaluing 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 24 months forward from the end of the next reporting period. The Group policy is to have in place at the beginning of the financial year hedging instruments to cover up to 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 year this amounted to a charge of £6.4m (2021: £6.4m credit). The movement from a large net asset to a small net liability for derivative financial instruments over the year reflects: (i) the crystallisation of forward contracts that were hedging the 2021/22 financial year, which are recognised in adjusted operating profit; and 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 contracts that will mature over the next eighteen months. The mark-to-market valuation of financial derivatives that are hedging contracts that will mature over the next eighteen months is a liability of £0.4m.

Net finance costs

The Group's adjusted net interest costs (excluding credit on pension scheme net assets) fell by £0.9m to £0.8m (2021: £1.7m), principally due to the repayment of private placement notes at the previous year end. An interest credit on pension scheme net assets of £0.4m (2021: £0.9m) arising from the pension surplus brings net finance charges to £0.4m (2021: £0.8m). In addition, we recorded in financial expenditure a non-cash charge of £0.3m against the unwind of discount on WITec contingent consideration.

Adjusted profit before tax and margin

Adjusted profit before tax increased by 17.9% to £65.9m (2021: £55.9m). The adjusted profit before tax margin of 17.9% (2021: 17.6%) 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	**Year ended 31 March 2022 £m**	Year ended 31 March 2021 £m
Statutory profit before tax	**47.6**	52.2
Add back:		
Amortisation of acquired intangible assets	**9.5**	8.4
Non-recurring items (Note 1)	**2.4**	1.7
Mark-to-market of currency hedges	**6.4**	(6.4)
Adjusted profit before tax	**65.9**	55.9

Statutory profit before tax and margin

Statutory profit before tax decreased by 8.8% to £47.6m (2021: £52.2m). Statutory profit before tax is after the amortisation and impairment of acquired intangible assets; acquisition items; other significant non-recurring items; and the mark-to-market of financial derivatives. The statutory profit before tax margin of 13.0% (2021: 16.4%) was below last year, principally due to the charge from the mark-to market valuation movement on financial derivatives.

Taxation

The adjusted tax charge of £11.7m (2021: £10.8m) represents an effective tax rate of 17.8% (2021: 19.3%). The tax charge of £9.0m (2021: £10.4m) represents an effective tax rate of 18.9% (2021: 19.9%). The reduction in tax rate reflects a prior year adjustment, primarily relating to the recognition of patent box claims in respect of sales prior to the grant of the patent.

Earnings per share

Adjusted basic earnings per share increased by 20.0% to 94.3p (2021: 78.6p); adjusted diluted earnings per share grew by 19.8% to 93.0p (2021: 77.6p). Basic earnings per share decreased by 7.8% to 67.1p (2021: 72.8p); diluted earnings per share fell by 7.9% to 66.2p (2021: 71.9p).

The number of undiluted weighted average shares increased to 57.5m (2021: 57.4m).

Currency

The Group faces transactional and translational currency exposure, most notably against the US Dollar, Euro and Japanese Yen. For the year, approximately 23% of Group revenue was denominated in Sterling, 44% in US Dollars, 20% in Euros, 10% 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 full year is summarised below.

£m (equivalent)	Revenue	Adjusted operating profit
Sterling	85.2	(57.2)
US Dollar	162.7	58.7
Euro	74.8	41.1
Japanese Yen	36.6	21.7
Chinese Renminbi	5.8	0.8
Other	2.2	1.2
	367.3	**66.3**

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 twelve to 24 months. As at 31 March 2022, the Group had currency hedges in place extending up to 18 months forward.

For the full year 2022/23, our assessment of the currency impact is, based on hedges currently in place and forecast currency rates, a tailwind of £5.1m to revenue, and headwind of £4.0m to profit. Forecast currency rates on unhedged positions for the full year are – GBP:USD 1.28; GBP:EUR 1.20; GBP:JPY 163. The headwind to operating profit is due to stronger Sterling currency rates achieved on hedges in place for 2022/23 and unhedged transactional exposures, against hedges that crystallised in 2022/21. This adverse impact to operating profit is partially mitigated by a gain due to weaker blended Sterling currency rates on unhedged transactional and translational exposures against actual currency rates achieved in 2021/22. All currency impacts are prior to mitigating pricing and cost actions. Uncertain volume and timing of shipments and acceptances, currency mix and rate volatility may significantly affect full-year currency forecast effects.

Looking further ahead to the financial year 2023/24, based on the above currency assumptions, we would expect currency effects to have a neutral impact to revenue and a £1.9m benefit to operating profit.

Acquisition of WITec

On 31 August 2021, the Group completed the purchase of 100% of the share capital in WITec for an initial consideration of €37.0m. Additional consideration of up to €5m is conditional on trading performance over a period of twelve months following completion. Based on current forecasts, this payment is expected to be made in full. During the period under ownership, the business contributed constant currency revenue of £14.9m and an operating profit of £2.9m.

Dividend

The Group's policy on the dividend takes into account changes to underlying earnings, dividend cover, movements in currency and demands on our cash. After a resilient year of trading, the Board has proposed a final dividend of 13.7p per share. This results in a total dividend of 18.1p per share, growth of 6.5%. An interim dividend of 4.4p per share was paid on 14 January 2022. The final dividend will be paid, subject to Shareholder approval, on 23 August 2022 to Shareholders on the register as at 15 July 2022.

Cash flow

The Group cash flow is summarised below.

	Year ended 31 March 2022 £m	Year ended 31 March 2021 £m
Adjusted operating profit	**66.3**	56.7
Depreciation and amortisation	**9.4**	9.1
Adjusted[1] EBITDA	**75.7**	65.8
Working capital movement	**(11.8)**	(2.7)
Equity settled share schemes	**2.1**	1.8
Non-recurring items	—	0.3
Pension scheme payments above charge to operating profit	**(7.6)**	(15.5)
Cash from operations	**58.4**	49.7
Interest	**(0.5)**	(1.6)
Tax	**(8.8)**	(6.3)
Capitalised development expenditure	**(0.7)**	(0.9)
Expenditure on tangible and intangible assets	**(13.9)**	(4.0)
Acquisition of subsidiaries, net of cash acquired	**(30.6)**	—
Acquisition-related cost	**(0.4)**	—
Dividends paid	**(12.3)**	—
Proceeds from issue of share capital and exercise of share options	**0.1**	0.2
Payments made in respect of lease liabilities	**(3.4)**	(2.8)
Decrease in borrowings	**(0.1)**	(27.9)
Net (decrease)/increase in cash and cash equivalents from continuing operations	**(12.2)**	6.4

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 of £58.4m (2021: £49.7m) represents 72% (2021: 101%) cash conversion. Cash conversion on a normalised basis was 84% once we exclude expenditure relating to our new semiconductor facility. Cash conversion is defined as cash from operations before business reorganisation costs and pension scheme payments above charge to operating profit, less capitalised development expenditure, capital expenditure and payments made in respect of lease liabilities, divided by adjusted operating profit.

Reconciliation of cash generated from operations to adjusted operating cash flow	Year ended 31 March 2022 £m	Year ended 31 March 2021 £m
Cash from operations	**58.4**	49.7
Add back/(Deduct):		
Non-recurring items	—	(0.3)
Pension scheme payments above charge to operating profit	**7.6**	15.5
Capitalised development expenditure	**(0.7)**	(0.9)
Expenditure on tangible and intangible assets	**(13.9)**	(4.0)
Payments made in respect of lease liabilities	**(3.4)**	(2.8)
Adjusted cash from operations	**48.4**	57.2
Cash conversion % (adjusted cash from operations/adjusted operating profit)	**72%**	101%
Cash conversion % (normalised[1])	**84%**	102%

1. Cash conversion calculated on a normalised basis excludes expenditure in the year of £7.4m (2021: £0.8m) on the new semiconductor facility.

Working capital increased by £11.8m with receivables increasing by £21.6m. The receivables movement reflects the high number of orders, shipments and acceptances in the final month of the year compared to last year, particularly with reference to high-value semiconductor process systems, resulting in an increase in invoicing against customer deposits, installation and acceptances. This was partially offset by a reduction in payables and customer deposits of £9.9m. Business growth and post-Brexit transit flows have also resulted in higher VAT balances in receivables and payables.

Interest

Net interest paid was £0.5m (2021: £1.6m), the reduction reflecting the repayment of private placement notes at the end of the last financial year.

Tax

Tax paid was £8.8m (2021: £6.3m).

Investment in Research and Development (R&D)

Total cash spend on R&D in the year was £31.7m, equivalent to 8.6% of sales (2021: £28.9m, 9.1% of sales). A reconciliation between the adjusted amounts charged to the Consolidated Statement of Income and the cash spent is given below:

	Year ended 31 March 2022 £m	Year ended 31 March 2021 £m
R&D expense charged to the Consolidated Statement of Income	**32.8**	30.0
Depreciation of R&D-related fixed assets	**(0.2)**	(0.1)
Amounts capitalised as fixed assets	**0.3**	0.6
Amortisation and impairment of R&D costs capitalised as intangibles	**(1.9)**	(2.5)
Amounts capitalised as intangible assets	**0.7**	0.9
Total cash spent on R&D during the year	**31.7**	28.9

Net cash and funding

Net cash

Cash from operations in the full year was offset by the payment of initial consideration for the acquisition of WITec, resulting in a decrease in the Group's net cash position from £97.6m at 31 March 2021 to £85.9m on 31 March 2022. The Group invested in capitalised development costs of £0.7m and tangible and intangible assets of £13.9m, of which £7.4m relates to payments associated with the new semiconductor facility under construction.

Up to 31 March 2022, we had incurred costs of £8.2m on the new semiconductor facility under construction. For the financial year ended 31 March 2023, we expect additional payments of approximately £25m to complete the facility. We are at the early stage of a process to sell the current site, with completion expected in the 2023/24 financial year.

Movement in net cash	£m
Net cash after borrowings as at 31 March 2021	97.6
Cash generated from operations	58.4
Interest	(0.5)
Tax	(8.8)
Capitalised development expenditure	(0.7)
Capital expenditure on tangible and intangible assets	(6.5)
Capital expenditure on new semiconductor facility	(7.4)
Acquisition of subsidiaries (net of cash and debt)	(30.6)
Dividend paid	(12.3)
Other items	(3.3)
Net cash after borrowings as at 31 March 2022	**85.9**

Net cash including lease liabilities	Year ended 31 March 2022 £m	Year ended 31 March 2021 £m
Net cash after borrowings	**85.9**	97.6
Lease liabilities	**(18.4)**	(7.5)
Net cash and lease liabilities after borrowings	**67.5**	90.1

Return on capital employed (ROCE)

ROCE measures effective management of capital employed relative to the profitability of the business. ROCE is calculated as adjusted operating profit less amortisation of intangible assets divided by average capital employed. Capital employed is defined as assets (excluding cash, pension, tax and derivative assets) less liabilities (excluding tax, debt and derivative liabilities). Average capital employed is defined as the average of the closing balance at the current and prior year end. ROCE has risen to 34.7%, with the change principally reflecting a higher level of earnings.

Return on capital employed	Year ended 31 March 2022 £m	Year ended 31 March 2021 £m
Adjusted operating profit	**66.3**	56.7
Amortisation of acquired intangible assets	**(9.5)**	(8.4)
Adjusted operating profit after amortisation of acquired intangible assets	**56.8**	48.3
Property, plant and equipment	**31.7**	21.1
Right-of-use assets	**17.9**	7.3
Intangible assets	**140.7**	122.6
Inventories	**65.3**	58.7
Trade and other receivables	**104.7**	75.6
Non-current lease payables	**(14.9)**	(4.9)
Non-current provisions	**(0.1)**	(0.7)
Trade and other payables	**(149.5)**	(126.1)
Current lease payables	**(3.5)**	(2.6)
Current provisions	**(7.7)**	(8.7)

Capital employed	**184.6**	142.3
Average capital employed	**163.5**	147.8
Return on capital employed (ROCE)	**34.7%**	32.7%

Return on invested capital (ROIC)

ROIC measures the after-tax return on the total capital invested in the business. It is calculated as adjusted operating profit after tax divided by average invested capital. Invested capital is total equity less net cash, including lease liabilities. Average invested capital is defined as the average of the closing balance at the current and prior year end. Oxford Instruments aims to deliver high returns, measured by a return on capital in excess of our weighted average cost of capital. ROIC increased slightly on the previous year due to the improvement in operating profit and reduction in taxation rates, more than offsetting any dilution in ROIC from the recent acquisition.

Return on invested capital	**Year ended 31 March 2022 £m**	Year ended 31 March 2021 £m
Adjusted operating profit	**66.3**	56.7
Taxation	**(11.7)**	(10.8)
Adjusted operating profit after taxation	**54.6**	45.9
Total equity	**316.4**	266.2
Net cash (including lease liabilities)	**(67.5)**	(90.1)
Invested capital	**248.9**	176.1
Average invested capital	**212.5**	184.4
Return on invested capital (ROIC)	**25.7%**	24.9%

Funding

On 2 July 2018, the Group entered into an unsecured multi-currency revolving facility agreement, which is committed until June 2025. 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 (£61m).

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 2022 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 31 March 2022 was £51.7m (2021: £16.3m). The value of scheme assets increased to £351.7m (2021: £340.2m). Scheme liabilities decreased to £300.0m (£323.9m), principally due to an increase in the discount rate from 2.1% to 2.8%. This was offset slightly by an increase in the inflation assumption, from 3.0% to 3.4%.

Pension recovery payments above charge to operating profit total £7.6m (2021: £15.5m). The comparative period included a one-off contribution of £8.1m to the UK defined benefit pension scheme, in addition to the annual recovery payments.

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, for the scheme to achieve self-sufficiency. In 2022, these contributions amounted to £8.0m. 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 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 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 currency 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
Chief Financial Officer

13 June 2022

CONSOLIDATED STATEMENT OF INCOME
Year ended 31 March 2022

		2022			2021		
			Adjusting			Adjusting	
		Adjusted	items[1]	Total	Adjusted	items[1]	Total
	Note	£m	£m	£m	£m	£m	£m
Revenue	3	**367.3**	**—**	**367.3**	318.5	—	318.5
Cost of sales		**(179.5)**	**—**	**(179.5)**	(153.7)	—	(153.7)
Gross profit		**187.8**	**—**	**187.8**	164.8	—	164.8
Research and development	5	**(32.8)**	**—**	**(32.8)**	(30.0)	(1.3)	(31.3)
Selling and marketing		**(52.5)**	**—**	**(52.5)**	(44.5)	—	(44.5)
Administration and shared services		**(42.2)**	**(11.6)**	**(53.8)**	(34.5)	(8.8)	(43.3)
Foreign exchange gain/(loss)		**6.0**	**(6.4)**	**(0.4)**	0.9	6.4	7.3
Operating profit		**66.3**	**(18.0)**	**48.3**	56.7	(3.7)	53.0
Interest credit on pension scheme net assets		**0.4**	**—**	**0.4**	0.9	—	0.9
Other financial income		**0.1**	**—**	**0.1**	0.2	—	0.2
Financial income	7	**0.5**	**—**	**0.5**	1.1	—	1.1
Financial expenditure	8	**(0.9)**	**(0.3)**	**(1.2)**	(1.9)	—	(1.9)
Profit/(loss) before income tax	3	**65.9**	**(18.3)**	**47.6**	55.9	(3.7)	52.2
Income tax (expense)/credit	12	**(11.7)**	**2.7**	**(9.0)**	(10.8)	0.4	(10.4)
Profit/(loss) for the year attributable to equity Shareholders of the parent		**54.2**	**(15.6)**	**38.6**	45.1	(3.3)	41.8
Earnings per share		**pence**		**pence**	pence		pence
Basic earnings per share	2						
From profit for the year		**94.3**		**67.1**	78.6		72.8
Diluted earnings per share	2						
From profit for the year		**93.0**		**66.2**	77.6		71.9
Dividends per share	13						
Dividends paid				**21.4**			—
Dividends proposed				**13.7**			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 1.

The attached notes form part of these Financial Statements.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
Year ended 31 March 2022

	2022	2021
	£m	£m
Profit for the year	**38.6**	41.8
Other comprehensive income/(expense):		
Items that may be reclassified subsequently to Consolidated Statement of Income		
Foreign exchange translation differences	**1.0**	(4.9)
Items that will not be reclassified to Consolidated Statement of Income		
Remeasurement gain/(loss) in respect of post-retirement benefits	**27.3**	(30.8)
Tax (charge)/credit on items that will not be reclassified to Consolidated Statement of Income	**(6.8)**	5.5
Total other comprehensive income/(expense)	**21.5**	(30.2)
Total comprehensive income for the year attributable to equity Shareholders of the parent	**60.1**	11.6

CONSOLIDATED STATEMENT OF FINANCIAL POSITION
As at 31 March 2022

	Note	**2022** **£m**	2021 £m
Assets			
Non-current assets			
Property, plant and equipment	14	**31.7**	21.1
Right-of-use assets	29	**17.9**	7.3
Intangible assets	15	**140.7**	122.6
Derivative financial instruments	22	**—**	1.1
Retirement benefit asset	25	**51.7**	16.3
Deferred tax assets	16	**13.7**	13.1
		255.7	181.5
Current assets			
Inventories	17	**65.3**	58.7
Trade and other receivables	18	**104.7**	75.6
Current income tax receivable		**0.8**	1.9
Derivative financial instruments	22	**1.0**	5.0
Cash and cash equivalents	19	**96.4**	128.0
		268.2	269.2
Total assets		**523.9**	450.7
Equity			
Capital and reserves attributable to the Company's equity Shareholders			
Share capital	23	**2.9**	2.9
Share premium		**62.5**	62.4
Other reserves		**0.2**	0.2
Translation reserve		**7.6**	6.6
Retained earnings		**243.2**	194.1
		316.4	266.2
Liabilities			
Non-current liabilities			
Bank loans	24	**1.3**	—
Lease payables	29	**14.9**	4.9
Derivative financial instruments	22	**0.3**	—
Provisions	28	**0.1**	0.7
Deferred tax liabilities	16	**15.4**	4.9
		32.0	10.5
Current liabilities			
Bank loans and overdrafts	24	**9.2**	30.4
Trade and other payables	26	**149.5**	126.1
Lease payables	29	**3.5**	2.6
Current income tax payables		**4.5**	6.2
Derivative financial instruments	22	**1.1**	—
Provisions	28	**7.7**	8.7
		175.5	174.0
Total liabilities		**207.5**	184.5
Total liabilities and equity		**523.9**	450.7

The Financial Statements were approved by the Board of Directors on 13 June 2022 and signed on its behalf by:

Ian Barkshire
Director

Gavin Hill
Director

Company number: 775598

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
Year ended 31 March 2022

	Share capital	Share premium	Other reserves	Translation reserve	Retained earnings	Total
	£m	£m	£m	£m	£m	£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 year	**—**	**—**	**—**	**—**	**38.6**	**38.6**
Other comprehensive income/(expense):						
– Foreign exchange translation differences	**—**	**—**	**—**	**1.0**	**—**	**1.0**
– Net cumulative foreign exchange gain on disposal of subsidiaries recycled to the Income Statement	**—**	**—**	**—**	**—**	**—**	
– Remeasurement gain in respect of post-retirement benefits	**—**	**—**	**—**	**—**	**27.3**	**27.3**
– Tax charge on items that will not be reclassified to Consolidated Statement of Income	**—**	**—**	**—**	**—**	**(6.8)**	**(6.8)**
Total comprehensive income attributable to equity Shareholders of the parent	**—**	**—**	**—**	**1.0**	**59.1**	**60.1**
Transactions with owners recorded directly in equity:						
– Credit in respect of employee service costs settled by award of share options	**—**	**—**	**—**	**—**	**2.1**	**2.1**
– Tax credit in respect of share options	**—**	**—**	**—**	**—**	**0.2**	**0.2**
– Proceeds from shares issued	**—**	**0.1**	**—**	**—**	**—**	**0.1**
– Dividends	**—**	**—**	**—**	**—**	**(12.3)**	**(12.3)**
Total transactions with owners recorded directly in equity:	**—**	**0.1**	**—**	**—**	**(10.0)**	**(9.9)**
As at 31 March 2022	**2.9**	**62.5**	**0.2**	**7.6**	**243.2**	**316.4**
As at 1 April 2020	2.9	62.2	0.2	11.5	174.8	251.6
Total comprehensive income/(expense):						
Profit for the 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.

The Group holds 2,370 (2021: 52,631) of its own shares in an employee benefit trust. The cost of these shares is included within retained earnings.

CONSOLIDATED STATEMENT OF CASH FLOWS

Year ended 31 March 2022

	Note	2022 £m	2021 £m
Profit for the year		**38.6**	41.8
Profit for the year from continuing operations		**38.6**	41.8
Adjustments for:			
Income tax expense	12	**9.0**	10.4
Net financial expense		**0.7**	0.8
Fair value movement on financial derivatives		**6.4**	(6.4)
WITec post-acquisition gross margin adjustment		**1.7**	—
Acquisition-related costs		**0.4**	0.4
Impairment of capitalised development costs		**—**	1.3
Amortisation and impairment of acquired intangibles	15	**9.5**	8.4
Depreciation of right-of-use assets	29	**3.4**	2.8
Depreciation of property, plant and equipment	14	**4.1**	3.8
Amortisation of capitalised development costs	15	**1.9**	2.5
Adjusted earnings before interest, tax, depreciation and amortisation		**75.7**	65.8
Charge in respect of equity settled employee share schemes	11	**2.1**	1.8
Restructuring costs (paid)/received		**—**	0.3
Cash payments to the pension scheme more than the charge to operating profit		**(7.6)**	(15.5)
Operating cash flows before movements in working capital		**70.2**	52.4
Increase in inventories	20	**(0.1)**	(1.3)
Increase in receivables	20	**(21.6)**	(10.5)
Increase in payables and provisions	20	**11.4**	11.3
Increase/(decrease) in customer deposits	20	**(1.5)**	(2.2)
Cash generated from operations		**58.4**	49.7
Interest paid		**(0.5)**	(1.6)
Income taxes paid		**(8.8)**	(6.3)
Net cash from operating activities		**49.1**	41.8
Cash flows from investing activities			
Proceeds from sale of property, plant and equipment		**—**	0.2
Acquisition of property, plant and equipment		**(13.9)**	(4.2)
Acquisition of subsidiaries, net of cash acquired	6	**(30.6)**	—
Acquisition-related costs		**(0.4)**	—
Acquisition of intangibles		**(0.1)**	—
Capitalised development expenditure		**(0.7)**	(0.9)
Interest received		**0.1**	—
Net cash used in investing activities		**(45.6)**	(4.9)
Cash flows from financing activities			
Proceeds from issue of share capital		**0.1**	0.2
Payments made in respect of lease liabilities	29	**(3.4)**	(2.8)
Repayment of borrowings		**(0.1)**	(27.9)
Dividends paid		**(12.3)**	—
Net cash used in financing activities		**(15.7)**	(30.5)
Net (decrease)/increase in cash and cash equivalents		**(12.2)**	6.4
Cash and cash equivalents at beginning of the year		**97.6**	95.4
Effect of exchange rate fluctuations on cash held		**2.3**	(4.2)
Cash and cash equivalents at end of the year	19	**87.7**	97.6

Comprised of:			
Cash and cash equivalents as per the Consolidated Statement of Financial Position	19	**96.4**	128.0
Bank overdrafts	24	**(8.7)**	(30.4)
		87.7	97.6

1. NON-GAAP MEASURES

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

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

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

	2022		2021	
	Operating profit £m	**Profit before income tax £m**	Operating profit £m	Profit before income tax £m
Statutory measure	**48.3**	**47.6**	53.0	52.2
Acquisition-related costs	**0.4**	**0.4**	0.4	0.4
WITec post-acquisition gross margin adjustment	**1.7**	**1.7**	—	—
Impairment of capitalised development costs	**—**	**—**	1.3	1.3
Amortisation and impairment of acquired intangibles	**9.5**	**9.5**	8.4	8.4
Fair value movement on financial derivatives	**6.4**	**6.4**	(6.4)	(6.4)
Unwind of discount in respect of contingent consideration	**—**	**0.3**	—	—
Total non-GAAP adjustments	**18.0**	**18.3**	3.7	3.7
Adjusted measure	**66.3**	**65.9**	56.7	55.9
Adjusted income tax expense		**(11.7)**		(10.8)
Adjusted profit for the year	**66.3**	**54.2**	56.7	45.1
Adjusted effective tax rates		**17.8%**		19.3%

Acquisition-related costs
These represent the costs of one-off charges incurred at the balance sheet date relating to the acquisition of 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 £1.7m adjustment relates to the gross margin which would have been earned on post-acquisition sales to 31 March 2022, 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.

Unwind of discount in respect of contingent consideration
Adjusted profit excludes the unwind of the discount in respect of the contingent consideration on the acquisition of WITec.

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

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

	2022 £m	2021 £m
Net (decrease)/increase in cash and cash equivalents	**(12.2)**	6.4
Effect of exchange rate fluctuations on cash held	**2.3**	(4.2)
Movement in net cash in the year	**(9.9)**	2.2
Net cash at start of the year	**97.6**	95.4
Net cash at the end of the year	**87.7**	97.6

Reconciliation of net cash to Statement of Financial Position

	2022	2021
	£m	£m
Overdrafts	**(8.7)**	(30.4)
Cash and cash equivalents	**96.4**	128.0
Net cash at the end of the year	**87.7**	97.6

2. EARNINGS PER SHARE

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

	2022	2021
	£m	£m
Profit for the year attributable to equity Shareholders of the parent	**38.6**	41.8
Adjusting items:		
Business reorganisation items	**0.4**	0.4
WITec post-acquisition gross margin adjustment	**1.7**	—
Impairment of capitalised development costs	**—**	1.3
Amortisation and impairment of acquired intangibles	**9.5**	8.4
Fair value movement on financial derivatives	**6.4**	(6.4)
Unwind of discount in respect of contingent consideration	**0.3**	—
Adjusted income tax expense	**(2.7)**	(0.4)
Adjusted profit for the year	**54.2**	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:

	2022	2021
	Shares million	Shares million
Weighted average number of shares outstanding	**57.7**	57.5
Less: weighted average number of shares held by Employee Share Ownership Trust	**(0.2)**	(0.1)
Weighted average number of shares used in calculation of basic earnings per share	**57.5**	57.4

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

	2022	2021
	Shares million	Shares million
Number of ordinary shares per basic earnings per share calculations	**57.5**	57.4
Effect of shares under option	**0.8**	0.7
Number of ordinary shares per diluted earnings per share calculations	**58.3**	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.

3. SEGMENT INFORMATION

The Group has nine 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.

The Group's internal management structure and financial reporting systems have been amended to differentiate the three aggregated operating segments based on the economic characteristics discussed above.

Reportable segment results include items directly attributable to a segment as well as those which can be allocated on a reasonable 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.

On 31 August 2021, the Group acquired 100% of the issued share capital of WITec, which has been integrated into the Materials & Characterisation segment.

Results from continuing operations

2022	**Materials & Characterisation £m**	**Research & Discovery £m**	**Service & Healthcare £m**	**Total £m**
Total segment revenue	**185.5**	**120.3**	**61.5**	**367.3**
Segment adjusted operating profit from continuing operations	**26.1**	**21.3**	**18.9**	**66.3**

2021	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Total £m
Total segment revenue	148.6	113.4	56.5	318.5
Segment adjusted operating profit from continuing operations	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.

As at 31 March 2022, the Group had unfulfilled performance obligations under IFRS 15 of £260.2m (2021: £198.1m). It is anticipated that £250.5m (2021: £178.9m) of this balance will be satisfied within one year. The remainder is anticipated to be satisfied in the following financial year.

Reconciliation of reportable segment profit from continuing operations

2022	**Materials & Characterisation £m**	**Research & Discovery £m**	**Service & Healthcare £m**	**Unallocated Group items £m**	**Total £m**
Segment adjusted operating profit from continuing operations	**26.1**	**21.3**	**18.9**	**—**	**66.3**
Acquisition-related costs	**(0.4)**	**—**	**—**	**—**	**(0.4)**
WITec post-acquisition gross margin adjustment	**(1.7)**	**—**	**—**	**—**	**(1.7)**
Amortisation and impairment of acquired intangibles	**(3.2)**	**(6.3)**	**—**	**—**	**(9.5)**
Fair value movement on financial derivatives	**—**	**—**	**—**	**(6.4)**	**(6.4)**
Financial income	**—**	**—**	**—**	**0.5**	**0.5**
Financial expenditure	**—**	**—**	**—**	**(1.2)**	**(1.2)**
Profit/(loss) before income tax from continuing operations	**20.8**	**15.0**	**18.9**	**(7.1)**	**47.6**

2021	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Unallocated Group items £m	Total £m
Segment adjusted operating profit from continuing operations	20.3	19.5	16.9	—	56.7
Acquisition-related 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 from continuing operations	16.6	13.1	16.9	5.6	52.2

Depreciation	2022 £m	2021 £m
Materials & Characterisation	**3.8**	3.3
Research & Discovery	**1.5**	1.3
Service & Healthcare	**0.7**	0.6
Unallocated Group items	**1.5**	1.4
Total	**7.5**	6.6

Capital expenditure	2022 £m	2021 £m
Materials & Characterisation	**11.4**	3.2
Research & Discovery	**1.7**	1.3
Service & Healthcare	**0.1**	0.1
Unallocated Group items	**0.7**	0.2
Total	**13.9**	4.8

Amortisation and impairment	2022 £m	2021 £m
Materials & Characterisation	**5.0**	5.6
Research & Discovery	**6.4**	6.6
Service & Healthcare	**—**	—
Unallocated Group items	**—**	—
Total	**11.4**	12.2

Capitalised development costs	2022 £m	2021 £m
Materials & Characterisation	**0.7**	0.8
Research & Discovery	**—**	0.1
Service & Healthcare	**—**	—
Unallocated Group items	**—**	—
Total	**0.7**	0.9

Revenue from continuing operations from external customers by destination	2022 £m	2021 £m
UK	**20.2**	14.5
China	**103.9**	76.8
Japan	**39.0**	39.6
USA	**79.9**	72.1
Germany	**28.1**	32.8
Rest of Europe	**40.7**	39.9
Rest of Asia	**45.7**	33.8
Rest of World	**9.8**	9.0
Total	**367.3**	318.5

Non-current assets (excluding deferred tax)	2022 £m	2021 £m
UK	**182.8**	146.0
Germany	**32.7**	2.9
USA	**14.2**	8.7
Japan	**2.4**	0.6
China	**1.8**	0.3
Rest of Europe	**7.2**	7.8
Rest of Asia	**0.3**	0.2
Rest of World	**0.6**	0.9
Total	**242.0**	167.4

4. RESEARCH AND DEVELOPMENT (R&D)

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

2022	**Materials & Characterisation £m**	**Research & Discovery £m**	**Total £m**

R&D expense charged to the Consolidated Statement of Income	**23.0**	**9.8**	**32.8**
Less: depreciation of R&D-related fixed assets	**—**	**(0.2)**	**(0.2)**
Add: amounts capitalised as fixed assets	**—**	**0.3**	**0.3**
Less: amortisation of R&D costs previously capitalised as intangibles	**(1.8)**	**(0.1)**	**(1.9)**
Add: amounts capitalised as intangible assets	**0.7**	**—**	**0.7**
Total cash spent on R&D during the year	**21.9**	**9.8**	**31.7**

2021	Materials & Characterisation £m	Research & Discovery £m	Total £m
R&D expense charged to the Consolidated Statement of Income	20.2	9.8	30.0
Less: depreciation of R&D-related fixed assets	—	(0.1)	(0.1)
Add: amounts capitalised as fixed assets	—	0.6	0.6
Less: amortisation of R&D costs previously capitalised as intangibles	(2.3)	(0.2)	(2.5)
Add: amounts capitalised as intangible assets	0.8	0.1	0.9
Total cash spent on R&D during the year	18.7	10.2	28.9

5. 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 (£36.0m), of which €5m (£4.3m) 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 fair value of the assets and liabilities acquired is given in the table below. Fair value adjustments will be made to better align the accounting policies of the acquired business with the Group accounting policies and to reflect the fair value of assets and liabilities acquired. The business has been integrated into the Materials & Characterisation segment.

	Book value £m	Adjustments £m	Fair value £m
Intangible assets	—	8.3	8.3
Property, plant and equipment	0.2	—	0.2
Right-of-use assets	2.8	—	2.8
Inventories	5.3	2.6	7.9
Trade and other receivables	3.0	—	3.0
Deferred tax	0.2	(3.0)	(2.8)
Trade and other payables	(2.1)	—	(2.1)
Lease liabilities	(2.8)	—	(2.8)
Provisions	(0.5)	—	(0.5)
Bank loans	(1.9)	—	(1.9)
Cash	1.7	—	1.7
Net assets acquired	**5.9**	**7.9**	**13.8**
Goodwill			20.6
Total consideration			**34.4**
Net debt acquired			0.2
Deferred consideration after discounting to transaction date			(3.6)
Creditor in respect of working capital adjustment			(0.4)
Net cash outflow relating to the acquisition			**30.6**

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

Acquisition-related costs of £0.4m (2021: £0.4m) were expensed to the Consolidated Statement of Income as an adjusting item in the administration and shared services cost line.

The acquisition contributed revenue of £14.3m, adjusted operating profit of £2.8m and a statutory loss before tax of £0.3m to the Group's profit for the year.

If the acquisition had occurred on the first day of the year the acquisition would have contributed revenue of £19.6m, adjusted operating profit of £3.1m and a statutory result before tax of £nil.

6. INCOME TAX EXPENSE

	2022 £m	2021 £m
Recognised in the Consolidated Statement of Income		
Current tax expense		
Current year	**9.0**	9.7
Adjustment in respect of prior years	**(1.0)**	(3.2)
	8.0	6.5
Deferred tax expense		
Origination and reversal of temporary differences	**1.2**	2.0
Adjustment in respect of prior years	**(0.2)**	1.9
	1.0	3.9
Total tax expense	**9.0**	10.4

	2022 £m	2021 £m
Reconciliation of effective tax rate		
Profit before income tax	**47.6**	52.2
Income tax using the weighted average statutory tax rate of 21% (2021: 21%)	**10.0**	11.0
Effect of:		
Tax rates other than the weighted average statutory rate	**0.1**	0.4
Change in rate at which deferred tax recognised	**0.6**	0.1
Non-taxable income and expenses	**(0.3)**	0.3
Tax incentives not recognised in the Consolidated Statement of Income	**(0.2)**	—
Movement in unrecognised deferred tax	**—**	(0.1)
Adjustment in respect of prior years	**(1.2)**	(1.3)
Total tax expense	**9.0**	10.4
Taxation charge/(credit) recognised directly in other comprehensive income		
Deferred tax – relating to employee benefits	**6.8**	(5.5)
Taxation credit recognised directly in equity		
Deferred tax – relating to share options	**(0.2)**	(1.0)

On 5 March 2021, it was announced that the rate of UK corporation tax would be increased to 25% from 1 April 2023. This change was substantively enacted on 24 May 2021. As such, the UK deferred tax assets and liabilities have been calculated based on the enacted rate of 19% where they are anticipated to be utilised prior to 31 March 2023, but at 25% when utilisation is expected to occur after that date.

The Group carries tax provisions in relation to uncertain tax positions arising from the possible outcome of negotiations with tax authorities. The provisions have been calculated based on the probable outcome of those negotiations from a range of possibilities and assume that the tax authorities have full knowledge of the facts. Such provisions are a reflection of the geographical spread of the Group's operations and the variety of jurisdictions in which it carries out its activities.

On 2 April 2019, the EU Commission announced that it believes that in certain circumstances the UK's Controlled Foreign Company (CFC) regime (introduced in 2013) for certain finance income constituted State Aid. The Commission instructed the UK Government to recover any such aid from affected parties. The Group has claimed the benefit of this exemption, and therefore may be required to repay State Aid. The maximum amount of State Aid repayable as at 31 March 2020 was £1.2m in respect of tax and £0.1m in respect of interest unless the decision is successfully challenged in the EU Courts. The Group believed that £0.2m might ultimately have been payable and a provision was made for that amount in the year to 31 March 2020. In early 2021, HM Revenue and Customs advised the Group that it agreed with the Group's position that it had not in fact been a beneficiary of State Aid. The provision of £0.2m was accordingly released in the year to 31 March 2021.

In addition to the provision release following the enactment of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) the Group was able to carry back tax losses in the US to earlier years which resulted in a prior year adjustment of £2.7m. The Group received a cash tax refund of $2.1m in July 2021.

7. DIVIDENDS PER SHARE

The following dividends per share were paid by the Group:

	2022 pence	2021 pence
Previous period interim dividend	**4.1**	—
Previous period final dividend	**12.9**	—
Current period interim dividend	**4.4**	—
	21.4	—

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

	2022 pence	2021 pence
Interim dividend	**4.4**	4.1
Final dividend	**13.7**	12.9
	18.1	17.0

The final dividend for the year to 31 March 2021 of 12.9 pence per share was approved by Shareholders at the Annual General Meeting on 21 September 2021 and 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 was paid on 14 January 2022.

The proposed final dividend of 13.7 pence per share was not provided at the year end and is subject to Shareholder approval at the Annual General Meeting on 28 July 2022. It is expected to be paid on 23 August 2022, to Shareholders on the register on the record date of 15 July 2022, with an ex-dividend date of 14 July 2022 and with the last date of election for the Dividend Reinvestment Plan (DRIP) being 02 August 2022.

8. EXCHANGE RATES

The principal exchange rates to Sterling used were:

Year-end rates	**2022**	2021
US Dollar	**1.32**	1.38
Euro	**1.18**	1.17
Japanese Yen	**160**	152

Average translation rates

2022	**US Dollar**	**Euro**	**Japanese Yen**
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**
October	**1.36**	**1.17**	**153**
November	**1.35**	**1.18**	**153**
December	**1.34**	**1.18**	**153**
January	**1.35**	**1.19**	**155**
February	**1.34**	**1.20**	**155**
March	**1.33**	**1.19**	**157**

Average translation rates

2021	US Dollar	Euro	Japanese Yen
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

9. ANNUAL GENERAL MEETING

The Annual General Meeting will be held on 28 July 2022. Detailed arrangements in respect of the AGM will be advised in due course.

10. RISK MANAGEMENT

Audit, risk and internal control

Approach to risk management

Within the Group there is an ongoing process for identifying, evaluating and managing the significant risks faced by the Group that is embedded in all business units. Day-to-day management of this process has been delegated by the Board to the Executive Directors. Details of the process are set out in the Audit and Risk Committee Report in the Report and Financial Statements. The current risk management and internal control systems have been in place throughout the financial year and up to the date of approval of the Report and Financial Statements and are subject to annual review by the Board. In respect of the year ended 31 March 2022, the Board considered that these processes remained effective.

Summaries of our risk management framework and risk management process can be found below and on page 35 respectively.

The Board has carried out a robust assessment of the principal risks facing the Group, including those which threaten its business model, future performance, solvency and liquidity. Details of all major risks identified, and the mitigating actions adopted, are reported to and reviewed by the Board and the Audit and Risk Committee on at least a quarterly basis. The principal risks set out below provide an overview of the major risks and uncertainties faced by the Group. All operating businesses follow a standard process for risk identification and reporting. The process is further described on pages 35 to 36. On a regular basis, each business reviews and updates its risk register which is then reported to the Chief Executive. If a material risk changes or arises, this is reported to the Chief Executive, at which time there is a discussion on the adequacy of the mitigating actions taken. In addition, the Board and the Audit and Risk Committee consider risks to the Group's strategic objectives which arise at a Group level and develop appropriate actions to manage and mitigate these risks where possible.

Priorities during financial year ended 31 March 2022

During the year ended 31 March 2022 the principal priority was the development of the risk management framework required for the Taskforce for Climate-Related Financial Disclosures (TCFD) reporting. Having conducted a pilot with the NanoScience business unit in the prior year, the main objective was to enhance the process and extend it across all business units and the larger regional offices in 2021/22. The risk management function collaborated with the environmental working group that reports into the Sustainability Committee to deliver a process for identifying, evaluating, and reporting on climate-related risks and opportunities across the Group. The output from this process provided the inputs for the risks and opportunities that are set out in the TCFD statement.

In compliance with the Financial Conduct Authority's Listing Rule 14.3.27, the climate-related financial disclosures consistent with the TCFD Recommendations and Recommended Disclosures have been included within the TCFD statement in the Report and Financial Statements, which also encompasses further information regarding the Group's exposure to climate-related risks and opportunities.

Risk governance framework

The diagram below summarises the key accountabilities and features of our risk governance framework.

Operational management	Internal audit and assurance function	Audit and Risk Committee	Board
Responsible for risk management and control within their business and, through the Management Board, implementing Board policies on risk and control.	Assesses the adequacy and effectiveness of the management of significant risk areas and provides oversight of operational management's front line and assurance activities.	Reviews the internal financial controls systems that identify, assess, manage and monitor financial risks, and other internal control and risk management systems.	Oversees the internal control framework, and determines the nature and extent of the principal risks the Company is willing to take in order to achieve its long-term strategic objectives.
Guided by the internal audit and assurance function, completes detailed risk reviews on a quarterly basis.	Further information regarding the scope of internal audit and assurance activities is set out in the Report and Financial Statements.	More information regarding the work of the Committee can be found in its report in the Report and Financial Statements.	Ultimately accountable for approving the adequacy and effectiveness of internal controls operated by the Group

Internal control

The internal control framework includes central direction, oversight and risk management of the key activities within the Group. This framework includes a financial planning process which comprises a five-year planning model and a detailed annual budget which is subject to Board approval. All Group businesses' results are reported monthly and include variance analysis to budget and the prior year. Management also prepares monthly reforecasts.

Control activities include policies and procedures for appropriate authorisation and approval of transactions, the application of financial reporting standards and reviews of significant judgements and financial performance. Financial, regulatory and operational controls, procedures and risk activities across the Group are reviewed by the Group's internal audit and assurance function.

The internal control framework has been designed to manage rather than eliminate material risks to the achievement of strategic and business objectives and can provide only reasonable, and not absolute, assurance against material misstatement or loss. Due to inherent limitations, internal controls over financial reporting may not prevent or detect all misstatements. There has been no material change to the Group's internal control framework during the period covered by this Report and Financial Statements.

The key components designed to provide effective internal control within the Group include:

- a formal schedule of matters reserved to the Board for decision and specific terms of reference for each of its Committees; other than these matters, the Board delegates to the Chief Executive, who in turn reviews the delegation of authorities throughout the management structure;
- the Group's internal management beneath the Board is led by the Management Board. Its membership comprises the Executive Directors, senior managers with Group-wide functional responsibilities and the heads of the principal businesses of the Group's activities. Day-to-day responsibility for the management of the Group is delegated to the Management Board. The responsibility is based on the identification of separate businesses for each of the Group's activities for which there are clearly defined lines of management responsibilities at all levels up to and including the Group Board and the Group's accounting and reporting functions reflect this organisation;
- whilst financial executives within Group businesses report to their own operational head, there is also a well-established and acknowledged functional reporting relationship through to the Chief Financial Officer;
- the Board reviews strategic issues and options formally once a year during the annual strategic planning process and during the year as appropriate. In addition, the Executive Directors maintain a five-year planning model of the Group and its individual businesses;
- annual budgets are prepared for each of the Group's businesses which include monthly figures for turnover, profit, capital expenditure, cash flow and borrowings. The budgets are reviewed through the Group management structure and result in a Group financial budget which is considered and approved by the Board;
- the businesses prepare monthly management accounts which compare the actual operating result with both the budget and prior year. They also prepare rolling reforecasts for orders, turnover, operating profit and cash. These are reviewed by the Board at each of its scheduled meetings;
- the Board approves all acquisition and divestment proposals and there are established procedures for the planning, approval and monitoring of capital expenditure;
- for all major investments, the performance of at least the first twelve months against the original proposal is reviewed by the Board;
- an internal audit is carried out through a system of regular reviews of the financial and non-financial internal controls at each site. This is further explained in the Audit and Risk Committee Report in the Report and Financial Statements. These reviews are co-ordinated by the Group Head of Risk and Assurance;
- the Board receives regular updates on pensions, sustainability, business ethics and health and safety and the Audit and Risk Committee receives regular updates on treasury, tax, insurance and litigation;
- authorisation limits are set at appropriate levels throughout the Group; compliance with these limits is monitored by the Chief Financial Officer and the Group assurance function;
- there is a detailed and risk-based delegation of authority structure in place for sales contracts and managing commercial risks. Contracts with onerous terms and conditions (such as unlimited liability contracts) require approval by either the Chief Executive or Chief Financial Officer;
- the International Trade Committee monitors, considers action and makes recommendations around the management of key risks relating to international trade, including sanctions, export controls and customs; and
- as regards the UK pension scheme, the Group nominates half of the trustee directors of the corporate trustee to the pension scheme, involves as appropriate its own independent actuary to review actuarial assumptions, agrees the investment policy with the trustee, works with the trustee on its investment sub-committee to deal with day-to-day investment matters, ensures there is an independent actuarial valuation every three years and agrees funding levels to provide adequate funding to meet the benefit payments to the members as they fall due.

Risk management process
The table below summarises our methodical approach to risk management. The principal risks and uncertainties detailed on pages 36 to 41 of this report are monitored utilising this risk management process.

Alignment with strategy	Evaluation of risk	Mitigation implementation	Review risk
The broad range of potential factors which could impact the Group are considered and those which have a significant effect on its ability to deliver its strategy are determined to be principal risks and uncertainties	Careful consideration is given to: i) the specific scenarios in which the risk could manifest ii) the various potential impacts which the risk could present	Suitable management actions or robust control mechanisms are determined, developed and implemented.	An embedded, cyclical process review: i) determination of principal risks and uncertainties ii) the effectiveness of the implemented mitigation mechanisms

Emerging risks
The Board is required to complete a robust assessment of the Company's emerging and principal risks and confirms that it performed such an evaluation during the financial year.

It is recognised that emerging risks can also be principal risks. A detailed description of the principal risks and the activities to mitigate these are set out on pages 36 to 41.

The identification and evaluation of emerging risks is derived from the Group's quarterly risk reporting framework. The output from the business units' detailed risk registers is reviewed by the Group Head of Risk and Assurance and the Chief Financial Officer every quarter. Any new risks reported by the business units are specifically identified and discussed as part of this process. Further, there is a formal review of emerging risks at the year end, with commentary provided to the Audit and Risk Committee as part of its review of the Group risk register and principal risks and uncertainties.

The emerging risks identified from the latest review include climate change and inflationary pressures which are disclosed as principal risks. The key climate change related risks are also disclosed in the TCFD statement in the Report and Financial Statements. Inflationary risks are managed through regular reviews of product pricing and, with regard to the supply chain, via the Group's strategic sourcing strategy, which manages long-term arrangements with key suppliers.

Principal risks and uncertainties
Principal risks are reported and discussed at every meeting of the Audit and Risk Committee. For Oxford Instruments, principal risks are generally those that could have a significant adverse impact on the Group's business model, financial performance, liquidity or reputation. The Audit and Risk Committee also considers emerging risks within the risk management framework. A formal review of emerging risks is conducted around the year end. For the year ended 31 March 2022, the output of this assessment was the identification of inflation and climate change as emerging risks that are also considered to be principal risks. Further information is set out below.

The principal risks and uncertainties are set out on pages 36 to 41.

The key change in the Group's approach to risk management in 2021/22 has been in TCFD reporting. The Group has implemented a climate-related risks and opportunities reporting process across all business units and regional offices. Initially this has been established to operate alongside the wider enterprise risk management processes, although in 2022/23 we aim to integrate it into the wider process. Further details are set out in the Sustainability Report.

In terms of the wider risk management process there have been no significant changes during the year ended 31 March 2022. Business units continue to perform a detailed assessment of key risks using a standardised methodology. The output is reported to the Group and is the basis for the compilation of the quarterly Group risk register by the risk management function, in collaboration with the Executive Directors. The resulting Group risk register is reported to the Audit and Risk Committee every quarter.

Principal risks and uncertainties matrix
To facilitate meaningful comparison of the relative importance of the principal risks and uncertainties at a Group level, these have been mapped onto a probability and impact matrix. This matrix includes arrows which indicate the change in the risk in comparison to the prior year's assessment. The methodology for mapping the risks uses the Group's assessment of the residual risk, being the probability of the risk occurring and the potential impact it may have and taking account of any mitigating actions and controls that have been implemented.

The output of this assessment can be found in the Risk Management section of the Report and Financial Statements. It shows that the Group's assessment that geopolitical risk, supply chain risk and legal/compliance risk have increased compared to the prior year. In contrast, the risks relating to Covid-19 and pensions have decreased. All other recurring risks are assessed to be static. Further, two new risks, relating to inflation and climate change have been added.

The risk management process identified 13 principal risks that are set out below. The narrative provides a summary of the risk, explains why it is relevant to the Group and also sets out the potential consequences should the risk materialise, together with the mechanisms used for risk mitigation. Risks are managed by the Board and are not assigned an individual risk owner.

Specific risk 1: Geopolitical risk
Context: The Group operates in global markets and can be required to secure licences for relevant exports. Government policy on the export of specific technologies or the wider issue of tariffs can change over time.

Risk
Changes in the geopolitical landscape or an escalation in global trade tensions resulting in major obstacles to trade with customers in key markets. This could arise from export licence refusals, trade tariffs, trade embargoes, or nations seeking to reduce reliance on foreign imports in strategic technologies through the development of domestic competition and/or protectionist measures. This is potentially relevant to customers in key export markets including, but not limited to, China, the European Union, Japan and the USA.

Possible impact
- Lower export volumes or net pricing to key markets adversely affecting revenue
- Increases to input costs and lower gross margins
- Limitations on ability to provide after-sales service to existing customers
- Certain product lines might not be sustainable if access to key export markets is severely restricted

Control mechanisms
- Contract review and protection against breach of contract should export licences be withheld
- Proactive dialogue with relevant government authorities

Mitigation
- Broad global customer base; contractual protection

- Improved information flows to decision-makers

Change in the year:
increased

Specific risk 2: Supply chain risk
Context: The Group operates a global supply chain, sourcing from many suppliers across a wide range of categories. For certain technologies, there are limited alternative sources.

Risk
- Operational disruption or price increases, due to supply chain shortages, particularly in electronic components
- Suppliers de-committing orders due to demand pressures in other sectors.
- Change of supplier ownership resulting in loss of supply
- Regulatory changes or economic viability causing suppliers to discontinue production, impacting the long-term availability of key components

Possible impact
- Short-term delays or hiatus in our production arising from component shortages
- Lost revenue
- Downward pressure on margins
- Increased lead times and potential of foregone orders
- Poor customer service/reputational damage
- Increased stock holding adversely impacting cash conversion

Control mechanisms
- Sales and operational planning process
- Group strategic sourcing programme to consolidate demand and manage key supplier risks
- Focused efforts on higher-risk suppliers identified
- Long-term contracts with key suppliers

Mitigation
- Long-term demand planning
- Buffer stock in extended supply chain
- Relationship management with key suppliers
- Responsive and adaptive engineering change process

Change in the year:
increased

Specific risk 3: Routes to market
Context: In some instances, the Group's products are components of higher-level systems sold by OEMs, and thus the Group does not control its route to market.

Risk
- Vertical integration by OEMs

Possible impact
- Loss of key customers/routes to market
- Reduction in sales volumes and/or pricing and lower profitability

Control mechanisms
- Customer intimacy to match product performance to customer needs
- Positioning of the Oxford Instruments brand and marketing directly to end users

Mitigation
- Strategic relationships with OEMs to sell performance of combined systems
- Product differentiation to promote advantages of Oxford Instruments' equipment and solutions
- Direct marketing to end users

Change in the year:
no change

Specific risk 4: Technical risk

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

Risk
Failure of the advanced technologies applied by the Group to produce commercially viable products

Possible impact
- Loss of market share or negative pricing pressure resulting in lower turnover and reduced profitability
- Additional NPI expenditure
- Adverse impact on the Group's brand and reputation

Control mechanisms
- "Voice of the Customer" approach and market intimacy to direct product development activities
- Formal NPI processes to prioritise investment and to manage R&D expenditure
- Product life cycle management

Mitigation
- Understanding customer needs/expectations and targeted new product development programme to maintain and strengthen product positioning
- Stage gate process in product development to challenge commercial business case and mitigate technical risks
- Operational practices around sales-production matching and inventory management to mitigate stock obsolescence risks

Change in the year:
no change

Specific risk 5:Inflation
Context: Global inflation placing upward pressure on principal elements of the cost base such as labour and materials.

Risk
- Rises in key cost drivers such as people costs, energy, components, and raw materials
- For long lead time items, required to make inflationary estimates which may be inaccurate

Possible impact
- Increased cost of production leading to a reduction in operating profit if not offset by sufficient price increases
- Potential for under-recovery of increases if inflation estimates are too low or reduction in order volumes if competitors do not react similarly

Control mechanisms
- Price reviews
- Inflation protection in commercial response to long lead time tenders and long-term agreements

Mitigation
- Ability to address inflationary pressures through price management reviews
- Reviews of key drivers of financial performance

Change in the year:
new

Specific risk 6: Legal/compliance risk
Context: The Group operates in a complex technological and regulatory environment, particularly in areas such as export controls and product compliance. Competitors may seek to protect their position through intellectual property rights and the Group may at times experience unintentional regulatory or IP compliance issues.

Risk
- Infringement of a third party's intellectual property
- Regulatory breach

Possible impact
- Potential loss of future revenue
- Future royalty payments
- Payment of damages
- Fines and non-financial sanctions such as restrictions on trade, disbarment from public procurement contracts
- Reputational damage

Control mechanisms

- Formal “Freedom to Operate” assessment to identify potential IP issues during product development
- Internal control framework including policies, procedures and training in risk areas such as bribery and corruption, sanctions and export controls
- Product compliance teams

Mitigation
- Confirmation of “Freedom to Operate” during new product development stage gate process
- Compliance monitoring programme over key risk areas

Change in the year:
increased

Specific risk 7: New covid variant causes major disruption
Context: Variants of covid may be highly transmissible and have a greater impact than current variants, even on vaccinated populations.

Government response to covid outbreaks may lead to further lockdowns/travel restrictions.

Risk
- Potential disruption to supply chains, Group operations and customers, leading to delays in production and/or installation at customer sites

Possible impact
- Delays in both manufacturing and service activity leading to lost or delayed product and service revenue

Control mechanisms
- Working closely with key suppliers
- Safe ways of working and changes to shift patterns to maximise capacity
- Remote service activities
- Strategic review of location of service personnel compared to installed base

Mitigation
- Sales and operational planning process
- Contractual protection
- Strategic procurement, working with supply chain to mitigate risk

Change in the year:
decreased

Specific risk 8: Adverse movements in long-term foreign currency rates
Context: A high proportion of the Group’s revenue is in foreign currencies, notably US Dollars, while the cost base is predominantly denominated in Sterling.

Risk
- Long-term strengthening of Sterling against key currencies such as the US Dollar, Japanese Yen and the Euro

Possible impact
- Reduced revenue and profitability
- Control mechanisms
- Treasury management of short-term hedging programme
- Strategic management of currency exposure

Mitigation
- Review of supply chain currency base
- Active review of net exposure in key currencies

Change in the year:
no change

Specific risk 9: IT risk
Context: Elements of production, financial and other systems rely on IT availability.

Risk
- Cyber-attack on the Group’s IT infrastructure

- Ransomware/spread of viruses or malware

Possible impact
- System failure/data loss and sustained disruption to production operations
- Loss of business-critical data
- Financial and reputational damage

Control mechanisms
- Suite of IT protection mechanisms including penetration testing, regular backups, virtual machines, and cyber reviews
- External IT security consultants
- Internal IT governance to maintain protection systems and our incident response
- Employee awareness training

Mitigation
- Managed service with third-party security specialists providing incident monitoring
- Regular review, monitoring and testing of key security measures to assess adequacy of protection against known threats
- End user education and phishing simulation exercises

Change in the year:
no change

Specific risk 10: People
Context: A number of the Group's employees have business-critical skills.

Risk
- Key employees leave and effective replacements are not recruited on a timely basis

Possible impact
- Adverse impact on NPI
- Operational disruption
- Lower sales and profitability

Control mechanisms
- HR people strategy for retention and recruitment of staff with key skills

Mitigation
- Succession management plans
- Technical career paths
- UK work permit scheme to facilitate employment of non-UK nationals in place

Change in the year:
no change

Specific risk 11: Operational risk
Context: Business units' production facilities are typically located at a single site.

Risk
- Sustained disruption to production arising from a major incident at a site

Possible impact
- Inability to fulfil orders in the short term, resulting in a reduction in sales and profitability
- Additional, non-recurring overhead costs

Control mechanisms
- Contingency plans are in place for all manufacturing sites
- Contractual clauses to limit financial consequences of delayed delivery

Mitigation
- Detailed responses in contingency plans can reduce downtime arising from incidents and facilitate the restoration or relocation of production
- Standard sales contracts include clauses for limitation of liability, liquidated damages and the exclusion of consequential losses
- Business interruption insurance

Change in the year:
no change

Specific risk 12: Climate change
Context: Climate change generates both risks and opportunities. Our response needs to address risks and optimise opportunities.

Risk
- The transition from fossil fuels to a low-carbon/net zero economy may require significant changes in materials and production methods that may impact our own operations and our suppliers
- Chronic changes in weather and extreme weather events may disrupt supply chains, operations, and logistics

Possible impact
- Rises in production costs and product development costs to reduce all CO_2 emissions linked to our products
- Delayed production and/or installation leading to delayed revenue
- More expensive freight and packaging costs

Control mechanisms
- Sustainability Committee
- Climate-related risks and opportunities evaluation and reporting embedded in business units
- Strategic sourcing
- Product compliance groups

Mitigation
- Product compliance teams have an established methodology to deal with changes to environmental regulations
- Investment in product development to capitalise on the opportunities for our key enabling technologies to help customers address climate-related challenges

Change in the year:
new

Specific risk 13: Pensions
Context: The actuarial pension deficit is sensitive to changes in the actuarial assumptions.

Risk
- The actuarial pension deficit is sensitive to movements in actuarial assumptions and returns on investments

Possible impact
- Variations to the current deficit recovery plan
- Increase in the annual levy paid to the Pension Protection Fund

Control mechanisms
- Ongoing review of investment strategy, including active control of risk, by the Trustee's investment sub-committee
- Liability hedging programme to mitigate exposure to movements in interest rates and inflation
- Reduced exposure to equity markets

Mitigation
- The Group closed its UK defined benefit pension scheme to future accrual in 2010
- The Group has a funding plan in place to eliminate the actuarial deficit by 2025/26

Change in the year:
decreased

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