Oxford Instruments plc

Announcement of Preliminary Results for the year ended 31 March 2021

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 2021.

Adjusted[1] (continuing operations)	**Year ended 31 March 2021**	Year ended 31 March 2020	% change reported	% change constant currency[4]
Revenue	**£318.5m**	£317.4m	+0.3%	+1.7%
Adjusted operating profit	**£56.7m**	£50.5m	+12.3%	+13.3%
Adjusted operating profit margin	**17.8%**	15.9%	+190 bps	
Adjusted profit before taxation	**£55.9m**	£49.5m	+12.9%	
Adjusted basic earnings per share	**78.6p**	70.2p	+12.0%	
Cash conversion[2]	**101%**	124%		
Net cash[3]	**£97.6m**	£67.5m		

Statutory (continuing operations)	**Year ended 31 March 2021**	Year ended 31 March 2020	% change reported
Revenue	**£318.5m**	£317.4m	+0.3%
Operating profit	**£53.0m**	£39.8m	+33.2%
Operating profit margin	**16.6%**	12.5%	+410 bps
Profit before taxation	**£52.2m**	£38.8m	+34.5%
Basic earnings per share	**72.8p**	55.9p	+30.2%
Dividend per share for the year	**17.0p**	—	n/a

FINANCIAL HIGHLIGHTS

- Revenue growth of 1.7% at constant currency against challenging backdrop. Strong growth in orders of 5.3% to £353.7m (+6.7% at constant currency).
- Reported order book grew by 13.2% (17.8% at constant currency) to £198.1m
- Strong growth in adjusted operating profit, with margin rising to 17.8% (2020: 15.9%).
- Cash conversion remains high, with increase in net cash to £97.6m.
- Dividend for the year of 17.0p per share (comprising interim dividend of 4.1p and proposed final dividend of 12.9p).

OPERATIONAL HIGHLIGHTS

- Robust performance in the face of significant covid disruption reflects resilience of business model and strong position in diverse, attractive end markets.
- Strong profit growth and enhanced margin performance driven by significant gains from Horizon initiatives in a number of the businesses and the accelerated transformation of our service offering.
- Strengthened order book provides increased visibility for the year ahead.
- Order growth across academic and commercial customers driven by buoyant demand across semiconductor, quantum and advanced materials markets; good growth in North America and Asia offset by modest decline in Europe.
- Maintained investment in R&D with increased focus on strategic product development driven by enhanced market intimacy, providing a healthy pipeline of future product launches.
- Underlying long-term growth drivers in our end markets remain strong.
- Considerable progress with our sustainability agenda, with significant reduction in our environmental footprint.

Summary and Outlook:
Ian Barkshire, Chief Executive of Oxford Instruments plc, said:

We have made good progress during the year as our people have demonstrated outstanding agility to adapt to new ways of working to protect each other and our customers, whilst driving forward with our strategy for increased end market focus and operational effectiveness.

Our robust performance, strong order book and breadth of attractive end markets demonstrate the resilience of our business model, positioning us well for good progress in the year despite anticipated currency headwinds and the ongoing uncertainties as global economies look to recover from covid.

- Ends -

Issued for and on behalf of Oxford Instruments plc

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Number of pages: 40

(1) Adjusted items exclude the amortisation and impairment of acquired intangible assets, acquisition items, profit or loss on disposal of operations, other significant non-recurring items, and the mark-to-market movement of financial derivatives. A full definition of adjusted numbers can be found in the Finance Review and Note 1.
(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.

CHAIR'S STATEMENT

Oxford Instruments is a provider of high technology products and services to the world's leading industrial manufacturers and scientific research institutes.

We have a reputation for innovation and product excellence, helping our customers accelerate their R&D, increase their productivity in high tech manufacturing and deliver ground-breaking scientific advances.

Our technologies enable our customers to address some of the world's most pressing challenges, by facilitating a greener economy, increasing connectivity, improving health, and empowering leaps in scientific understanding.

Our deep insight into our markets and customers enables us to stay ahead of developments, with practical solutions that meet their needs both today and tomorrow.

Strong performance through exceptional challenges
In response to the covid pandemic, the Board and executive team made it our priority to protect the health and wellbeing of our employees and to continue to support our customers and other stakeholders, whilst maintaining our investment in the long-term future of the business. The Group responded with agility to the evolving situation including the rapid implementation of a hybrid workplace model, new working practices and tailored support for those working in our facilities and remotely. Our approach has enabled us to maintain business continuity throughout the year and support our customers around the new challenges covid has brought.

I have been extremely pleased with the resilience of our strategic approach, the capabilities it has embedded across the Group and the operational improvements it continues to deliver. Our focus on diversified, attractive end markets and our continuous drive to improve operational performance, has enabled us to deliver both growth and improved profitability, despite the significant disruption caused by the pandemic.

Having made several changes over recent periods, I am encouraged by the strength of the leadership team now in place across the Group, the breadth of skills they offer, and how they are continuing to drive sustainable growth and margin improvement through the execution of our strategy.

We delivered a strong set of results despite the backdrop of the covid pandemic. Adjusted operating profit grew by 12.3% to £56.7m (2020: £50.5m) and statutory operating profit grew by 33.2% to £53.0m (2020: £39.8m). Alongside a strong order book, which provides continued confidence, and further strengthening in our financial position, the Board has proposed a final dividend of 12.9p per share, which is subject to Shareholder approval at the Annual General Meeting. Together with the 4.1p per share interim dividend, this would result in a total dividend of 17.0p per share.

Our purpose
As a leading technology company, the Board recognises the role we play in creating a better future for all in society, and through our Horizon strategy we have positioned the Group to support our customers in addressing many of the world's most pressing challenges.

I am proud of the part we play in enabling a greener economy, improving health, increasing connectivity, and empowering leaps in scientific understanding. In the year, this has included:

- the use of our key enabling technologies directly in the global fight against covid;
- the development and manufacture of semiconductors to support the dramatic increases in digital communication; and
- accelerating the development of advanced materials and quantum technologies, which have the potential to disrupt a broad range of end markets, from transport and construction to drug discovery, logistics and financial services.

Benefitting from new ways of working
The Group has been quick to embrace the digital evolution over the past year, demonstrating tremendous agility in adapting to new ways of working and using these as an opportunity to establish new and improved approaches to the business.

We have utilised remote working and digital connectivity to keep our employees safe and connected, and to maintain exceptional support for our customers, including remote installations and remote access to their systems. With travel restrictions in place, the Board has used digital meetings to maintain direct communication with employees throughout the year and has used virtual meetings as an opportunity to engage with a broader cohort of employees, providing increased insights and wider engagement.

Board changes
As a Board, we recognise the importance of diversity and inclusion as a key element in delivering business excellence. In the year we welcomed Alison Wood to the Board, and in January she assumed the role of Chair of the Remuneration Committee. I have been delighted by the engagement Alison has achieved across the Group and the wealth of experience and expertise she has brought to the Board.

Thomas Geitner, who was appointed in January 2013, has agreed that given the length of his tenure, he will stand down at the forthcoming Annual General Meeting. Steve Blair has also advised the Board that he will not be putting himself forward for re-election.

At the AGM, Alison Wood will assume the role of Senior Independent Director. We will commence recruitment for a new Non-Executive Director, taking this opportunity to increase the diversity of the Board across several areas.

Oxford Instruments has always had a strong sustainability agenda, driven by our purpose, values and culture. In the year we formed a Board sustainability committee, which I chair, bringing together the various aspects of our sustainability initiatives. This will support our commitment as a Group to increase the positive impact we have on the world whilst reducing our environmental footprint. You can read more about this and how we are embedding sustainability across the Group in the Chief Executive's Review.

Emerging stronger
I would like to thank the Board for their continual support during the year and, on behalf of the Board, I would like to thank all our people for their commitment and magnificent response to the challenges covid has brought. Our agility in responding to change rapidly, enabling our teams to work safely and remain operational, has ensured that we continued to support our customers, often finding new and innovative ways to help them address the challenges the pandemic has brought them.

Our robust performance this year is testament to the resilience of Oxford Instruments' positioning in its diversified markets and gives me confidence that we will emerge from this as an even stronger Group, with a platform for sustainable growth and further margin improvement.

Neil Carson
Non-Executive Chair
7 June 2021

CHIEF EXECUTIVE'S REVIEW

Introduction
I have been extremely pleased with the robust performance and resilience of the Group in the year. The continued execution of our Horizon strategy has provided the capabilities to deliver continued progress in the face of exceptional challenges from the global pandemic. This, together with the commitment and agility of our employees, and our diversified end markets, has enabled us to deliver a robust performance in the year.

We delivered strong order, profit, and margin growth, with revenue slightly ahead of the previous year. The momentum in orders reflected the underlying strength and breadth of our chosen end markets and their fundamental growth drivers. Increased profit and margins were supported by tangible gains realised as a direct result of the improved commercial processes and operational efficiencies that we have implemented through Horizon. Whilst revenue was ahead of last year, growth was subdued due to the impact of covid, which has included reduced access to customer sites, protracted administrative processes and travel restrictions.

The pandemic has impacted all aspects of our business throughout the year. From the onset, we prioritised the health and wellbeing of our employees whilst maintaining business continuity and supporting our customers' changing needs wherever possible. To support this, we implemented and continued to develop our hybrid workplace model to adapt to the evolving situation.

The Group's H1 performance was impacted by changes at our customer sites, as well as reduced manufacturing capacity at our own sites, as we implemented covid-safe working practices, particularly in the first quarter. Through our actions and revised working practices, we delivered sustained order growth and revenue momentum with quarter-on-quarter growth.

Our sustainability agenda is focused on ensuring that we proactively manage our business risks and the impact on the world and communities in which we operate. We have clear goals with respect to our environmental impact, the effect on our employees, the communities and societies we operate in; and governance practices that ensure we operate to our own high standards and within the relevant legislative requirements.

Within the year we have continued to make significant progress in our drive to reduce our environmental footprint, with a reduction in emissions from our own facilities and reducing our waste to landfill levels.

However, our sustainability strategy goes beyond the impact of how we operate, with our core purpose being to support our customers in addressing some of the world's most pressing challenges:

- **Enabling a greener economy**, leading to enhanced energy efficiency, increased productivity, and reduced resource consumption.
- **Increasing connectivity**, supporting current and future technologies to meet the exponentially growing demand for digital data and communications.
- **Improving health**, providing the insights and understanding of fundamental disease mechanisms leading to new paradigms for the rapid and cost-effective development of medicines and immunotherapies, such as vaccines.
- **Making leaps in scientific understanding**, providing the pathway to new technologies that create opportunities for dramatically improving the quality of life for all in society.

Our actions during the year have been aligned with our purpose and values, helping us contribute to a positive future for all our stakeholders. I have been encouraged by how our teams have come together to support each other, and our customers. I am proud of the role Oxford Instruments has played in the fight against covid, both in helping researchers understand more about the virus and in supporting those essential services that keep people safe and connected.

Adapting to covid and building a better-connected business
At the start of the pandemic, I established a dedicated covid leadership team to direct and co-ordinate our rapid and agile response to the evolving business situation. Throughout the year we have prioritised the health and wellbeing of our employees, and the support for our customers with their own evolving needs, as well as maintaining investment in the business for the long-term. Through our phased approach we took swift action to help keep employees safe, provide continuity of service for our customers globally and control our discretionary costs. The implementation of social distancing guidelines within our facilities, revised working practices, shift working, the enablement of our teams to work efficiently and securely from home and embracing a digital marketing and sales approach allowed us to maintain business continuity and progress our strategic product developments even at the peaks of the pandemic.

In the early stages of the pandemic, we undertook several measures to protect the business, including a freeze on non-critical recruitment and capex spend, a deferral in the payment of performance-related bonus schemes related to the 2019/20 year and a reduction in non-executive Board fees and salary for myself and the Finance Director by 20% for a three-month period.

In the first quarter we prudently utilised the Government's Job Retention Scheme (JRS) as we established safe working practices across our sites and as we chose to retain our employees on full pay.

As business conditions and market uncertainty improved through Q2, we reversed the cash conservation measures, moving our focus to future growth. This included investment in a new purpose-built, state-of-the-art manufacturing, development and research facility for our Plasma Technology business, providing the capacity for further growth. Furthermore, in line with our values, we chose to repay the UK Government JRS support to allow it to be used for those in need across our communities.

In line with our customer-centric approach, we extended our engagement with customers to help them address new and urgent requirements resulting from the pandemic. This included enhancing our digital connectivity with customers to maintain their productivity, as well as using our expertise and systems to support them to connect securely into their equipment and local digital infrastructure, allowing effective data sharing and remote working. Through this approach, we have been able to create additional value for our customers, as well as valuable insights into the future needs across our diverse customer base, which we are incorporating into our digital and customer services transformation programmes. We are creating new value through our customer relationships by helping them to find ways to adapt to and plan for their new working environments and challenges. In support of this, we enhanced our market intimacy programmes and accelerated the delivery of our customer services transformation.

The processes and procedures that had been put in place through Horizon have provided us with the capabilities and digital infrastructure needed to ensure continuity in our operations, with the strategic work to streamline our supplier base enabling us to build closer, mutually beneficial relationships, which helped ensure continuity in supply throughout the year.

By further developing and embracing these changes and through continuing to evolve our business practices, we have become more connected with our employees globally and have created a more effective and efficient means of reaching and supporting customers. We continue to enhance our support for customers, through increased remote and local service delivery, as we embrace this new way of working. I have been pleased at how these changes have helped to build stronger links between our businesses and functions, delivering further synergies across the Group.

Moving forward, we will build on the approaches we developed during the pandemic, retaining a flexible but structured hybrid working model, creating an attractive working environment for our employees and higher quality customer relationships.

Results
Orders of £353.7m grew by 5.3% (2020: £336.0m), representing an increase of 6.7% at constant currency, with our customer-centric approach supporting strong growth from both commercial and academic customers. Revenue was impacted by covid-related disruptions, resulting in subdued growth relative to orders of 0.3% to £318.5m (2020: £317.4m). Growth in adjusted operating profit of 12.3% to £56.7m (2020: £50.5m) and an increase in operating margin of 190 basis points to 17.8% (2020: 15.9%) was driven by continued execution of our Horizon strategy. Statutory operating profits grew 33.2% to £53.0m (2020: £39.8m) and statutory operating margins increased 410 basis points to 16.6% (2020: 12.5%). Adjusted profit before tax grew by 12.9% to £55.9m (2020: £49.5m). Statutory profit before tax increased by 34.5% to £52.2m (2020: £38.8m).

Whilst the underlying growth drivers for our end markets remain robust, covid-related issues such as temporary end customer site closures and restricted access, combined with protracted administrative processes, impacted individual application segments and customers across different regions by varying amounts throughout the year.

From an end market perspective, we saw strong, reported order growth across Semiconductor & Communications (up 17%), Quantum Technology (up 16%) and Advanced Materials (up 8%) segments, with growth in Healthcare & Lifescience (up 2%). Overall order growth was partially offset by a slightly lower contribution from the Energy & Environment (down 4%) segment and a significant reduction from Research & Fundamental Science (down 24%), where end customers were more significantly impacted by covid-related disruptions.

Positive market conditions and our market-leading product portfolio led to 14.4% constant currency order growth in the Materials & Characterisation sector, despite covid-related reductions within some end applications. Customers and end markets in the Research & Discovery sector were more impacted by covid, particularly in the first quarter of the year, but with positive momentum building through the year in line with the easing of customer-related restrictions resulting in a net decline in reported orders of 5.1% at constant currency. The initial phase of the transformation of our customer services approach and broader portfolio of support products was well aligned with the changing needs of our customers, resulting in 11.8% constant currency order growth in the Service & Healthcare sector.

At a regional level, continued strong order growth across Asia and North America was partially offset by a modest decline in Europe where customer activity, local restrictions and reduced access have been more pronounced. Within Asia, reported orders in China grew 14%, supported by strong growth within the Semiconductor and Advanced Materials end markets.

Revenue for the Group was impacted throughout the year due to covid-related disruption to the fulfilment of orders and delays in obtaining export licence approvals. The former was most pronounced in the first quarter of the year due to access restrictions at customer sites and as we implemented covid-safe working practices at our manufacturing sites, which reduced capacity. With restrictions easing at customer sites and a ramping to normal capacity at our manufacturing sites, revenue momentum built strongly throughout the second half of the year, more than offsetting the first-half decline.

Revenue for Materials & Characterisation was slightly ahead of the previous year, up 1.9%, representing 3.2% at constant currency. Research & Discovery revenue was down 3.7%, 2.0% at constant currency, representing a strong second half. The Service & Healthcare sector delivered good revenue growth, up 5.0% and 5.9% on a reported and constant currency basis, supported by increased demand for services related to our own products.

The disruption to fulfilling orders was more pronounced to commercial customers, resulting in the proportion of revenue from academic customers increasing slightly to 54.8% (2020: 52.0%).

From an end market perspective, we had strong constant currency revenue growth for the Semiconductor & Communications and Quantum Technology customer segments, representing 27.6% and 11.4% of Group revenue, respectively. Healthcare & Lifescience (21.6% of revenue) and Advanced Materials (27.6% of revenue) built momentum through the second half of the year as customer site access improved, ending marginally behind the previous year despite strong order growth. Revenue for Research & Fundamental Science (8.2% of revenue) was down in line with orders, due in part to delays in the release of grant funding and deferred tendering processes.

From a geographic perspective, regional government and customer responses to the pandemic dominated revenue profiles in the first half of the year, particularly impacting North America and Europe. Customer site access improved through the second half of the year, resulting in revenue in Europe being broadly in line with the previous year with North America down 15.2%, representing a fall of 11.9% at constant currency. Customer site access and government restrictions eased earlier across Asia, supporting strong revenue growth across the region, up 13.1% on a constant currency basis.

Growth in adjusted operating profit and operating margin were supported by tangible improvements in the performance across several business units as well growth and improved efficiencies within our service sector. This resulted in an increase in adjusted operating profit of 34.5% within Research & Discovery to £19.5m (2020: £14.5m) and an adjusted operating margin of 17.2% (2020: 12.3%), an increase of 490 basis points. Statutory operating profit of £13.1m (2020: £13.3m) was down 1.5% owing to the profit on disposal of our shareholding in Scienta in the comparative period. Within Materials & Characterisation, the disproportionate delay in the shipment of higher-margin products and increased investment within the sector for future growth held back adjusted operating profit at £20.3m (2020: £21.0m).

This also impacted adjusted operating margin in the year to 13.7% (2020: 14.4%). Statutory operating profit grew by 35% to £16.6m (2020: £12.3m). Revenue growth and improved efficiencies related to our own products within the Service & Healthcare sector increased adjusted operating profit by 12.7% to £16.9m (2020: £15.0m) with adjusted operating margin up 200 basis points to 29.9% (2020: 27.9%). Statutory operating profit was £16.9m (2020: £15.0m), up 12.7%.

The combination of strong end customer demand for our products and the covid-related impact on the fulfilment of orders in the period resulted in a positive book-to-bill ratio of 1.11, with the order book, representing orders for future deliveries, up 13.2% to £198.1m (2020: £175.0m), 17.8% growth at constant currency. Order book growth was predominantly within the Materials & Characterisation sector, up 40% in the year, supported by 9% growth for Service & Healthcare, with Research & Discovery's order book in line with the previous year.

Continued focus on operational and commercial improvements within the year supported strong cash conversion, which after an additional payment to the pension fund, resulted in an improved net cash after borrowings position of £97.6m (2020: £67.5m) at year end.

Strategy: well positioned in diverse, attractive end markets with clear drivers only accentuated by covid

We have continued to focus on attractive end markets where our technology and services can create long-term value for our customers across materials and life science applications. By proactively engaging with customers across the full technology cycle, including academic, commercial R&D and high-tech manufacturing, we are well positioned to benefit from each wave of commercialisation and technology disruption.

Realising the benefits of the Horizon programme
In the year we have seen tangible financial gains due to the realisation of ongoing improvements in the commercial processes and operational efficiencies in a number of our business units.

Throughout the year, we continued to invest in and further develop the capabilities across the Group to drive growth and progress our business improvement journey. This included the investment in the development of our employees as well as selective recruitment to further enhance essential skills.

Our agile and flexible approach throughout the pandemic has enabled us to maintain our focus on improved market intimacy, enhanced delivery of R&D programmes, operational excellence and our customer services transformation.

Market intimacy
We have used the cessation of traditional face-to-face meetings during the year to develop effective new ways of communicating with our customers for sales and marketing activities, which enabled us to reach a wider audience and to gain valuable market insights. Our approach included running our own online conferences, increasing our portfolio of digital content and establishing new ways to reach our customers, including webinars and virtual product demonstrations, which proved invaluable in the launch of new products and the ongoing promotion of our portfolio.

By changing our approach, we have strengthened our relationships with many of our existing customers, improved our lead generation efficiency and gained valuable market insights to better inform our product and service roadmaps.

Whilst we look forward to being able to engage in face-to-face meetings and attend conferences in the near future, we will deploy a hybrid model building on our experiences and successful deployment of enhanced digital approaches in the past year.

Innovation and product development
Providing highly innovative products and key enabling technologies with differentiated technical and performance leadership that are driven by customer insight, remains a central theme within our strategy. Throughout the year, we have remained focused on our strategic R&D programme maintaining our progress and investment, providing a healthy pipeline of future products. Our experience with, and utilisation of, secure remote working practices and collaboration tools in previous years, which has aided the exploitation of technical synergies across the Group, helped us to maintain progress across our strategic product development programme through the pandemic.

We continued to develop our long-term product roadmaps in line with our usual business timetable, refining priorities according to the changing demands within our markets, including the acceleration of further digital connectivity across our portfolio. We continue to develop and protect our portfolio through the identification and generation of valuable IP, which allows us to create barriers to entry and support the sustainable differentiation of our products.

Operational excellence
The continued execution of our operational improvement programme has contributed to tangible financial gains in year. Our ongoing procurement strategy focuses on developing our supply chain to build long-term strategic partnerships with fewer suppliers. This helps to reduce lead times and allows us to better leverage our scale.

The strengthened relationships cultivated with our suppliers has strongly supported our performance during the year and, by working closely with our suppliers, including being sensitive to their covid challenges and offering our support where appropriate, we have ensured our supply chain has remained robust throughout the year.

Customer support
We have made excellent progress with the early phase of our customer services transformation, with changes in the market and to customers' perceptions having allowed us to accelerate the development and deployment of our digital and remote service capabilities.

Our ability to deliver remote support has been an essential part of our portfolio during the pandemic and we will continue to grow this part of our portfolio as we look to create ongoing value for customers through the lifetime utilisation of our products.

We have driven synergies across our global customer support teams, enhancing our local support capabilities and response times, whilst reducing our own travel requirements. We also invested in additional resources to help drive our thinking, appointing regional leaders across our service teams to augment our existing capabilities and to drive efficiencies and synergies.

End markets
Whilst the pandemic has affected individual applications and regions to a greater or lesser extent, our end markets have overall remained robust with long-term underlying fundamental growth drivers. In many cases, the pandemic has strengthened or enhanced the drivers; this includes increased recognition around the world and across funding bodies of:

- the capabilities of new technologies to improve healthcare and accelerate drug development as highlighted by the rapid development of covid vaccines;

- the surge in demand for improved connectivity and bandwidth, which will continue to grow with the further development of the Internet of Things, increases in remote communications and the migration towards autonomous vehicles and factories;
- the imperative to address global warming and the re-energised commitments, initiatives and directives to deliver a greener economy; and
- the significant breakthroughs in the development of quantum technologies, increasing the level of global investment and accelerating practical commercial exploitation of this technology.

As part of our strategy, we have repositioned the Group to focus on markets with long-term growth drivers where we can maintain leading positions within global niches. The markets include Healthcare & Lifescience; Semiconductor & Communications; Quantum Technology; Energy & Environment; Advanced Materials; and Research & Fundamental Science.

In the semiconductor market the push for more power-efficient devices, increased connectivity and the increased demand for semiconductor chips across consumer electronics are increasingly relevant.

With advanced materials being the building blocks of modern society, enabling higher and often disruptive performance is driving increased investment into new materials as well as the need for manufacturers to consider more sustainable use of valuable and finite natural resources.

For energy and environmental markets, the recognition of dramatic changes to our energy requirements and the global urgency regarding carbon emissions are accelerating the move to new energy and environmental solutions.

As a result of an increasing and ageing population, healthcare markets are looking to develop more affordable and effective therapies and treatments, through gathering more detailed understanding of the fundamental disease mechanisms as well as enabling a new paradigm in the speed, cost, and efficacy of drug development. The rapid delivery of covid vaccines is an example of how researchers are working together to accelerate medical advances.

The progress that researchers have made with quantum technology has led to significant advances and has brought forward the promise of practical commercial quantum computers, with the potential to disrupt industries and markets such as drug discovery, logistics, and financial services. This has led to an increase in national programmes and additional funding from commercial organisations.

With the rate of change in technology and the potential to disrupt entire markets, governments are increasing their investment in fundamental research to equip themselves and their workforces, and provide the technical leadership required to support sustainable economic growth.

Significant progress with our sustainability agenda
We have continued to execute our initiatives around sustainability despite the covid disruption. As an organisation, we recognise the role we play and the impact we have on the environment, society and the world around us. As part of our purpose, we are driving positive outcomes for all our stakeholders, with a focus on how we do business and by looking after our employees, customers, external partners, and the environment.

We have aligned with three of the UN's Sustainability Development Goals in areas where we have the most potential to influence and shape a sustainable future. The three we have chosen are:

3. Ensure healthy lives and promote well-being for all at all ages
7. Ensure access to affordable, reliable, sustainable and modern energy for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

Within the year we have continued to make significant progress in our drive to reduce our environmental footprint. Building on the progress over the past five years, this included a further 90% reduction in CO_2 emissions from our own facilities in the year with all consumed electricity at our manufacturing sites now being sourced from certified renewables, and with continued progress with our actions to reduce our waste to landfill levels. We are committed to ensuring new facilities are environmentally sensitive, including our new site in Bristol which will incorporate a range of energy-saving technologies to reduce environmental impact.

Whilst the impact our facilities have on the environment is relatively small, the positive impact we make through our customers is considerable and we aim to support our customers to deliver their sustainability objectives. We continue to explore opportunities to further embed sustainability into our products and our increasing portfolio of digital support offerings reflects our commitment to this.

In the year we restructured the leadership of our sustainability programme, creating a Board sub-committee and executive-led sub-groups with a focus on the environmental, social and governance activities across the Group. This has provided increased visibility of our sustainability initiatives across all levels of the organisation from the Board to each of our operating sites and increased engagement with employees.

We recognise the importance of diversity and inclusion as a key element in delivering business excellence. Our objective is to ensure that we have a high capability, diverse workforce that enables us to better understand our customers and markets. Building an organisation with a broad range of perspectives and experiences increases our ability to innovate, make the right decisions and exceed customers' expectations. In order to retain, attract and enable the best people to perform, we worked hard to create an inclusive environment and culture, where difference is valued and everyone can contribute to their full potential.

In response to the unprecedented challenges in the year we put in place a number of additional measures to support our employees. We increased the connectivity between our teams, building a structure to ensure each employee had regular contact with colleagues, we enhanced our focus on and range of mental health support, offering it to our employees and members of their family. When several of our employees in California were impacted by flooding and forest fires, we ensured that they were well supported by providing temporary shelter and food.

We are committed to making further progress with our sustainability agenda, setting meaningful targets that reflect our commitment to having a positive impact on those around us, making the world a better place now and for future generations.

R&D
Our enhanced customer-centric, market-driven approach is identifying increasingly attractive development opportunities, enriching our IP portfolio and driving our investment decisions across the Group. In the year we invested £28.9m in R&D (2020: £26.8m), representing 9.1% of sales. We monitor the proportion of revenue which originates from products launched in the last three years (our vitality index). In the period, our vitality index was 39% (2020: 39%) representing a continued healthy pipeline and performance of newly launched products.

People
I have been extremely proud of how our employees and leadership teams have embraced the changes we have had to make and for their professionalism and fortitude during these challenging times. They have worked tirelessly to help meet the changing needs of all our stakeholders. We have built a culture, where our employees are trusted to deliver and are held accountable for their actions; this has helped us to deliver the strong financial results and maintain business continuity during the year.

I would like to thank all our employees for their commitment and resilience during the year. It is through their efforts that we have been able to ensure our customers, and each other, have felt supported despite the challenges we have all faced.

Summary and outlook
We have made good progress during the year as our people have demonstrated outstanding agility to adapt to new ways of working to protect each other and our customers, whilst driving forward with our strategy for increased end market focus and operational effectiveness.

Our robust performance, strong order book and breadth of diversified end markets demonstrate the resilience of our business model, positioning us well for good progress in the year despite anticipated currency headwinds and the ongoing uncertainties as global economies look to recover from covid.

Ian Barkshire
Chief Executive

7 June 2021

OPERATIONS REVIEW
MATERIALS & CHARACTERISATION

Orders: £175.0m
(2020: £154.7m)
+13.1% Growth
+14.4% Constant currency growth(1)

Revenue: £148.6m
(2020: £145.8m)
+1.9% Growth
+3.2% Constant currency growth(1)

Adjusted(2) operating profit: £20.3m
(2020: £21.0m)

Adjusted2 operating margin: 13.7%
(2020: 14.4%)

Statutory operating profit: £16.6m
(2020: £12.3m)

(1) For definition refer to note on page 2.

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

Materials & Characterisation provides products and solutions that enable the fabrication and characterisation of materials and devices down to the atomic scale, predominantly supporting customers across applied R&D, as well as the production and manufacture of high technology products.

The Materials & Characterisation sector comprises Asylum Research, NanoAnalysis, Magnetic Resonance and Plasma Technology. In the period we transferred the Magnetic Resonance business to this sector, better aligning the portfolio with end customer applications and enabling further exploitation of synergies across the sales, marketing, and service teams.

The sector has a broad customer base across a wide range of applications for the imaging and analysis of materials down to the atomic level as well as the fabrication of semiconductor devices and structures through our range of advanced semiconductor etch and deposition process systems. Our portfolio of imaging and analysis systems includes our range of market-leading X-ray and electron analysis systems used in conjunction with electron and ion microscopes as well as our performance-leading atomic force microscopes and magnetic resonance analysers.

The sector has a strong focus on supporting and accelerating our customers' applied R&D, enabling the development of new devices, next generation higher performance materials and enhancing productivity in advanced manufacturing, quality assurance (QA) and quality control (QC). We provide leading product performance, improved ease of use and enhanced productivity, through advanced analytics, to aid in the interpretation of acquired data and provide actionable insights.

This sector's products are used in a wide range of applications, including the following:

- Advanced compound semiconductor power devices to enable faster charging times and improved energy efficiency for consumer electronics and electric vehicles.
- Semiconductor laser and high-speed devices used within communication systems and hyperscale data centres to support the exponential growth in data volumes and digital services.
- Advanced polymers used within medical implants and higher performing displays through to car bumpers and tyres.
- Quality control and assurance within high technology manufacturing of batteries, semiconductor devices and pharmaceutical tablets.

Materials & Characterisation delivered strong growth in reported orders, up 13.1% to £175.0m (2020: £154.7m), reflecting buoyant demand for our products from our Semiconductor & Communications, Advanced Materials, Healthcare & Lifescience, and Quantum Technology end markets in particular. Covid-related disruptions held back the shipment to and installation of product at customers' facilities, resulting in more subdued growth in reported revenue, up 1.9% to £148.6m (2020: £145.8m). The disproportionate delay in shipments of our higher-margin imaging and analysis systems, alongside increased investment within the sector to enhance future growth, led to adjusted operating profit and margin slightly behind the previous year at £20.3m (2020: £21.0m) and 13.7% (2020: 14.4%). However, the combination of the buoyant demand and the delayed shipments drove a 40% increase in the order book to £74.7m (2020: £53.4m), giving us greater visibility into the current financial year, as we leverage our investments.

Strong reported order growth was supported by the success of recently launched products and our relentless customer-centric approach, which exploits our market insights to tailor product offerings for specific end customer applications, increasing the product value and expanding our addressable markets.

We had strong order growth from both academic and commercial customers, which translated into good revenue growth from academic customers whilst covid-related disruption to shipments held back revenue growth from commercial customers. Academic customers accounted for 44.2% of the sector's revenue (2020: 44.0%).

Order growth was particularly strong across Asia, supported by good growth in North America with Europe broadly in line with the previous year. Covid-related disruption varied by region, resulting in revenue growth in Asia and Europe and a decline in North America despite the underlying demand and positive order intake.

Looking at our end markets, building on a positive first half to the year we continued to see sustained underlying demand for our products leading to strong order growth in the year across the Semiconductor & Communications, Advanced Materials, Healthcare & Lifescience, and Quantum Technology end market segments. Orders from customers in Energy & Environment markets were marginally below previous year despite strong growth into battery applications.

The combination of regional variations within our end markets and the varying extent of covid-related disruptions resulted in strong revenue growth in Semiconductor & Communications (representing 48.3% of sales for the sector), Healthcare & Lifescience (5.8% of sales) and Quantum Technology (1.7% of sales) market segments. Revenues to customers in Advanced Materials and Energy & Environment were disproportionally impacted by covid-related disruption relative to order intake and represented 35.5% and 8.5% of sales, respectively (2020: 38.6% and 11.1%).

The Semiconductor & Communications segment remains a significant focus for the sector. The continued drive for improved energy efficiency, increased connectivity, faster data transmission and growing consumer electronics volumes continues to elevate the importance of semiconductors within the global economy. Our expertise in semiconductor processing and the characterisation of devices, as well as the breadth of our reach across research, development and production leaves us in a strong position to capitalise on the long-term growth opportunities.

In the year we had strong order and revenue growth with increased demand across our imaging and analysis solutions in the silicon semiconductor and consumer electronics markets, as well as our portfolio of semiconductor etch and deposition processing solutions in the compound semiconductor markets. The increased volumes and improved performance requirements of semiconductor chips needed to satisfy the growing consumer electronics markets as well as the proliferation of use with the trend towards autonomous vehicles is driving both increased production capacity and the investment in next generation devices. We have had strong growth across our imaging and analysis systems in support of new and next generation device R&D as well as in the quality control and quality assurance (QA and QC) in high volume manufacturing where our solutions are used to inspect wafers and devices for defects and structural integrity down to the nanoscale. With device dimensions shrinking to provide the necessary improvements in processing power, speed and reduced cost, the ability to characterise and control the composition and structure at ever-smaller dimensions becomes increasingly important. We have continued to develop new solutions to meet these new challenges. For example, Jupiter, our recently launched large sample atomic force microscope system, is being used to detect and remove contamination on photomasks with particles below a nanometre in scale, which are now leading to critical defects in device production.

Governments around the world are identifying improved connectivity as a critical component for future economic growth, whilst exponential growth in data volumes and digital services is being driven by increased demands from digital streaming, online conferencing, autonomous vehicles, and gaming. This is increasing investment in production capacity and the development of higher performing compound semiconductor devices. As a result of these trends, we have had strong growth in our indium phosphide and gallium arsenide compound semiconductor processing solutions to commercial customers developing and manufacturing the optical devices such as lasers, switches, amplifiers, and receivers utilised within hyperscale data centres and within fibre optic communication systems. These compound semiconductor devices enable faster and more efficient transfer of vast data volumes above and beyond that of conventional silicon-based devices. We have also seen good growth across other optoelectronics applications including 3D sensors for facial recognition and micro LEDs for use in displays and consumer electronics.

The pressing need to find solutions to enable a greener economy is driving a move away from higher polluting fuels such as oil and gas towards sustainable electricity generation and the need for higher energy efficiency power conversion devices. Power electronics are the enabling technologies to efficiently use, distribute and generate electrical energy. With a significant and increasing proportion of global energy consumption being electrical, the move to advanced compound semiconductors utilising silicon carbide (SiC) or gallium nitride (GaN) devices have the potential to improve electrical efficiency by up to 30%, providing a significant contribution towards meeting the world's global emission targets. In the year we continued to improve the performance of our SiC process solutions used for high power devices enabling faster electric vehicle charging times and larger driving ranges and our GaN solutions being deployed in the more cost-sensitive consumer electrics markets aiding faster charging and better battery life for mobile phones, tablets and laptops. Our advanced solutions are providing the required device performance improvements with increased yields and reduced manufacturing costs.

Within the Advanced Materials segment we continued to see strong growth across our market-leading portfolio of imaging and analysis systems, supported by the strive to develop and manufacture stronger, lighter and higher-performing materials, whilst increasing productivity, sustainable manufacturing and the reduction in the use of essential and finite resources. Our key enabling technologies allow researchers to image and manipulate materials that are used in everything we do, own or use down to the nanoscale. Within the sector, we saw good growth in our advanced solutions with manufacturers developing new steels and super alloys. These advanced high strength materials offer significant improvements in strength and allow parts to be made with less material, at lower weight and cost, and improving fuel/energy efficiency. Our systems are also enabling the analysis of the layered structures in 2D materials such as graphene, offering ten times better resolution to improve accuracy in the characterisation of these revolutionary materials. We have also seen increased sales into the development of advanced polymers across a diverse range of end applications.

Advanced polymers provide the opportunity to replace more conventional materials because of their lower cost and ability to be flexible, biocompatible and biodegradable, with a high strength-to-weight ratio. These polymers have applications from medical devices and implants, to membranes within batteries through to displays to car tyres. Our products are used to characterise and control the structure and composition of polymers at the nanoscale which determines their value and utility for each application.

Through our market intimacy focus we continue to look for additional opportunities to expand into more routine testing markets, extending our reach to customers that would not have used our equipment before. This has driven increased demand for our cost-effective tools for routine material analysis where our solutions are helping undertake the QA and QC of products ranging from simple screws through to components for driverless vehicles. The growth in demand for our products across steels and polymers has been partially offset by the ongoing weakness in the mainstream automotive and aerospace markets, which have been severely impacted by covid.

We continue to see good growth in quantum technology markets, where we have developed dedicated solutions building on our expertise in semiconductor processing and characterisation. For many quantum applications, such as computers and sensors, the uniformity, high purity, and surface structure are critical to achieve the desired quantum properties with useable lifetimes.

Within Energy & Environment, orders and revenue were down, with strong growth across battery applications being more than offset by subdued markets across forensics, environmental monitoring, and photovoltaic R&D. With batteries offering affordable and flexible energy storage and delivery, they form a key element in the transition to a greener economy. This is leading to increased production volumes and investment in battery innovation to provide higher-performing and more energy efficient systems. We are using our experience from other markets to provide dedicated research and production support solutions for this exciting market.

This has led to good growth in the quality control of the raw materials used for anode and cathode manufacturing, improving yield, minimising manufacturing waste, and avoiding catastrophic failure. Our analysis solutions are also being used to develop next generation battery materials and structures with the goal of improved lifetime, increased storage capacity, faster charging times and lower environmental impact.

Our continued focus on tailored solutions for the Healthcare & Lifescience market has resulted in strong revenue growth in the segment across a range of end applications. Our AFM systems are helping researchers develop the scaffolding materials that are used in cell growth, increasing throughput from hours to minutes. We have also seen increased demand for our dedicated regulatory-approved pharmaceutical software used by manufacturers to screen for foreign body contamination within and on the surface of medicine tablets. Another growth area for our solutions has been in the characterisation of biomaterials, especially those used in medical devices. Here it is important to understand the size and distribution of the nanoscale precipitates that are contained in medical devices, as some can cause variable and unpredictable reactions in the body.

RESEARCH & DISCOVERY

Orders: £115.7m
(2020: £124.3m)
(6.9)% Growth
(5.1)% Constant currency growth[(1)]

Revenue: £113.4m
(2020: £117.8m)
(3.7)% Growth
(2.0)% Constant currency growth[(1)]

Adjusted[(2)] operating profit: £19.5m
(2020: £14.5m)

Adjusted[(2)] operating margin: 17.2%
(2020: 12.3%)

Statutory operating profit: £13.1m
(2020: £13.3m)

(1) For definition refer to note on page 2.
(2) Details of adjusting items can be found in Note 1 to the Financial Statements.

Research & Discovery provides advanced solutions that create unique environments and enable imaging and analytical measurements down to the atomic and molecular level, predominantly used across scientific research and applied R&D.

The Research & Discovery sector includes Andor Technology, NanoScience and X-Ray Technology. We build on our relationships with customers, working on breakthrough applications in research to gain insights and support future commercial applications. We have strong brand recognition and leading product performance in our chosen market segments.

The sector's products play a key role in applications including:

- Supporting the global fight against covid, including the use of scientific cameras within diagnostic testing equipment, and a range of products helping researchers to study the virus.
- Rapid gene sequencing for research into cancer and other disease states.
- Advancing quantum technologies and the development of commercially viable quantum computers.
- Fundamental research into material properties, disease mechanisms and space exploration.

Revenues and orders for the sector were impacted by significant covid-related disruptions to certain end application segments at the start of the year which were not fully offset by a return to growth in the second half of the year in most markets. The severity of the impact in the first quarter was a combination of reduced activity at many of our customers' sites, due to temporary closures, reduced occupancy, or restricted access, and constraints to our manufacturing capacity, as we adapted sites to covid-safe workplaces and established new working practices.

This resulted in a 6.9% reduction in reported orders to £115.7m (2020: £124.3m) and a 3.7% decline in reported revenue to £113.4m (2020: £117.8m). However, profitability for the sector was significantly improved through the realisation of the culmination of business improvements in commercial practices and operational efficiencies made through our ongoing Horizon programme. This supported an increase in reported adjusted operating profit of 34.5% to £19.5m (2020: £14.5m) and an improvement in reported adjusted operational margin of 490 basis points to 17.2% (2020: 12.3%), representing an increase of 450 basis points at constant currency.

Revenue growth into academic customers was more than offset by a decrease to commercial customers, resulting in an increased proportion of sales within the sector into academic or government-funded customers of 74%.

From a geographical perspective, strong revenue growth in Asia was more than offset by the reduction across North American and Europe, due primarily to end customer disruption.

The disruption to orders was most severe in the first quarter, with continued improvement quarter on quarter across most of our end markets; however, there continued to be subdued activity from customers involved in Research & Fundamental Science applications. The strong recovery in end markets in the second half resulted in significant full-year order growth across Quantum Technology and Advanced Materials, good growth into Semiconductor and an in-line performance in Healthcare & Lifescience.

Research & Fundamental Science ended significantly down on the previous year, reflecting continued subdued customer activity from customers.

Healthcare & Lifescience saw significant covid disruption to the working practices of our customers in the first quarter, as well as the reallocation of resources and deferred funding programmes throughout the year. This included the temporary or partial site closures at some research facilities and central laboratories in the first quarter in particular. The long-term fundamental market drivers of improving the health and wellbeing of society remain robust, driven by the need to better understand fundamental disease mechanisms at the cellular and molecular level, and for the development of new treatments, therapies, and personalised medicines. The positive momentum that built over the year, with many laboratories starting to reopen, brought good year-on-year growth in the second half, with orders for the year broadly in line with previous year but constant currency revenue down 7.7% due primarily to the phasing of orders. We had strong growth for products that were used to support the global fight against covid, including the use of our scientific cameras within diagnostic testing equipment, and our broad range of products helping researchers study the virus to understand its genetic sequence, mutations, impact on patient cells and the immune response it generates.

We had increased demand for our Dragonfly 200 microscopy system for rapid gene sequencing, which is used for research into cancer and other disease states. Dragonfly can provide very fast, easy-to-use multicolour imaging and when synchronised with complex fluid handling systems provides an easy-to-use platform for this advanced application which helps drive forward a much deeper understanding of how genes influence the behaviours of individual cells and the corresponding responses to cancer. We also increased sales of our cameras in the growing application of cancer diagnostics and drug discovery in the year. The closure of customer facilities as well as the reprioritisation of work and resources towards covid-related initiatives negatively impacted sales in Europe and in North America into central research facilities as well as customers involved in cell biology. This impacted sales across the portfolio including our higher-end research microscopy systems in the year. In support of our customers' changing working practices, sales of our analysis and visualisation software increased in the year with our 'satellite manager function' being particularly popular, allowing customers to work remotely and share data efficiently across their teams and with collaborators regardless of location.

The quantum market is in a state of acceleration, with significant scientific and technical breakthroughs in the field dramatically accelerating the timeline for disruptive quantum computers and sensor-based systems and making useful systems a possibility today. This progress has driven a rise in the number of national and corporate programmes and an increase in the associated funding being made available, which resulted in very strong growth in demand for our cryogenic platforms and high field magnet systems across fundamental research, and increasingly across applied R&D. The achievements already delivered in this area have resulted in governments and commercial organisations looking to harness the 'quantum advantage' in the near term where marginal practical improvements can be achieved relative to existing computers, such as the calculations to quote derivative prices in real time rather than taking several hours. In the year, we have made good progress with the consortium project with Rigetti to deliver the UK's first commercial quantum computer which will provide cloud-based access for customers. We have completed the facility build at our Tubney Woods site near Oxford, installed the cryogenic platform, with Rigetti working on installation of the quantum computing device.

Collaboration partners from financial, materials design, energy and pharmaceuticals applications are awaiting access to the machine. Most experts believe we are a number of years away from systems with 1000 qubits which could fundamentally disrupt a number of end markets, with the potential to benefit all in society by removing the limitations that hold back progress in a plethora of areas from drug discovery, through financial services, to climate change and logistics.

Growth in the Advanced Materials segment reflected the ongoing demand for our cryogenic platforms, high field magnet systems, scientific cameras and optical components. With end applications such as sensors, semiconductors and batteries, our solutions are helping researchers analyse and characterise the fundamental properties of exotic materials such as graphene and their use in next generation devices.

Whilst not a significant market for the sector, our sales into Energy & Environment were impacted by the dramatic reduction in global air travel and airport footfall which led to significantly reduced demand from our OEM customers for our technologies used within airport security solutions. However, we expect to see the market strengthen once travel restrictions are lifted.

Covid-related site closures at many research institutions impacted sales into Research & Fundamental Science. However, we have continued to see long-term interest in our key enabling technologies, such as our magnet systems and high-end scientific cameras across a wide range of areas, including fundamental physics and chemistry. There was positive momentum in the second half of the year, as multi-site collaborative teams progressed research remotely. In the year, a third of the systems for the Institute of Physics in Beijing were installed as part of the multisystem order into their extreme environments laboratory.

SERVICE & HEALTHCARE

Orders: £63.0m
(2020: £57.0m)
+10.5% Growth
+11.8% Constant currency growth(1)

Revenue: £56.5m
(2020: £53.8m)
+5.0% Growth
+5.9% Constant currency growth(1)

Adjusted(2) operating profit: £16.9m
(2020: £15.0m)

Adjusted(2) operating margin: 29.9%
(2020: 27.9%)

Statutory operating profit: £16.9m
(2020: £15.0m)

(1) For definition refer to note on page 2.
(2) Details of adjusting items can be found in Note 1 to the Financial Statements.

The Service & Healthcare sector comprises the Group's maintenance service contracts, billable repairs, training and support services, and spare part sales related to Oxford Instruments' own products; and the support and service of third-party MRI scanners in Japan.

Throughout the pandemic we maintained high levels of support for our customers, meeting increased demand for services related to our own products, the ongoing requirements for the essential MRI equipment for our hospital customers in Japan, and for our broader range of service products. This was reflected in a 10.5% increase in reported orders to £63.0m (2020: £57.0m) and a 5.0% increase in reported revenue to £56.5m (2020: £53.8m).

Our increased local provision of services, combined with enhanced digital and remote offerings, supported improved profitability, leading to a 12.7% increase in reported adjusted operating profit to £16.9m (2020: £15.0m), with the operating margin up 200 basis points to 29.9% (2020: 27.9%).

Our service offerings are a key differentiator for us in our markets and covid has provided us with new opportunities to further enhance the value of our relationships with our customers. In the year we continued with the accelerated transformation of our customer support services, adapting existing and developing new service offerings to ensure we continued to meet our customers' changing needs. This has included the provision of increased digital products, remote servicing and installations, and better leveraging of our global footprint.

We have helped our customers work outside their laboratories, providing remote access to their systems and facilitating data sharing between teams to allow them to progress their research.

Whilst covid has made access to our customer sites challenging, by improving online accessibility to our technical support teams and developing the capabilities of our in-country support teams, we have been able to respond quickly to customer queries without the same requirement for travel. Our customers are increasingly getting used to having their issues fixed much quicker than pre-covid, which is driving the continual development of our support to meet this demand.

As we continue to build a better understanding of how our customers are using our products, we are tailoring our service offerings for the individual needs of the different groups. Our goal is to increase our customers' productivity, enhance their capabilities and create more value from their initial investment. In support of this, and as part of our transformation, we are developing our managed services offering which provides enhanced lifetime support options. This allows us to take care of training users, upgrading their software and hardware where appropriate, providing more relevant data, with more actionable insights and assurance of result accuracy. Whilst we are at the early stages of our services transformation, we have built a healthy pipeline of opportunities to further support our customers in the future.

FINANCE REVIEW

We delivered strong growth in profit and margin, with good cash conversion enhancing our robust financial strength.

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; profit or loss on disposal of operations; other significant non-recurring items; and the mark-to-market revaluation 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 foreign currencies and makes reference to constant currency numbers to remove the impact of currency effects in the year. These are prepared on a month-by-month basis using the translational and transactional exchange rates which prevailed in the previous year rather than the actual exchange rates which prevailed in the year. Transactional exchange rates include the effect of our hedging programme.

In January 2020, the Group disposed of its minority equity stake in the Scienta Omicron joint venture to existing shareholders. In the following month, the Group completed the disposal of its OI Healthcare business in the US. For the purpose of comparative reporting, OI Healthcare is classified as a discontinued operation.

Orders increased by 5.3% to £353.7m (2020: £336.0m), an increase of 6.7% at constant currency. At the end of the period, the Group's order book for future deliveries stood at £198.1m (31 March 2020: £175.0m). The order book grew 13.2% on a reported basis and 17.8% at constant currency.

Revenue on a continuing basis increased by 0.3% to £318.5m (2020: £317.4m). Revenue from continuing operations, excluding currency effects, increased by 1.7%, with the movement in average currency exchange rates over the year reducing reported revenue by £4.4m.

Adjusted operating profit from continuing operations increased by 12.3% to £56.7m (2020: £50.5m). Adjusted operating profit, excluding currency effects, increased by 13.3%, with a currency headwind in the year of £0.5m. Adjusted operating margin from continuing operations increased by 190 basis points to 17.8% (2020: 15.9%). Excluding currency effects, adjusted operating margin increased by 180 basis points to 17.7%.

Statutory operating profit includes the amortisation of acquired intangibles of £8.4m, business reorganisation items of £0.4m, impairment of capitalised development costs of £1.3m and a credit of £6.4m relating to the movement in the mark-to-market valuation of uncrystallised currency hedges for future years. Statutory operating profit of £53.0m (2020: £39.8m) grew by 33.2%.

Adjusted profit before tax from continuing operations grew by 12.9% to £55.9m (2020: £49.5m), representing a margin of 17.6% (2020: 15.6%).

Statutory profit before tax from continuing operations grew by 34.5% to £52.2m (2020: £38.8m), representing a margin of 16.4% (2020: 12.2%).

Continuing adjusted basic earnings per share grew by 12.0% to 78.6p (2020: 70.2p). Continuing basic earnings per share were 72.8p (2020: 55.9p), growth of 30.2%.

Cash generated from operations of £49.7m (2020: £62.3m) represents 101% (2020: 124%) cash conversion.

Net cash increased from £67.5m on 31 March 2020 to £97.6m, aided by good operating cash flow, and is stated after an additional contribution to the UK defined benefit pension scheme of £8.1m that was made in March 2021.

At the end of March, our revolving credit facility remained undrawn, leaving approximately £100m of committed facilities. This represents total headroom of just under £200m. At the end of March 2021, the Group repaid outstanding private placement loan notes of £27.9m from its cash balances.

Income Statement

The Group's Income Statement is summarised below.

	Year ended 31 March 2021 £m	Year ended 31 March 2020 £m	Change
Revenue	**318.5**	317.4	+0.3%
Adjusted operating profit	**56.7**	50.5	+12.3%
Amortisation of acquired intangible assets	**(8.4)**	(8.7)	
Non-recurring items	**(1.7)**	(0.6)	
Mark-to-market movement of currency hedges	**6.4**	(1.4)	
Statutory operating profit	**53.0**	39.8	+33.2%
Net finance costs	**(0.8)**	(1.0)	
Adjusted profit before taxation	**55.9**	49.5	+12.9%
Statutory profit before taxation	**52.2**	38.8	+34.5%
Adjusted effective tax rate	**19.3%**	18.8%	
Effective tax rate	**19.9%**	17.5%	
Continuing adjusted earnings per share – basic	**78.6p**	70.2p	+12.0%
Continuing earnings per share – basic	**72.8p**	55.9p	+30.2%
Dividend per share (total)	**17.0p**	—	

Orders and revenue

An internal reorganisation during the year means that our Magnetic Resonance business and research and development facility in Finland are now reported within the Materials & Characterisation segment, having been previously presented within Research & Discovery. This has led to a small change in the comparative split of revenue across the two segments.

Total orders grew by 5.3% (+6.7% at constant currency) to £353.7m. Orders grew by 13.1% (+14.4% at constant currency) for Materials & Characterisation and by 10.5% (+11.8% at constant currency) for Service & Healthcare but declined by 6.9% (-5.1% at constant currency) for Research & Discovery.

Revenue of £318.5m (2020: £317.4m) increased by 0.3% (+1.7% at constant currency). Revenue grew by 1.9% for Materials & Characterisation (+3.2% at constant currency), with growth for our semiconductor processing tools and scanning probe microscopes offsetting a small decline in deliveries of our analysers for electron microscopes due to covid-related customer site access restrictions and supply chain constraints. Growth in revenue was also moderated by the impact of delays and frustrations in obtaining export licences. Strong revenue growth for our cryogenic and complex magnets was offset by a decline in deliveries from our imaging and microscopy business, resulting in a fall in reported revenue for Research & Discovery of 3.7% (-2.0% at constant currency). The decline in shipments of our imaging products was impacted by a slowdown in production due to supply chain constraints and the adoption of covid working practices. Revenue growth from service of our own products resulted in growth of 5.0% (+5.9% at constant currency) for Service & Healthcare.

The book-to-bill ratio (orders received to goods and services billed in the period) for the year was 111% (2020: 106%).

On a geographic basis, revenue grew by 2.7% in Europe (+1.2% at constant currency). Revenue for North America declined by 14.3% on a reported basis and by 10.8% at constant currency, partly impacted by covid-related delays to customer acceptances; orders for the region grew by 3.0% (+6.9% at constant currency). Asia delivered strong growth of 9.9% (+11.9% at constant currency) and remains our largest region by revenue.

Geographic revenue growth

	2020/21		2019/20		**Change**	**%**	**% growth at constant**
£m	**£m**	**% of total**	£m	% of total	**£m**	**growth**	**currency**
Europe	**87.2**	**27%**	84.9	27%	**+2.3**	**2.7%**	**1.2%**
North America	**76.7**	**24%**	89.5	28%	**(12.8)**	**(14.3%)**	**(10.8%)**
Asia	**150.2**	**47%**	136.6	43%	**+13.6**	**10.0%**	**11.9%**
Rest of World	**4.4**	**2%**	6.4	2%	**(2.0)**	**(31.2%)**	**(31.3%)**
	318.5	**100%**	317.4	100%	**+1.1**	**0.3%**	**1.7%**

The total order book grew by 13.2% (17.8% at constant currency) to £198.1m. The order book, at constant currency, compared to 31 March 2020, increased by 39.9% 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 2021/22 financial year. Research & Discovery was broadly flat, with strong growth for our imaging and microscopy products offset by a decline in our X-Ray Technology business due to the phasing of a large regular order that slipped into the following year. Continued focus on own product service resulted in growth of 9.4% from Service & Healthcare.

£m	Materials & Characterisation	Research & Discovery	Service & Healthcare	Total
Revenue[(1)]: 2019/20	145.8	117.8	53.8	317.4
Constant currency growth/(decline)	4.7	(2.4)	3.2	5.5
Revenue at constant currency: 2020/21	150.5	115.4	57.0	322.9
Foreign exchange	(1.9)	(2.0)	(0.5)	(4.4)
Revenue: 2020/21	**148.6**	**113.4**	**56.5**	**318.5**
Revenue growth: reported	1.9%	(3.7%)	5.0%	0.3%
Revenue growth: constant currency	3.2%	(2.0%)	5.9%	1.7%

(1) From continuing operations.

Gross profit

Gross profit grew by 4.0% to £164.8m (2020: £158.4m), representing a gross profit margin of 51.7%, an increase of 180 basis points over last year, assisted by procurement savings and operating efficiencies delivered from our operational excellence programme.

Adjusted operating profit and margin

An internal reorganisation during the year resulted in our Magnetic Resonance business and research and development facility in Finland being reported within the Materials & Characterisation segment, having been previously presented within Research & Discovery. This has led to a small change in the comparative split of adjusted operating profit across the two segments.

Adjusted operating profit from continuing operations increased by 12.3% to £56.7m (2020: £50.5m), representing an adjusted operating profit margin of 17.8%, an increase of 190 basis points against last year. At constant currency, the adjusted operating profit margin was 17.7%, an increase of 180 basis points.

Materials & Characterisation adjusted operating profit fell by 3.3% (a decline of 1.9% at constant currency) with margin declining by 70 basis points to 13.7% (2020: 14.4%). This was attributable to lower revenue from our higher margin imaging and analysis systems, additional investment in the sector, and a warranty provision on a particular product in their portfolio which had been withdrawn from sale in the year.

Research & Discovery's adjusted operating margin increased to 17.2% (2020: 12.3%), growth of 490 basis points. At constant currency, the margin was 16.8%, an increase of 450 basis points. Our cryogenic and complex magnet business has delivered a material uplift in profitability, supported by improved commercial practices, operational efficiencies, and a high level of customer acceptances in the year. In addition, lower discretionary costs in our optical imaging business have led to an improvement in margin. These positive performances more than offset the loss of profit following the sale of our shareholding in ScientaOmicron at the end of last year (recording a profit of £0.7m in the comparative period).

Service & Healthcare margin increased by 200 basis points to 29.9% (2020: 27.9%). At constant currency, the margin was 30.2%, an increase of 230 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 £0.5m when compared to blended hedged exchange rates for the comparative period.

£m	Materials & Characterisation	Research & Discovery	Service & Healthcare	Total
Adjusted operating profit[(1):] 2019/20	21.0	14.5	15.0	50.5
Constant currency growth/(decline)	(0.4)	4.9	2.2	6.7
Adjusted operating profit at constant currency: 2020/21	20.6	19.4	17.2	57.2
Foreign exchange	(0.3)	0.1	(0.3)	(0.5)
Adjusted operating profit: 2020/21	**20.3**	**19.5**	**16.9**	**56.7**
Adjusted margin[(2)]: 2019/20	14.4%	12.3%	27.9%	15.9%
Adjusted margin[(2)]: 2020/21	13.7%	17.2%	29.9%	17.8%
Adjusted margin[(2)]: (constant currency): 2020/21	13.7%	16.8%	30.2%	17.7%

(1) From continuing operations.

(2) 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 from continuing operations increased by 33.2% to £53.0m (2020: £39.8m), representing an operating profit margin of 16.6%, an increase of 410 basis points against last year. Continuing statutory operating profit includes the amortisation and impairment of acquired intangible assets; acquisition items; profit or loss on disposal of operations; other significant non-recurring items; and the mark-to-market of financial derivatives. The growth in statutory operating profit is primarily due to an increase in the operating margin and a large credit from the mark-to-market gain on the valuation of financial derivatives.

Adjusting items
Amortisation of acquired intangibles of £8.4m relates to intangible assets recognised on acquisitions, being the value of technology, customer relationships and brands.

Non-recurring items include £0.4m of one-off professional fees and property-related costs, and an impairment charge of £1.3m relating to delays in market launch of some specific development projects within the Materials & Characterisation segment.

The Group uses derivative products to hedge its short-term exposure to fluctuations in foreign exchange rates. Our hedging policy allows for forward contracts to be entered into up to 18 months forward from the end of the next reporting period. The Group policy is to have in place at the beginning of the financial year hedging instruments to cover approximately 80% of its forecast transactional exposure for the following twelve months and, subject to pricing, up to 20% of exposures for the next six months. The Group has decided that the additional costs of meeting the extensive documentation requirements of IFRS 9 to apply hedge accounting to these foreign exchange hedges cannot be justified. Accordingly, the Group does not use hedge accounting for these derivatives.

Net movements on mark-to-market derivatives in respect of transactional currency exposures of the Group in future periods are disclosed in the Income Statement as foreign exchange and excluded from our calculation of adjusted profit before tax. In the current year this amounted to a credit of £6.4m (2020: £1.4m charge). The year-end asset reflects an uncrystallised gain arising from a rise in the value of Sterling at the balance sheet date against a blended rate achieved on US Dollar, Euro and Japanese Yen forward contracts that will mature over the next 18 months.

Net finance costs
The Group’s adjusted net interest costs rose by £0.7m to £1.7m (2020: £1.0m) due to the inclusion of a refund of overpaid interest of £0.4m in last year’s comparative. Interest credit on pension scheme net assets of £0.9m (2020: £nil) arising from the pension surplus brings net finance charges to £0.8m (2020: £1.0m).

Adjusted profit before tax and margin
Continuing adjusted profit before tax increased by 12.9% to £55.9m (2020: £49.5m). The adjusted profit before tax margin of 17.6% (2020: 15.6%) 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 2021 £m**	Year ended 31 March 2020 £m
Statutory profit before tax	**52.2**	38.8
Add back:		
Amortisation of acquired intangible assets	**8.4**	8.7
Non-recurring items (Note 1)	**1.7**	0.6
Mark-to-market movement of currency hedges	**(6.4)**	1.4
Adjusted profit before tax	**55.9**	49.5

Statutory profit before tax and margin
The continuing statutory profit before tax increased by 34.5% to £52.2m (2020: £38.8m). Continuing statutory profit before tax includes the amortisation and impairment of acquired intangible assets; acquisition items; profit or loss on disposal of operations; other significant non-recurring items; and the mark-to-market of financial derivatives. The profit before tax margin of 16.4% (2020: 12.2%) was above last year due to an increase in the operating margin, lower net finance costs and a large credit from the mark-to market gain on the valuation financial derivatives.

Taxation
The adjusted tax charge from continuing operations of £10.8m (2020: £9.3m) represents an effective tax rate of 19.3% (2020: 18.8%). The tax charge from continuing operations of £10.4m (2020: £6.8m) represents an effective tax rate of 19.9% (2020: 17.5%). The movements reflect a change in the geographical mix of profits earned.

Earnings per share
Continuing adjusted basic earnings per share increased by 12.0% to 78.6p (2020: 70.2p); continuing adjusted diluted earnings per share grew by 11.7% to 77.6p (2020: 69.5p). Continuing basic earnings per share increased by 30.2% to 72.8p (2020: 55.9p); continuing diluted earnings per share grew by 30.0% to 71.9p (2020: 55.3p).

The number of undiluted weighted average shares increased to 57.4m (2020: 57.3m).

Foreign exchange
The Group faces transactional and translational currency exposure, most notably against the US Dollar, Euro and Japanese Yen. For the year, approximately 19% of Group revenue was denominated in Sterling, 46% in US Dollars, 21% in Euros, 12% 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	61.5	(69.3)
US Dollar	145.0	64.1
Euro	68.4	36.8
Japanese Yen	37.9	21.9
Chinese Renminbi	4.8	2.7
Other	0.9	0.5
	318.5	56.7

The Group maintains a hedging programme against its net transactional exposure using internal projections of currency trading transactions expected to arise over a period extending from 12 to 24 months. As at 31 March 2021, the Group had currency hedges in place extending up to 18 months forward.

For the full year 2021/22, our assessment of the currency impact is, based on hedges currently in place and current currency rates, a headwind of approximately £18.5m to revenue and £2.5m to profit. Current rates are: GBP:USD 1.42; GBP:EUR 1.17; GBP:JPY 155. For the full year 2022/23, using the same assumptions, there is an additional headwind of £6.4m to profit owing to the unwinding of currency hedges that have a positive benefit in 2021/22. This impact does not affect the underlying future growth of the Group and is prior to mitigating actions. Uncertain volume and timing of shipments and acceptances, currency mix and FX volatility may significantly affect full-year currency forecast effects.

Disposal of Scienta Omicron

On 29 January 2020, the Group sold its 47% share in Scienta Omicron to a group of existing Shareholders in the joint venture for a consideration of SEK 147m (£11.7m). Within adjusted operating profit for the comparative period the Group recorded a profit of £0.7m. A gain of £6.5m on disposal is treated as a non-recurring item in the comparative period.

Disposal of OI Healthcare – discontinued operations

On 24 February 2020, the Group sold the OI Healthcare business in the US to MXR Imaging, Inc, for a consideration of $14.9m (£11.5m). The business has been treated as a discontinued operation. A loss of £0.5m after taxation has been recorded under discontinued operations in the prior year.

Dividend

The Group's policy is to increase the dividend each year in line with the increase in underlying earnings, considering movements in currency. Following the high uncertainty created by the impact of covid, the Group did not pay a dividend for the 2019/20 financial year. After a resilient year of trading, the Board has proposed a final dividend of 12.9p per share. This results in a total dividend of 17.0p per share, equivalent to a two-year compound annual growth rate of 8.7% from 2018/19. An interim dividend of 4.1p per share was paid on 14 April 2021. The final dividend will be paid, subject to Shareholder approval, on 15 October 2021 to Shareholders on the register as at 10 September 2021.

Cash flow

The Group cash flow is summarised below.

	Year ended 31 March 2021 £m	Year ended 31 March 2020 £m
Adjusted operating profit	**56.7**	50.5
Depreciation and amortisation	**9.1**	9.9
Adjusted[(1)] EBITDA	**65.8**	60.4
Working capital movement	**(2.7)**	10.1
Equity settled share schemes	**1.8**	3.1
Share of profit from associate	**—**	(0.7)
Non-recurring items	**0.3**	(0.6)
Pension scheme payments above charge to operating profit	**(15.5)**	(10.0)
Cash from operations	**49.7**	62.3
Interest	**(1.6)**	(1.0)
Tax	**(6.3)**	(6.1)
Capitalised development expenditure	**(0.9)**	(2.8)
Expenditure on tangible and intangible assets	**(4.0)**	(4.3)
Proceeds from sale of associate	**—**	11.7
Decrease in long-term receivables	**—**	1.4
Dividends paid	**—**	(8.2)
Proceeds from issue of share capital and exercise of share options	**0.2**	0.7
Payments made in respect of lease liabilities	**(2.8)**	(3.3)
Decrease in borrowings	**(27.9)**	(0.6)

Net increase in cash and cash equivalents from continuing operations	**6.4**	49.8

(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 £49.7m (2020: £62.3m) represents 101% (2020: 124%) cash conversion. Cash conversion is defined as cash from operations before non-recurring items and pension scheme payments above charge to operating profit, less capitalised development expenditure, capital expenditure and payments made in respect of leases liabilities, divided by adjusted operating profit.

Reconciliation of cash generated from operations to adjusted operating cash flow	**Year ended 31 March 2021 £m**	Year ended 31 March 2020 £m
Cash from operations	**49.7**	62.3
Non-recurring items	**(0.3)**	0.6
Pension scheme payments above charge to operating profit	**15.5**	10.0
Capitalised development expenditure	**(0.9)**	(2.8)
Expenditure on tangible and intangible assets	**(4.0)**	(4.3)
Payments made in respect of lease liabilities	**(2.8)**	(3.3)
Adjusted cash from operations	**57.2**	62.5
Cash conversion % (adjusted cash from operations/adjusted operating profit)	**101%**	124%

Working capital increased by £2.7m. Inventories rose by £1.3m and receivables increased by £10.5m following a high number of shipments and acceptances at the year end compared to the corresponding period, which was impacted by covid. Payables and customer deposits increased by £9.1m.

Looking forward, we would expect capital expenditure of approximately £32m to complete the construction and fit-out of our new facility near Bristol for our Plasma Technology business. It is expected that costs of approximately £20m will be incurred in the financial year 2021/22, with the remainder falling into the following year. The business will enter a 20-year lease on completion of construction, which is anticipated to commence at the end of the first half of the 2022/23 financial year.

Pension

Pension payments above charge to operating profit of £15.5m included a one-off contribution of £8.1m to the UK defined benefit pension scheme, in addition to the current recovery payments.

Interest

Net interest paid was £1.6m (2020: £1.0m), the increase reflecting a receipt of overpaid interest of £0.4m in the comparative period.

Tax

Tax paid was £6.3m (2020: £6.1m), with cash tax in both years benefiting from utilisation of prior year losses carried forward.

Investment in Research and Development (R&D)

Total cash spend on R&D in the year was £28.9m, equivalent to 9.1% of sales (2020: £26.8m, 8.4% of sales). A reconciliation between the adjusted amounts charged to the Income Statement and the cash spent is given below:

	Year ended 31 March 2021 £m	Year ended 31 March 2020 £m
R&D expense charged to the Income Statement	**30.0**	26.6
Depreciation of R&D-related fixed assets	**(0.1)**	—
Amounts capitalised as fixed assets	**0.6**	0.1
Amortisation and impairment of R&D costs capitalised as intangibles	**(2.5)**	(2.7)
Amounts capitalised as intangible assets	**0.9**	2.8
Total cash spent on R&D during the year	**28.9**	26.8

Net cash and funding

Net cash

Good cash generation in the year increased the Group's net cash position from £67.5m to £97.6m. Cash generated from operations was £49.7m (2020: £62.3m) after the inclusion of an additional contribution to the UK defined benefit pension scheme that increased deficit recovery payments to £15.5m. The Group invested in capitalised development costs of £0.9m and tangible and intangible assets of £4.0m, with investments in semiconductor processing development tools, quantum computing related assets and infrastructure, and expenditure to increase production capacity.

Movement in net cash	£m
Net cash after borrowings as at 31 March 2020	67.5

Cash generated from operations	49.7
Interest	(1.6)
Tax	(6.3)
Capitalised development expenditure	(0.9)
Capital expenditure on tangible and intangible assets	(4.0)
Other items	(6.8)
Net cash after borrowings as at 31 March 2021	**97.6**

In early 2021, the Financial Reporting Council (FRC) conducted a review on the Group's Report and Financial Statements for the year ended 31 March 2020. Following completion of this review we have concluded that overdraft balances should be presented gross, rather than netted off against cash and cash equivalents. As a result, the Consolidated Statement of Financial Position as at 31 March 2020 has been restated. Full details will be included in the Accounting Policies note in the 2021 Report and Financial Statements. The restatement did not result in any change to reported profit, earning per share, net assets or cash flows reported in the 2020 financial year.

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 32.7%, with the change principally reflecting a higher level of earnings.

Return on capital employed	**Year ended 31 March 2021 £m**	Year ended 31 March 2020 £m
Adjusted operating profit	**56.7**	50.5
Amortisation of acquired intangible assets	**(8.4)**	(8.7)
Adjusted operating profit after amortisation of acquired intangible assets	**48.3**	41.8
Property, plant and equipment	**21.1**	21.8
Right-of-use assets	**7.3**	8.2
Intangible assets	**122.6**	135.5
Inventories	**58.7**	58.8
Trade and other receivables	**75.6**	71.1
Non-current lease payables	**(4.9)**	(6.5)
Non-current provisions	**(0.7)**	(0.9)
Trade and other payables	**(126.1)**	(125.1)
Current lease payables	**(2.6)**	(2.1)
Current provisions	**(8.7)**	(7.5)
Return on capital employed (ROCE)	**32.7%**	24.0%
Capital employed	**142.3**	153.3
Average capital employed	**147.8**	174.1
Return on capital employed (ROCE)	**32.7%**	24.0%

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.

Return on invested capital	**Year ended 31 March 2021 £m**	Year ended 31 March 2020 £m
Adjusted operating profit	**56.7**	50.5
Taxation	**(10.8)**	(9.3)
Adjusted operating profit after taxation	**45.9**	41.2
Total equity	**266.2**	251.6
Net cash (including lease liabilities)	**(90.1)**	(58.9)
Invested capital	**176.1**	192.7
Average invested capital	**184.4**	198.8
Return on invested capital (ROIC)	**24.9%**	20.7%

Net cash including lease liabilities	**Year ended 31 March 2021 £m**	Year ended 31 March 2020 £m
Net cash after borrowings	**97.6**	67.5
Lease liabilities	**(7.5)**	(8.6)
Net cash and lease liabilities after borrowings	**90.1**	58.9

Funding

On 2 July 2018, the Group entered into an unsecured multi-currency revolving facility agreement, which is committed until June 2024 with one-year extension options at the end of the first and second years. The facility has been entered into with two banks and comprises a Euro-denominated multi-currency facility of €50.0m (£43m) and a US Dollar-denominated multi-currency facility of $80.0m (£56m).

We are in discussions to extend the facility by one year to June 2025.

The Group repaid bilateral private placement notes of £27.9m on 31 March 2021 from its cash balance.

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 2021 the business had net cash.

Pensions

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

On an IAS 19 basis, the surplus arising from our defined benefit pension scheme obligations on 31 March 2021 was £16.3m (2020: £30.7m). The value of scheme assets increased to £340.2m (2020: £321.4m). Scheme liabilities increased to £323.9m (2020: £290.7m) due to movements in the discount rate and inflation rate. The discount rate decreased from 2.5% to 2.1%, because of a reduction in bond yields that followed low central bank rates due to the covid pandemic. The inflation rate has increased from 2.6% to 3.1%, reflecting economic conditions at the balance sheet date.

The scheme's actuarial valuation review, rather than the accounting basis, determines our cash payments into the scheme. The cash contributions into the scheme are expected to continue until early 2026, at which point we expect, based on current assumptions, the scheme to achieve self-sufficiency. In 2021, these contributions amounted to £15.5m, of which £8.1m was an additional one-off payment made at the end of the year, following which we will further de-risk the investment strategy of the scheme. 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, Strategy and Operations sections. 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 remained robust during the covid pandemic. The Group has prepared and reviewed a number of scenarios for the Group based on key risks noted for the business and the potential impact on orders, trading and cash flow performance. In addition, the Group has overlaid the risk of long-term adverse movements in foreign exchange rates to our cash flow forecasts. The Board is satisfied, having considered the sensitivity analysis, as well as its funding facilities, that the Group has adequate resources to continue in operational existence for the foreseeable future.

Forward-looking statements

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

Gavin Hill
Group Finance Director

7 June 2021

CONSOLIDATED STATEMENT OF INCOME
Year ended 31 March 2021

		2021			2020		
			Adjusting			Adjusting	
		Adjusted	items(1)	Total	Adjusted	items(1)	Total
	Note	£m	£m	£m	£m	£m	£m
Revenue	3	**318.5**	**—**	**318.5**	317.4	—	317.4
Cost of sales		**(153.7)**	**—**	**(153.7)**	(158.6)	(0.4)	(159.0)
Gross profit		**164.8**	**—**	**164.8**	158.8	(0.4)	158.4
Research and development	5	**(30.0)**	**(1.3)**	**(31.3)**	(26.6)	(7.1)	(33.7)
Selling and marketing		**(44.5)**	**—**	**(44.5)**	(47.7)	—	(47.7)
Administration and shared services		**(34.5)**	**(8.8)**	**(43.3)**	(34.7)	(8.3)	(43.0)
Share of profit of associate, net of tax		**—**	**—**	**—**	0.7	6.5	7.2
Foreign exchange gain/(loss)		**0.9**	**6.4**	**7.3**	—	(1.4)	(1.4)
Operating profit		**56.7**	**(3.7)**	**53.0**	50.5	(10.7)	39.8
Interest credit on pension scheme net assets		**0.9**	**—**	**0.9**	—	—	—
Other financial income		**0.2**	**—**	**0.2**	0.3	—	0.3
Financial income		**1.1**	**—**	**1.1**	0.3	—	0.3
Financial expenditure		**(1.9)**	**—**	**(1.9)**	(1.3)	—	(1.3)
Profit/(loss) before income tax	3	**55.9**	**(3.7)**	**52.2**	49.5	(10.7)	38.8
Income tax (expense)/credit	13	**(10.8)**	**0.4**	**(10.4)**	(9.3)	2.5	(6.8)
Profit/(loss) for the year from continuing operations		**45.1**	**(3.3)**	**41.8**	40.2	(8.2)	32.0
(Loss)/profit from discontinued operations after tax	7	**—**	**—**	**—**	(0.5)	2.3	1.8
Profit/(loss) for the year attributable to equity holders of the parent		**45.1**	**(3.3)**	**41.8**	39.7	(5.9)	33.8
Earnings per share		**pence**		**pence**	pence		pence
Basic earnings per share	2						
– From continuing operations		**78.6**		**72.8**	70.2		55.9
– From discontinued operations		**—**		**—**	(0.9)		3.1
From profit for the year		**78.6**		**72.8**	69.3		59.0
Diluted earnings per share	2						
– From continuing operations		**77.6**		**71.9**	69.5		55.3
– From discontinued operations		**—**		**—**	(0.9)		3.1
From profit for the year		**77.6**		**71.9**	68.6		58.4
Dividends per share	14						
Dividends paid				**—**			14.4
Dividends proposed				**17.0**			—

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

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
Year ended 31 March 2021

	2021	2020
	£m	£m
Profit for the year	**41.8**	33.8
Other comprehensive (expense)/income:		
Items that may be reclassified subsequently to profit or loss		
Foreign exchange translation differences	**(4.9)**	2.5
Net cumulative foreign exchange gain on disposal of subsidiaries recycled to the Income Statement	**—**	(4.4)

Items that will not be reclassified to profit or loss		
Remeasurement (loss)/gain in respect of post-retirement benefits	**(30.8)**	26.8
Tax credit/(charge) on items that will not be reclassified to profit or loss	**5.5**	(5.1)
Total other comprehensive (expense)/income	**(30.2)**	19.8
Total comprehensive income for the year attributable to equity Shareholders of the parent	**11.6**	53.6

CONSOLIDATED STATEMENT OF FINANCIAL POSITION
Year ended 31 March 2021

	Note	**2021** **£m**	2020 as restated[(1)] £m
Assets			
Non-current assets			
Property, plant and equipment	15	**21.1**	21.8
Right-of-use assets	28	**7.3**	8.2
Intangible assets	16	**122.6**	135.5
Investment in associate	6	**—**	—
Long-term receivables	19	**—**	—
Derivative financial instruments	22	**1.1**	—
Retirement benefit asset	25	**16.3**	30.7
Deferred tax assets	17	**13.1**	17.3
		181.5	213.5
Current assets			
Inventories	18	**58.7**	58.8
Trade and other receivables	19	**75.6**	71.1
Current income tax receivable		**1.9**	0.2
Derivative financial instruments	22	**5.0**	0.9
Cash and cash equivalents	20	**128.0**	119.5
		269.2	250.5
Total assets		**450.7**	464.0
Equity			
Capital and reserves attributable to the Company's equity Shareholders			
Share capital	23	**2.9**	2.9
Share premium		**62.4**	62.2
Other reserves		**0.2**	0.2
Translation reserve		**6.6**	11.5
Retained earnings		**194.1**	174.8
		266.2	251.6
Liabilities			
Non-current liabilities			
Bank loans	24	**—**	—
Lease payables	28	**4.9**	6.5
Derivative financial instruments	22	**—**	0.9
Provisions	27	**0.7**	0.9
Deferred tax liabilities	17	**4.9**	10.2
		10.5	18.5
Current liabilities			
Bank loans and overdrafts	24	**30.4**	52.0
Trade and other payables	26	**126.1**	125.1
Lease payables	28	**2.6**	2.1
Current income tax payables		**6.2**	4.6
Derivative financial instruments	22	**—**	2.6
Provisions	27	**8.7**	7.5
		174.0	193.9
Total liabilities		**184.5**	212.4
Total liabilities and equity		**450.7**	464.0

(1) Details of restatement of prior year numbers can be found in the accounting policies.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
As at 31 March 2021

	Share capital £m	Share premium £m	Other reserves £m	Translation reserve £m	Retained earnings £m	Total £m
As at 1 April 2020	2.9	62.2	0.2	11.5	174.8	251.6
Total comprehensive income/(expense):						
Profit for the year	**—**	**—**	**—**	**—**	**41.8**	**41.8**
Other comprehensive (expense)/income:						
– Foreign exchange translation differences	**—**	**—**	**—**	**(4.9)**	**—**	**(4.9)**
– Net cumulative foreign exchange gain on disposal of subsidiaries recycled to the Income Statement	**—**	**—**	**—**	**—**	**—**	**—**
– Remeasurement loss in respect of post-retirement benefits	**—**	**—**	**—**	**—**	**(30.8)**	**(30.8)**
– Tax credit on items that will not be reclassified to profit or loss	**—**	**—**	**—**	**—**	**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:						
– Proceeds from exercise of share options	**—**	**—**	**—**	**—**	**—**	**—**
– 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**
As at 1 April 2019	2.9	61.7	0.2	13.4	124.0	202.2
Total comprehensive income/(expense):						
Profit for the year	—	—	—	—	33.8	33.8
Other comprehensive income/(expense):						
– Foreign exchange translation differences	—	—	—	2.5	—	2.5
– Net cumulative foreign exchange gain on disposal of subsidiaries recycled to the Income Statement	—	—	—	(4.4)	—	(4.4)
– Remeasurement gain in respect of post-retirement benefits	—	—	—	—	26.8	26.8
– Tax charge on items that will not be reclassified to profit or loss	—	—	—	—	(5.1)	(5.1)
Total comprehensive (expense)/income attributable to equity Shareholders of the parent	—	—	—	(1.9)	55.5	53.6
Transactions with owners recorded directly in equity:						
– Proceeds from exercise of share options	—	—	—	—	0.2	0.2
– Credit in respect of employee service costs settled by award of share options	—	—	—	—	3.1	3.1
– Tax credit in respect of share options	—	—	—	—	0.2	0.2

– Proceeds from shares issued	—	0.5	—	—	—	0.5
– Dividends	—	—	—	—	(8.2)	(8.2)
Total transactions with owners recorded directly in equity:	—	0.5	—	—	(4.7)	(4.2)
As at 31 March 2020	2.9	62.2	0.2	11.5	174.8	251.6

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 52,631 (2020: 72,121) of its own shares in an employee benefit trust. The cost of these shares is included within retained earnings. Company number: 775598

CONSOLIDATED STATEMENT OF CASH FLOWS
Year ended 31 March 2021

	Note	**2021** **£m**	2020 £m
Profit for the year		**41.8**	33.8
Profit for the year from discontinued operations	7	**—**	(1.8)
Profit for the year from continuing operations		**41.8**	32.0
Adjustments for:			
Income tax expense	13	**10.4**	6.8
Net financial expense		**0.8**	1.0
Fair value movement on financial derivatives		**(6.4)**	1.4
Restructuring costs		**0.4**	0.2
Adjustments relating to defined benefit pension schemes		**—**	(0.6)
Profit on disposal of associate	6	**—**	(6.5)
Impairment of inventory		**—**	0.4
Impairment of capitalised development costs		**1.3**	7.1
Amortisation of acquired intangibles	16	**8.4**	8.7
Depreciation of right-of-use assets	28	**2.8**	3.4
Depreciation of property, plant and equipment	15	**3.8**	3.5
Amortisation of capitalised development costs	16	**2.5**	2.7
Amortisation of capitalised software costs	16	**—**	0.3
Adjusted earnings before interest, tax, depreciation and amortisation		**65.8**	60.4
Charge in respect of equity settled employee share schemes	12	**1.8**	3.1
Share of profit of associate		**—**	(0.7)
Restructuring costs received/(paid)		**0.3**	(0.6)
Cash payments to the pension scheme more than the charge to operating profit		**(15.5)**	(10.0)
Operating cash flows before movements in working capital		**52.4**	52.2
Increase in inventories		**(1.3)**	(2.3)
(Increase)/decrease in receivables		**(10.5)**	3.3
Increase in payables and provisions (includes FX movement of £3.3m (2020: (£1.9m))		**11.3**	2.5
(Decrease)/increase in customer deposits		**(2.2)**	6.6
Cash generated from operations		**49.7**	62.3
Interest paid		**(1.6)**	(1.0)
Income taxes paid		**(6.3)**	(6.1)
Net cash from operating activities – continuing operations		**41.8**	55.2
Net cash from operating activities		**41.8**	55.2
Cash flows from investing activities			
Proceeds from sale of property, plant and equipment		**0.2**	0.1
Acquisition of property, plant and equipment		**(4.2)**	(4.4)
Net cash flow on disposal of associate		**—**	11.7
Capitalised development expenditure		**(0.9)**	(2.8)
Decrease in long-term receivables		**—**	1.4
Net cash (used in)/generated from investing activities – continuing operations		**(4.9)**	6.0
Net cash generated from investing activities – discontinued operations		**—**	8.7
Net cash (used in)/generated from investing activities		**(4.9)**	14.7
Cash flows from financing activities			
Proceeds from issue of share capital		**0.2**	0.5
Proceeds from exercise of share options		**—**	0.2
Payments made in respect of lease liabilities	28	**(2.8)**	(3.3)

Repayment of borrowings		**(27.9)**	(0.6)
Dividends paid		**—**	(8.2)
Net cash used in financing activities – continuing operations		**(30.5)**	(11.4)
Net cash generated from financing activities – discontinued operations		**—**	—
Net cash used in financing activities		**(30.5)**	(11.4)
Net increase in cash and cash equivalents		**6.4**	58.5
Cash and cash equivalents at beginning of the year		**95.4**	35.2
Effect of exchange rate fluctuations on cash held		**(4.2)**	1.7
Cash and cash equivalents at end of the year	20	**97.6**	95.4

	Note	**2021 £m**	2020 £m
Cash and cash equivalents as per the Balance Sheet	20	**128.0**	119.5
Bank overdrafts	24	**(30.4)**	(24.1)
Cash and cash equivalents in the Consolidated Statement of Cash Flows		**97.6**	95.4

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

	2021		2020	
	Operating profit £m	**Profit before income tax £m**	Operating profit £m	Profit before income tax £m
Statutory measure from continuing operations	**53.0**	**52.2**	39.8	38.8
Business reorganisation items	**0.4**	**0.4**	0.2	0.2
Adjustments relating to defined benefit pension schemes	**—**	**—**	(0.6)	(0.6)
Impairment of inventory	**—**	**—**	0.4	0.4
Impairment of capitalised development costs	**1.3**	**1.3**	7.1	7.1
Profit on disposal of associate	**—**	**—**	(6.5)	(6.5)
Amortisation and impairment of acquired intangibles	**8.4**	**8.4**	8.7	8.7
Fair value movement on financial derivatives	**(6.4)**	**(6.4)**	1.4	1.4
Total non-GAAP adjustments	**3.7**	**3.7**	10.7	10.7
Adjusted measure from continuing operations	**56.7**	**55.9**	50.5	49.5
Income tax expense		**(10.8)**		(9.3)
Adjusted profit for the year from continuing operations	**56.7**	**45.1**	50.5	40.2
Adjusted effective tax rates		**19.3%**		18.8%

Business reorganisation items

These represent the costs of professional fees on an acquisition project and property-related one-off costs.

In the year to 31 March 2020, these represent the costs of one-off changes to senior management within the Research & Discovery segment.

Adjustments relating to defined benefit pension schemes

During the year to 31 March 2020, the Group recognised a one-off accounting gain on the termination of its US defined benefit pension scheme. See note 25 for further details.

Impairment of inventory

During the year to 31 March 2020, the Group implemented a new ERP system at a site within the Research & Discovery division. In reconciling the inventory on the new system, a need for an impairment in respect of certain historic inventory differences was identified. This has been treated as an adjusting item due to its one-off nature.

Impairment of capitalised development costs

During the year, 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.

During the year to 31 March 2020, 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 the Materials & Characterisation segment; comprising software intangibles in Asylum Research, historical balances on general process development in Plasma Technology and product development in NanoAnalysis that has been affected by a reduction in orders as a result of covid.

Profit on disposal of associate

During the year to 31 March 2020, the Group made a profit on disposal of its shareholding in Scienta Scientific AB; see Note 6. This has been treated as an adjusting item due to its non-recurring nature.

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.

Share of taxation

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

	2021 **£m**	2020 £m
Net increase in cash and cash equivalents	**6.4**	58.5
Effect of exchange rate fluctuations on cash held	**(4.2)**	1.7
	2.2	60.2
Repayment of borrowings	**27.9**	0.6
Movement in accrued interest	**—**	—
Movement in net cash in the year	**30.1**	60.8
Net cash at start of the year	**67.5**	6.7
Net cash at the end of the year	**97.6**	67.5

Reconciliation of net cash to Statement of Financial Position

	2021 **2021** **£m**	2020 as restated(1) £m
Loan notes – unsecured	**—**	(27.9)
Overdrafts	**(30.4)**	(24.1)
Cash and cash equivalents	**128.0**	119.5
Net cash at the end of the year	**97.6**	67.5

(1) Prior year numbers have been restated. Details can be found in the accounting policies.

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.

	2021 **£m**	2020 £m
Profit for the year attributable to equity Shareholders of the parent	**41.8**	33.8
Discontinued operations	**—**	(1.8)
Adjusting items:		
Business reorganisation items	**0.4**	0.2
Adjustments relating to defined benefit pension schemes	**—**	(0.6)

Impairment of inventory	**—**	0.4
Impairment of capitalised development costs	**1.3**	7.1
Profit on disposal of associate	**—**	(6.5)
Amortisation and impairment of acquired intangibles	**8.4**	8.7
Fair value movement on financial derivatives	**(6.4)**	1.4
Adjusted income tax expense	**(0.4)**	(2.5)
Adjusted profit for the year from continuing operations	**45.1**	40.2

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

	2021 Shares million	2020 Shares million
Weighted average number of shares outstanding	**57.5**	57.4
Less: weighted average number of shares held by Employee Share Ownership Trust	**(0.1)**	(0.1)
Weighted average number of shares used in calculation of basic earnings per share	**57.4**	57.3

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

	2021 Shares million	2020 Shares million
Number of ordinary shares per basic earnings per share calculations	**57.4**	57.3
Effect of shares under option	**0.7**	0.6
Number of ordinary shares per diluted earnings per share calculations	**58.1**	57.9

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

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

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.

The results of the year to 31 March 2020 have been restated to reflect Magnetic Resonance moving from the Research & Discovery segment to the Materials & Characterisation segment. Further information can be found in the accounting policies.

Results from continuing operations

Year to 31 March 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**

Year to 31 March 2020 as restated	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Total £m
Total segment revenue	145.8	117.8	53.8	317.4
Segment adjusted operating profit from continuing operations	21.0	14.5	15.0	50.5

The adjusted profit after tax of £nil (2020: £0.7m) from the Group's associate is reported within the Research & Discovery segment.

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

As at 31 March 2021, the Group had unfulfilled performance obligations under IFRS 15 of £198.1m (2020: £175.0m). It is anticipated that £178.9m (2020: £144.8m) 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

Year to 31 March 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**
Restructuring costs	**(0.4)**	**—**	**—**	**—**	**(0.4)**
Impairment of capitalised development costs	**(1.3)**	**—**	**—**	**—**	**(1.3)**
Amortisation 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**

Year to 31 March 2020 as restated	Materials & Characterisation £m	Research & Discovery £m	Service & Healthcare £m	Unallocated Group items £m	Total £m
Segment adjusted operating profit from continuing operations	21.0	14.5	15.0	—	50.5
Restructuring costs	(0.1)	(0.1)	—	—	(0.2)
Adjustments relating to defined benefit pension schemes	—	—	—	0.6	0.6
Impairment of inventory	—	(0.4)	—	—	(0.4)
Impairment of capitalised development costs	(6.3)	(0.8)	—	—	(7.1)
Profit on disposal of associate	—	6.5	—	—	6.5
Amortisation of acquired intangibles	(2.3)	(6.4)	—	—	(8.7)
Fair value movement on financial derivatives	—	—	—	(1.4)	(1.4)
Financial income	—	—	—	0.3	0.3
Financial expenditure	—	—	—	(1.3)	(1.3)
Profit/(loss) before income tax from continuing operations	12.3	13.3	15.0	(1.8)	38.8

Depreciation	**2021 £m**	2020 as restated £m
Materials & Characterisation	**3.3**	2.9
Research & Discovery	**1.3**	1.4
Service & Healthcare	**0.6**	1.1
Unallocated Group items	**1.4**	1.5
Total	**6.6**	6.9

Capital expenditure	**2021 £m**	2020 as restated £m

Materials & Characterisation	**3.2**	2.7
Research & Discovery	**1.3**	1.1
Service & Healthcare	**0.1**	0.1
Unallocated Group items	**0.2**	0.5
Total	**4.8**	4.4

Amortisation and impairment	**2021 £m**	2020 as restated £m
Materials & Characterisation	**5.6**	10.7
Research & Discovery	**6.6**	7.8
Service & Healthcare	**—**	—
Unallocated Group items	**—**	0.3
Total	**12.2**	18.8

Capitalised development costs	**2021 £m**	2020 as restated £m
Materials & Characterisation	**0.8**	2.4
Research & Discovery	**0.1**	0.4
Service & Healthcare	**—**	—
Unallocated Group items	**—**	—
Total	**0.9**	2.8

Revenue from continuing operations from external customers by destination	**2021 £m**	2020 £m
UK	**14.5**	13.4
China	**76.8**	69.7
Japan	**39.6**	38.5
USA	**72.1**	83.5
Germany	**32.8**	26.7
Rest of Europe	**39.9**	44.8
Rest of Asia	**33.8**	28.4
Rest of World	**9.0**	12.4
Total	**318.5**	317.4

Non-current assets (excluding deferred tax)	**2021 £m**	2020 £m
UK	**146.0**	170.2
Germany	**2.9**	4.0
USA	**8.7**	9.7
Japan	**0.6**	1.4
China	**0.3**	0.5
Rest of Europe	**7.8**	8.8
Rest of Asia	**0.2**	0.3
Rest of World	**0.9**	1.3
Total	**167.4**	196.2

4 RESEARCH AND DEVELOPMENT (R&D)

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

Year to 31 March 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**

Year to 31 March 2020 as restated[1]	Materials & Characterisation £m	Research & Discovery £m	Total £m
R&D expense charged to the Consolidated Statement of Income	16.0	10.6	26.6
Less: depreciation of R&D-related fixed assets	—	—	—
Add: amounts capitalised as fixed assets	0.1	—	0.1
Less: amortisation of R&D costs previously capitalised as intangibles	(2.1)	(0.6)	(2.7)
Add: amounts capitalised as intangible assets	2.4	0.4	2.8
Total cash spent on R&D during the year	16.4	10.4	26.8

(1) Details of restatement of prior year numbers for changes in reporting segments can be found in the accounting policies.

5 INVESTMENT IN ASSOCIATE

The Group held a 47% interest in the ordinary share capital of Scienta Scientific AB. Scienta Scientific AB is registered and has its principal place of business in Sweden. On 28 January 2020, the Group sold its holdings in Scienta Scientific AB for £11.7m in cash.

The Group's share of profit in its equity accounted associate for the period to 28 January 2020 was £0.7m. The Group did not receive any dividend from the associate in the current or prior periods.

The profit on disposal recognised in the accounts to 31 March 2020 was £6.5m.

6 DISPOSAL OF SUBSIDIARY AND DISCONTINUED OPERATIONS

On 21 February 2020, the Group disposed of its OI Healthcare business in the US for a final consideration of $14.9m, of which $1.5m was held in escrow for 18 months pending any claims from the purchaser. By 31 March 2021, the balance held in escrow had reduced to $0.6m given the resolution of certain purchase price adjustments.

In the year to 31 March 2020 the OI Healthcare business was classified as a discontinued operation. It was considered a major class of business on the basis of its size and that it was previously an operating segment and referred to in the Group's Strategic Report.

During the year to 31 March 2021 there were no transactions relating to discontinued operations.

	2021		2020	
Results of discontinued operations	**OI Healthcare £m**	**Industrial Analysis £m**	OI Healthcare £m	Industrial Analysis £m
Revenue	**—**	**—**	14.8	—
Expenses	**—**	**—**	(15.5)	—
Adjusted (loss)/profit before tax	**—**	**—**	(0.7)	—
Income tax credit/(charge)	**—**	**—**	0.2	—
Adjusted (loss)/profit after tax	**—**	**—**	(0.5)	—
Adjusting items:				
Restructuring costs	**—**	**—**	(0.1)	(0.2)
Amortisation of acquired intangibles	**—**	**—**	(0.8)	—
Income tax on adjusting items	**—**	**—**	0.3	—
(Loss)/profit after tax	**—**	**—**	(1.1)	(0.2)
Gain on disposal	**—**	**—**	3.1	—
Tax on gain on disposal	**—**	**—**	—	—
Profit from discontinued operations after tax	**—**	**—**	2.0	(0.2)
Cash flows from discontinued operations				
Net cash generated from operating activities	**—**	**—**	—	—
Net cash generated from investing activities	**—**	**—**	7.4	1.3
Net cash used in financing activities	**—**	**—**	—	—

Earnings per share from discontinued operations	**2021 pence**	2020 pence
Adjusted basic loss per share	**—**	(0.9)
Adjusted diluted loss per share	**—**	(0.9)
Total basic earnings per share	**—**	3.1
Total diluted earnings per share	**—**	3.1

7 INCOME TAX EXPENSE

	2021	2020
	£m	£m
Recognised in the Consolidated Statement of Income		
Current tax expense		
Current year	**9.7**	9.1
Adjustment in respect of prior years	**(3.2)**	(0.8)
	6.5	8.3
Deferred tax expense		
Origination and reversal of temporary differences	**2.0**	(1.6)
Adjustment in respect of prior years	**1.9**	0.1
	3.9	(1.5)
Total tax expense	**10.4**	6.8
Reconciliation of effective tax rate		
Profit before income tax	**52.2**	38.8
Income tax using the weighted average statutory tax rate of 21% (2020: 22%)	**11.0**	8.5
Effect of:		
Tax rates other than the weighted average statutory rate	**0.4**	0.1
Change in rate at which deferred tax recognised	**0.1**	0.1
Profit on disposal	**—**	(1.3)
Non-taxable income and expenses	**0.3**	0.6
Movement in unrecognised deferred tax	**(0.1)**	—
Adjustment in respect of prior years	**(1.3)**	(1.2)
Total tax expense	**10.4**	6.8
Taxation (credit)/charge recognised directly in other comprehensive income		
Deferred tax – relating to employee benefits	**(5.5)**	5.1
Taxation credit recognised directly in equity		
Deferred tax – relating to share options	**(1.0)**	(0.2)

Reductions in the UK corporation tax rate from 19% to 17% (effective from 1 April 2020) was substantively enacted on 6 September 2016. However, in the Budget on 11 March 2020, it was announced that this reduction would be reversed, which was substantively enacted on 17 March 2020. Consequently, the UK corporation tax rate will remain at 19%. The UK deferred tax liability at 31 March 2020 was calculated based on that rate.

On 5 March 2021 it was announced that the rate of UK corporation tax would be increased to 25% from 1 April 2023; however, at the reporting date, this change has not been substantively enacted. As such, the UK deferred tax assets and liabilities have been calculated based on the enacted rate of 19%.

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 has accordingly been 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.

8 DIVIDENDS PER SHARE

The following dividends per share were paid by the Group:

	2021	2020
	pence	pence
Previous period interim dividend	**—**	3.8
Previous period final dividend	**—**	10.6
	—	14.4

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

	2021	2020
	pence	pence

Interim dividend	**4.1**	—
Final dividend	**12.9**	—
	17.0	—

The interim dividend was not provided for at the year end and was paid on 14 April 2021. The final proposed dividend of 14.9 pence per share was not provided at the year end and will be paid on 15 October 2021, subject to authorisation by the Shareholders at the forthcoming Annual General Meeting.

9 Exchange rates

This preliminary announcement does not constitute the Company's statutory accounts for the years ended 31 March 2021 or 2020. Statutory accounts for 2020 have been delivered to the registrar of companies and those for 2021 will be delivered in due course. The auditor has reported on those accounts: their reports were (i) unqualified, (ii) did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying their report and (iii) did not contain a statement under section 498 2) or (3) of the Companies Act 2006.

The financial information presented in this preliminary announcement for the year ended 31 March 2021 is based on, and is consistent with, that in the Group's audited Financial Statements for the year ended 31 March 2021. No revisions to adopted IFRS that became applicable in 2021 had a significant impact on the Group's Financial Statements for the year ended 31 March 2021.

In early 2021, the Financial Reporting Council submitted a request for further information on the Group's Report and Financial Statements for the year ended 31 March 2020. The Group responded fully to the matters raised in the correspondence and has restated the relevant sections of this year's accounts to reflect this. The restatement impacted the cash and overdraft balances disclosed in the balance sheet as reported in the 2020 Report and Financial Statements. Full details of the restatement will be provided in the Accounting Policies Note to the 2021 Report and Financial Statements. The FRC's enquiry did not result in any changes to reported profit, earnings per share, net assets, or the cash flows reported in the 2020 financial year.

The Company is registered in England, Registration Number 775598.

The principal exchange rates to Sterling used were:

Year-end rates	**2021**	2020
US Dollar	**1.38**	1.24
Euro	**1.17**	1.13
Japanese Yen	**152**	134

Average translation rates

Year to 31 March 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**

Average translation rates

Year to 31 March 2020	US Dollar	Euro	Japanese Yen
April	1.30	1.16	144
May	1.28	1.15	142
June	1.27	1.13	138
July	1.26	1.12	136
August	1.23	1.11	132
September	1.23	1.12	132
October	1.26	1.14	136
November	1.28	1.16	139
December	1.30	1.17	142
January	1.32	1.18	143

February	1.30	1.19	144
March	1.27	1.16	139

10. ANNUAL GENERAL MEETING

The Annual General Meeting will be held on 21 September 2021. Detailed arrangements in respect of the AGM will be advised in due course.

11. PRINCIPAL RISKS AND UNCERTAINTIES

The Group's approach to risk management has evolved over the course of the last financial year with the aim of making risk reviews more effective. The result is a more targeted quarterly risk review by the Audit and Risk Committee, which is underpinned by a detailed risk review at business unit and Group level. This approach supports the Group in mitigating against the adverse impacts of material risks which could hinder the achievement of strategic plans and objectives. Group risk management also piloted a sustainability risk review with the NanoScience business unit and it is planned that sustainability risk reviews will be conducted at all business units during 2021/22. This forms a key element of the Group's review of emerging risks.

The first phase of the risk management process has not changed and continues with a detailed assessment of key risks in all operating business units which are reported to Group on a quarterly basis. This standardised approach with scores for the gross risk and residual risk forms the basis of risk discussions between Group risk management and the business units and the compilation of the quarterly Group risk register.

The key change in the risk management process comes in reporting risks to the Audit and Risk Committee. Group risk management reports common risks across business units, categorised under key themes. This reporting facilitates comparison across business units and the sharing of good practice in one business unit amongst others.

At a business unit level, the risk management process has not changed significantly. The update and review of individual business units' risk registers remains a core part of recurring activities of the senior management teams. The output is discussed with Group risk management on a quarterly basis to ensure that key risks have been effectively communicated and that mitigating actions are appropriate. These discussions play a key role in informing Group risk management of the most significant risks to report to the Audit and Risk Committee.

Response to covid

In addition to the actions taken at Board level to prepare for the possible adverse impacts that might arise from covid, the Group established a working group involving senior management and employee representatives from across head office and all of the UK's operating business units.

The working group met between May and September 2020 to consider and address the key issues that arose, notably in relation to operational practices, health and wellbeing. Further, across the globe, our service teams adapted and implemented new tools and techniques to deliver remote support to customers when travel restrictions were in effect.

Principal risks matrix

For the first time in the Report and Financial Statements, the principal risks and uncertainties have been mapped onto a probability and impact matrix ("PI matrix") to facilitate comparison of the relative importance of the risks at a Group level. The PI matrix includes arrows which show the direction of travel for each risk.

The methodology for mapping the risks is based on the Group's assessment of the residual risk i.e. the probability of the risk occurring and the potential impact it may have based on the mitigating actions and controls that are in place to manage the risk. The output of this assessment is shown in the chart below.

Specific uncertainty 1: Impact of covid

Context: While the Group has demonstrated resilience to the economic impact of covid the pandemic might still cause further disruption to supply chains, production and service operations, and customers. The Group will continue with the customer-centric approach that is a key pillar of the Horizon strategy to focus on growth markets.

Risk factor/uncertainty

- Fall in demand due to reduced funding for academic customers in key markets/deferral of capex for industrial customers
- Short-term supply chain disruption
- Workforce disruption in production
- Ongoing travel restrictions for service personnel

Possible impact

- Short-term reduction in sales volumes and contribution
- Potentially unable to meet delivery deadlines/reduction in capacity
- Installations and on-site service activities disrupted
- Negative cash flow/liquidity risk

- Management actions
- Customer intimacy
- Working closely with key supplier base
- Safe ways of working and changes to shift patterns to maximise capacity
- Remote service activities
- Iterative financing review and review of cost base

Mitigation
- Sales and operational planning process
- Contractual protection
- Strategic procurement, working with supply chain to mitigate risk
- Strong balance sheet and options for external funding

Change in year: decrease

Specific risk 1: Political risk
Context: The Group operates in global markets and can be required to secure export licences from governments. As an example, China accounts for 24% of annual revenue.

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 or nations seeking to reduce reliance on foreign imports in strategic technologies through the development of domestic competition and/or protectionist measures.

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: increase

Specific risk 2: Routes to market
Context: In some instances, the Group's products are components of higher-level systems sold by OEMs, and thus the Group does not control its route to market.

Risk
- 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 3: 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 lifecycle 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 4: Supply chain risk
Context: The Group operates a strategic "make or buy" policy which places reliance on key partners, notably single-source suppliers, in terms of pricing and on-time delivery.

Risk
- Operational disruption, due to supply chain shortages
- Change of 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
- Reduction or halt to production output
- Lost revenue
- Decreased margins
- Increased lead times
- Poor customer service
- Increased inventory leading to cash flow reduction
- Negative impact on quality

Control mechanisms
- Group consolidated risk database plus sales and operational planning process
- Group strategic sourcing programme to 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: increase

Specific risk 5: Cyber 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: increase

Specific risk 6: Legal/compliance risk
Context: The Group operates in a complex regulatory and technological environment. The Group may at times experience unintentional non-conformance with regulations and competitors may seek to protect their position through intellectual property rights.

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

Mitigation
- Confirmation of "Freedom to Operate" during new product development stage gate process
- Compliance monitoring programme

Change in the year: no change

Specific risk 7: 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: increase

Specific risk 8: Brexit-related risk
Context: Although the UK has entered into a Free Trade Agreement with the EU, non-tariff barriers to trade may damage cross-border trade with EU customers and suppliers.

Risk
- EU customers might favour competitors within the EU
- Lower participation in EU-funded research projects
- Additional costs in the supply chain/additional freight costs
- UK becomes less attractive to EU nationals as a place to work

Possible impact
- Lower sales and profitability
- Increased input costs and reduced margins
- Salary inflation
- Loss of key skills and/or increased recruitment and/or salary costs

Control mechanisms
- Sales production matching and resource planning
- Customer intimacy and monitoring of funded projects
- Strategic sourcing programme
- Product pricing reviews
- Skills and capabilities reviews

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

Change in the year: decrease

Specific risk 9: 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 10: 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 11: 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: decrease

ENDS