RENISHAW®

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Preliminary Results 2023

Renishaw plc

19 September 2023

Preliminary announcement of results for the year ended 30 June 2023

Solid performance in challenging markets

	2023	2022	Change
Revenue (£m)	**688.6**	671.1	+3%
Adjusted[1] profit before tax (£m)	**141.0**	163.7	-14%
Adjusted[1] earnings per share (pence)	**155.1**	185.5	-16%
Dividend per share (pence)	**76.2**	72.6	+5%
Statutory profit before tax (£m)	**145.1**	145.6	-
Statutory earnings per share (pence)	**159.7**	165.4	-3%

Performance highlights

- Revenue of £688.6m (FY2022 £671.1m):
  - Revenue growth in challenging trading conditions, although 1% lower at constant exchange rates; and
  - Good revenue growth from system sales, offset by weaker demand from the semiconductor sector.
- Manufacturing technologies revenue increased by 2% to £648.2m, with:
  - Good growth in sales of multi-laser additive manufacturing (AM) systems, 5-axis co-ordinate measuring machine (CMM) inspection systems, laser encoders and machine calibration systems; and
  - Weaker demand for optical encoders, notably in APAC, due to lower investment in the semiconductor sector.
- Analytical instruments and medical devices revenue increased by 10% to £40.3m, with:
  - Record sales for our Spectroscopy product line, with strong growth across all our regions; and
  - Growth for our Neurological product line, with renewed growth in robot sales.
- Adjusted[*] profit before tax of £141.0m (FY2022 £163.7m), with return on sales reduced to 20% (24% last year).
  - 1% reduction in gross margin before engineering costs: employee pay inflation and reduction in production volumes (leading to a lower recovery of fixed overheads), partially offset by currency and price increases; and
  - Engineering, distribution and administration costs up 12%: targeted recruitment, plus investment in employee pay in all areas to improve employee retention, and other inflationary pressures.
- Statutory profit before tax of £145.1m (FY2022: £145.6m).
- Strong balance sheet with net cash and bank deposit balances of £206.4m, compared with £253.2m at 30 June 2022:
  - Invested £73.8m (FY2022: £30.8m) in capital expenditure, including ongoing development of our production facility in Miskin, Wales
- Final dividend of 59.4p per share.

[*] Note 29, 'Alternative performance measures', defines how Adjusted profit before tax, Adjusted earnings per share, Adjusted operating profit and Revenue at constant exchange rates are calculated

Strategic progress

- A number of new product launches including a new radio transmission system for our machine tool probes, a scanning electron microscope interface for our Raman spectrometers, and a smart factory software platform to consolidate shop floor measurement data.
- Introduced our new Industrial Automation product line to enhance the accuracy and productivity of industrial robots, applying our proven technology and knowledge to a close adjacent market that is experiencing strong underlying growth.
- In shop-floor metrology, we achieved good growth in end user sales of our AGILITY® co-ordinate measuring machines equipped with REVO® 5-axis systems, and we've also seen increased sales of our EQUATOR™ flexible gauges for electric vehicle manufacturing applications.
- A significant number of machine tool builders have now evaluated our FORTiS™ enclosed optical encoders with a growing number of early adopters fitting them to machines being produced in volume.
- Growth in repeat sales of our multi-laser AM machines to the medical and consumer electronics sectors.
- Rising sales of our Virsa™ Raman analyser which takes research-grade materials analysis out of the lab and into sampling applications in-situ, including solar cell analysis and cultural heritage.
- Upgraded our machine tools and expanded our automated encoder assembly systems to enable us to rapidly ramp production up and down to track cyclical demand.
- Good progress on our largest ever capital expenditure project at Miskin, where we are increasing manufacturing floorspace by 50% in a phased manner.
- Committed to a new Net Zero target with an aim to achieve a 50% reduction in our Scope 3 emissions by 2030.

William Lee, Chief Executive, commented:

"In challenging trading conditions, our performance demonstrates the resilience of our business model, and the hard work and dedication of our teams around the world. In a year when we saw a downturn in demand from one of our key sectors, we achieved good growth in systems sales, which is an area of strategic priority.

We have seen a steady start to FY2024 and our order book remains solid. We continue to see positive trends for investment in low emission transportation, defence, additive manufacturing and robotics. Meanwhile, demand from semiconductor equipment suppliers for position encoders remains subdued. While the short-term macroeconomic picture remains unclear, we continue to manage costs prudently, we are implementing further price rises, and remain focused on improving our productivity.

I'm confident in our strategy and the actions we're taking to deliver sustainable long-term growth, including investments in people, infrastructure and product innovation."

About Renishaw

We are a world leading supplier of measuring and manufacturing systems. Our products give high accuracy and precision, gathering data to provide customers and end users with traceability and confidence in what they're making. This technology also helps our customers to innovate their products and processes. We are a global business, with customer-facing locations across our three sales regions; the Americas, EMEA, and APAC. Most of our R&D work takes place in the UK, with our largest manufacturing sites located in the UK, Ireland and India.

Results presentation and live Q&A session today

There will be a webcast presentation of the results together with a question and answer session at 10.30 a.m. (BST). Details of how to register for and access this webcast are available at the following link:

https://attendee.gotowebinar.com/register/3038498618137830494

Questions can be submitted in advance of the webcast either through the webcast platform or to communications@renishaw.com (if sending by email, please submit by 10:00 BST).

A recording of the Q&A session will be made available by Wednesday 20 September 2023 at: www.renishaw.com/investors.

Enquiries: communications@renishaw.com

COMMENTARY BY THE CHAIRMAN

It’s a pleasure for me to use this opportunity to thank every one of our talented and inspiring people who have helped to make our business what it is today.

Since co-founding Renishaw in 1973 with John Deer, I continue to be immensely proud of how far we have come. From the early days of production taking place in John’s family home (with dust seals made from the underlay of my carpets!), we have grown into a truly global and respected business.

We’ve been pioneers and innovators on behalf of our customers throughout our 50 years. To play a part in this and to transform the capabilities of manufacturing – making the products, creating the materials and developing the therapies that are going to be needed for the future – is a true honour.

This has been a year of celebration for the Board and me, and it has also been a year of revenue growth despite challenging market conditions. Throughout FY2023 we have continued to build upon our strategy and deliver our purpose of Transforming Tomorrow Together.

The Board, like our people, embodies our values of innovation, inspiration, integrity and involvement. As we continue to grow, it’s important that we stay true to the principles that have ensured our success over the past 50 years.

50 years of innovation

Innovation has always been central to what we do. Our products have revolutionised component manufacturing and scientific research, helping to make the high-performing, precision products that we all use in our daily lives.

Each year we launch new products, and this year has been no different. We’ve released innovative new products for smart factories and robot metrology and introduced new technologies to strengthen our established product ranges.

I am a passionate engineer, and it’s a privilege to continue working on product developments that will transform our customers’ capabilities. This year, I have worked closely with our Additive Manufacturing (AM) team on our next-generation machine. To be involved in, and directly witness, the technological advancements our engineers make, means everyday is very exciting.

Inspiring each other, our customers and our communities

Last year, I talked about how embedding and communicating our values are of particular importance to the Board.

To demonstrate that importance, we launched a new annual global values competition this year to encourage employees to share ways in which they have exemplified our values through their work.

The competition was a great success, and I was delighted to review the entries from across the business with my fellow Executive Directors. As part of the contest, each winning team chose a charity to receive a £5,000 (or local currency equivalent) donation. So, through our values, we also aim to inspire our local communities by making a difference to people’s lives.

We want to share our success with the communities where we operate, who have been highly supportive of our growth. Therefore, as part of our anniversary celebrations, the Board was delighted to approve a ‘50 at 50’ charity initiative. During our 50th year, we will donate £150,000 to 50 not-for-profit organisations in our local communities.

Integrity is at the heart of what we do

Our ambition to be more sustainable is testament to how we put integrity at the heart of our business. It is also central to our purpose as we work closely with our customers to help them on their own sustainability journeys and are focused on promoting the sustainability benefits that our products offer. For example, as I have seen first-hand in my work with the AM team, this technology has the potential to reduce energy and material consumption compared to traditional subtractive manufacturing.

We are also playing our part in creating a sustainable future. This year we have made excellent progress in reducing our environmental impact.

We expect our employees to always act with integrity. To support this, we are currently working on our new Code of Conduct which we will launch globally in FY2024. This will apply to our employees, customers and suppliers. It will provide guidance on decision-making and behaviours and bring all our key policies and compliance expectations together in one place.

This year we held an externally-facilitated Board evaluation which highlighted that the Board is working effectively. It found that meetings were conducted with a good dynamic, facilitating challenge but also encouraging the effective contribution of the whole Board. It also highlighted our culture of trust, openness and debate.

Following feedback from investors, including at our Capital Markets Day, the Board has also this year reviewed our approach to investor relations, and we will be looking at how we can increase engagement with investors over the next year.

Involvement of all our people is key to success

Equality, Diversity and Inclusion (EDI) remains an important area of focus for the Board. We pride ourselves on our open and collaborative culture. This year, we were pleased to appoint a dedicated EDI Lead, who will be instrumental in the development of our global approach to EDI. This will help us provide an inclusive, rewarding environment for all our people.

I am delighted to welcome Professor Karen Holford CBE to the Board as a Non-executive Director with effect from 1 September 2023. Karen brings extensive experience with her strong background in engineering research and development. A Fellow of the Royal Academy of Engineering, Karen received a CBE for services to engineering and the advancement of women in engineering in 2017, and her appointment also enhances the diversity of views we have on the Board.

We acknowledge that we still have a way to go as a business. In appointing Directors, the Board considers diversity at all stages of the process while being mindful that the right person for the long-term success of the Company should be appointed. The Nomination Committee continues to take diversity in all its forms into consideration when considering Board succession plans in FY2024.

To improve involvement across the business, we also reorganised our existing product groups during the year. We believe this will bring synergies between teams and technologies and simplify reporting to the Board. We are also currently reviewing succession plans throughout the business.

Celebrating 50 years

Our anniversary year has given us a wonderful opportunity to celebrate. Throughout 2023, employees across the world have taken part in local events and activities to mark the occasion. From dressing up in 1970s clothing to family open days, it’s been fantastic to see our people come together and celebrate.

This year also marked the anniversary of the opening of several of our global subsidiaries including China, who are celebrating 30 years in the market, and Austria, Canada, Hungary, Israel and Sweden which are each marking 20 years.

It’s been wonderful to reflect on and celebrate our success, but we wouldn’t be where we are today without our customers, suppliers and other stakeholders. We’ve had close relationships with many of them for most of our history and they continue to support us today.

We’ve achieved a great deal over 50 years. I would like to thank everyone who has been a part of Renishaw’s story and I’m proud of the difference we continue to make to the world.

It’s important to look back and mark these milestones, but we have always been focused on the future. So, as we move into our sixth decade, I am eager to see what Renishaw and our customers will accomplish next.

Sir David McMurtry
Executive Chairman
18 September 2023

COMMENTARY BY THE CHIEF EXECUTIVE

I'm pleased to look back on a year in which we've made further progress, as we continue to fulfil our purpose, execute our strategy, and invest in our long-term success. We've achieved 3% revenue growth at actual exchange rates, although this was a 1% reduction at constant currency.

We delivered good growth in systems sales, one of our strategic priority areas, which was offset by weaker demand for optical encoders from the semiconductor sector. Our performance demonstrates the resilience of our business model, our excellent position in attractive markets, and the hard work and dedication of our teams around the world.

Our purpose of Transforming Tomorrow Together remains central to everything that we do. We continue to work closely with our customers, helping them to create the products, materials and therapies of the future. We play a leading role in the transition towards a sustainable future in which manufacturing processes are increasingly efficient, automated and self-governing.

Group performance

Total revenue this year was £688.6m, compared with £671.1m in FY2022, with both our operating segments delivering growth. While this is record revenue for the Group, at constant currency rates our revenue was 1% lower than last year. At actual currency rates we had growth in the EMEA and Americas regions but saw a small reduction in the APAC region. We introduced targeted price increases in H1 FY2023 which have contributed to the revenue growth.

Our Manufacturing technologies segment delivered 2.2% revenue growth. There were notable advances for our REVO 5-axis co-ordinate measuring machine (CMM) inspection systems, additive manufacturing (AM) machines, and machine calibration solutions. By contrast, we have seen lower capital investment in the key semiconductor market this year. This has reduced demand for our open optical encoders, most notably in the APAC region.

Meanwhile, our Analytical instruments and medical devices segment delivered 10.5% revenue growth. Our Spectroscopy product line achieved record revenue, with growing research and industrial applications for Raman spectroscopy, while our Neurological product line also grew.

This year's Adjusted* profit before tax was £141.0m compared with £163.7m last year. Adjusted* earnings per share was 155.1p compared with 185.5p last year. Adjusted measures are the ones we use as a Board to measure our underlying trading performance. Statutory profit before tax was £145.1m compared with £145.6m last year, leading to Statutory earnings per share of 159.7p compared with 165.4p last year.

Profits fell this year due to a combination of modest revenue growth and inflationary increases in our labour costs and expenses. For more detail see the commentary by the Group Finance Director.

Strategic progress

Innovation has always been the lifeblood of our business, and we continue to focus on developing new solutions for emerging customer needs. We have grown our R&D teams, and increased total engineering expenditure by 14.8%. This year, we've introduced new products to strengthen our market-leading product ranges. These include the RMI-QE machine tool radio transmission system, and inLux scanning electron microscope interface for our Raman spectrometers. We have a strong pipeline of significant new products under development, which we will introduce over the next few years.

The use of industrial robots is accelerating as manufacturers automate work handling, fabrication, and assembly operations. This year, we launched our new Industrial Automation product line to enhance the accuracy and productivity of industrial robots. Our new products enable rapid robot cell installation, and reduce the time taken to recover from unplanned stoppages from several days to just a few minutes. We can also compensate for errors in a robot's motion. This improves positioning accuracy so that robots can be used for higher precision tasks. We are excited about our prospects in this high-growth market.

Over the years we've pioneered in-process control of machining processes, helping manufacturers to minimise waste and boost productivity. We are now taking this a step further with Renishaw Central, our new smart factory software platform. Central consolidates actionable data from almost any shop-floor metrology device, enabling fast, robust process control feedback. This means we can help customers improve process outcomes, rather than simply monitoring them. We believe this is a major step towards autonomous manufacturing.

Our global sales and marketing teams support our customers' success around the world. Our metrology probes and position encoders are primarily sold via machine builders and distributors, and our priority here is to boost fitment levels and gain market share. For example, our open optical encoders are being designed into a wide range of manufacturing equipment in the automotive, semiconductor, robotics, and automation sectors. Meanwhile, more than 100 machine tool builders have evaluated our FORTiS enclosed optical encoders and a growing number of early adopters are fitting them to machines being produced in volume.

We also supply complete machines and software, mostly sold direct to end users, and serviced by our global teams. We have significant opportunities to gain market share in substantial, high-growth markets, so our priority is to grow these

products towards market leadership positions.

Shop-floor metrology systems are a key growth area for us. We've been particularly successful this year with our AGILITY CMMs equipped with REVO 5-axis systems, where we have gained repeat sales from key customers in the automotive, aerospace and consumer electronics sectors. Our unique combination of rapid scanning and multi-sensor measurement, including optical and ultrasonic sensors, enables complete inspection in a single automated process. We've also increased sales of Equator flexible gauges for electric vehicle (EV) applications.

It's been a similar story for our RenAM family of multi-laser AM machines this year, with growth of repeat sales to the medical and consumer electronics sectors. Meanwhile, our Spectroscopy business has seen rising sales of the Virsa Raman analyser, which takes research-grade materials analysis out of the lab and onto the factory floor.

Our in-house manufacturing is also critical to our success, giving us the flexibility to meet changing demands, while maintaining our exacting standards. The current inflationary environment makes it essential that we improve our productivity, so we can absorb higher costs while remaining price competitive. We continue to upgrade our machine tools and expand our automated encoder assembly systems, which will enable us to rapidly ramp production up and down to track cyclical demand. We've also been running Renishaw Central in our machine shops over the last year, reducing our own unplanned stoppages and batch changeover times.

Meanwhile, we are making our biggest ever capital investment. We are progressing well with building works at our site in Miskin, Wales, that will, in a phased manner, increase our manufacturing floorspace by 50%, giving us room to grow in the years ahead.

Sustainability

Sustainability is at the heart of our purpose, and we are committed to making our entire business Net Zero by no later than 2050. We've made good progress on our plan, reducing greenhouse gas (GHG) emissions relating to our own operations and purchased energy, by 21% in FY2023.

A major focus this year has been our work towards fully quantifying the emissions relating to our supply chain and the distribution and use of our products, known as Scope 3 emissions. We estimate that these accounted for 97% of our total carbon emissions in our baseline year (FY2020). We are targeting a 50% reduction in these emissions by 2030, and will publish our full climate transition plan next year.

People

Sir David has already acknowledged the tremendous contribution our employees have made this year and throughout the past 50 years. I'd also like to add my own thanks for everything they've done to drive us forward towards our vision to innovate and transform the capabilities of our customers.

To pursue our purpose of Transforming Tomorrow Together, we need to attract and develop outstanding people. We are focused on modernising our approach to pay and reward, improving our performance reviews, and supporting career development to help our people fulfil their potential. We've increased our average pay by around 10.2% in FY2023 compared to FY2022, excluding other factors, such as headcount growth. Our global voluntary turnover rate has fallen from 10.7% to 6.8% this year.

We've responded to slowing customer demand for our optical encoders this year by reducing direct manufacturing headcount through non-replacement of leavers. We continue to take a long-term view for success, and our early careers programmes provide a vital pipeline of new talent to maintain and grow our teams. As of 30 June 2023, we employ 343 apprentices and graduates and in FY2023 we took on 45 industrial placement students.

Outlook

FY2023 has seen mixed conditions for our markets. Demand for most of our product lines has risen, with good growth in systems sales, but the semiconductor equipment sector has been notably weaker this year.

We have seen a steady start to FY2024 and our order book remains solid. We continue to see positive trends for investment in low emission transportation, defence, additive manufacturing and robotics. Meanwhile, demand from semiconductor equipment suppliers for position encoders remains subdued. While the short-term macroeconomic picture remains unclear, we continue to manage costs prudently, we are implementing further price rises, and remain focused on improving our productivity.

I'm confident in our strategy and the actions we're taking to deliver sustainable long-term growth, including our investments in people, infrastructure and product innovation.

Will Lee
Chief Executive
18 September 2023

* Note 29, Alternative performance measures, defines how Adjusted profit before tax and Adjusted earnings per share are measured.

COMMENTARY BY THE GROUP FINANCE DIRECTOR

We have achieved revenue for the year of £688.6m, compared with £671.1m last year. However, revenue at constant exchange rates* was £662.8m, a reduction of 1% from last year. The weakening of the semiconductor market during the year has resulted in challenging trading conditions, however we have seen good growth in our systems sales.

We have made significant investments in our production infrastructure and our people during the year. We continue to be in a strong financial position, with cash and cash equivalents and bank deposit balances of £206.4m at 30 June 2023 (30 June 2022: £253.2m).

Revenue analysis

Manufacturing technologies revenue grew by 2.2% to £648.2m this year at actual rates. Our optical encoder revenue has fallen, mainly due to lower demand from the semiconductor market, notably in the APAC region. However, we are pleased that this has been largely offset by good growth in sales of our multi-laser AM systems, machine calibration systems, laser encoder systems, and CMM inspection systems.

Revenue from our Analytical instruments and medical devices segment grew by 10.5% to £40.3m this year, with record revenue for our Spectroscopy products. We also saw growth in our Neurological business.

The below table shows revenue by geographic region.

	2023 revenue at actual exchange rates £m	Change from 2022 %	2022 revenue at actual exchange rates £m	Underlying change at constant exchange rates %
APAC	**310.6**	-2	317.0	-4
EMEA	**216.5**	+5	205.8	+3
Americas	**161.5**	+9	148.2	0
Total Group revenue	**688.6**	+3	671.1	-1

Operating costs

Our labour costs are our largest cost. We have taken a cautious approach to recruitment during the year and our headcount was 5,175 at 30 June 2023, compared with 5,097 at the end of June 2022. This growth includes continued investment in our early careers programmes.

We have carried out global salary benchmarking, which has helped improve employee retention. This, together with an increase in average headcount of 205, are the main drivers for total labour costs (excluding bonuses) increasing by 13% to £268.2m from £236.5m last year. Accordingly, our production, engineering, distribution and administrative costs have all increased. A reduction in performance bonuses of £6.6m has partially offset the total labour cost increases.

This year's gross margin (excluding engineering costs) was 64%, compared with 65% last year. This change is mostly due to a reduction in production volumes (leading to a lower recovery of fixed overheads) and the higher labour pay rates. We helped minimise the effect of these by introducing targeted price increases and not replacing leavers in our direct manufacturing teams.

We remain committed to our long-term strategy of delivering growth by developing innovative and patented products. To that end, we invested £72.5m in research and development expenditure, compared with £59.4m last year (see Note 4 to the Financial statements). We also incurred £28.1m (FY2022: £26.4m) of other engineering expenditure, to support existing products and technologies.

Travel and exhibition costs are higher this year as COVID-19-related restrictions have been lifted and we have been able to engage in more customer facing activity. In addition to the labour cost growth, this has increased our distribution costs by 12%.

We have also experienced inflationary increases across other cost categories, notably software licences, health insurance and professional fees.

Profit and tax

As a result of the increased costs in a year of modest revenue growth, Adjusted* profit before tax amounted to £141.0m, compared with a record £163.7m in FY2022. This is a reduction of 13.9%. Statutory profit before tax was £145.1m, compared with £145.6m in the previous year.

Sometimes infrequently occurring events can affect our financial statements, recognised according to applicable IFRSs. We exclude such events from adjusted performance measures to give the Board and other stakeholders another useful metric to understand and compare our underlying performance.

This year, the items we excluded from Adjusted profit before tax include: gains of £5.5m from forward contracts deemed ineffective for cash flow hedging (FY2022: £8.3m losses); a revised estimate of FY2020 restructuring provisions of £0.7m gain (FY2022: £1.7m gain); and a defined benefit (DB) pension scheme past service cost relating to termination of the US DB pension scheme totalling £2.1m. These have not affected cash flow during the financial year. Additional items excluded in the previous year are detailed in Note 29. The table below reconciles Adjusted profit before tax to Statutory profit before tax.

	2023 **£'000**	2022 £'000
Adjusted profit before tax	**140,983**	163,742
Revised estimate of 2020 restructuring provisions	**717**	1,688
Third-party FSP (formal sale process) costs	**-**	200
US/UK DB pension scheme past service cost	**(2,139)**	(11,695)
Fair value gains/(losses) on financial instruments	**5,504**	(8,349)
Statutory profit before tax	**145,065**	145,586

Adjusted operating profit in our Manufacturing technologies segment was £125.5m, compared with £158.6m last year. Meanwhile, in our Analytical instruments and medical devices segment, Adjusted operating profit was £4.9m, compared with £2.8m last year.

Financial income for the year was £9.7m, compared with £0.9m last year, and includes a £5.5m increase in interest on bank deposits mainly due to higher interest rates.

The FY2023 effective tax rate has increased to 20.0% (FY2022: 17.3%) mostly as a result of a reduction in patent box tax incentives and an increase in the UK tax rate from 19% to 25%. Note 7 provides further analysis of the effective tax rate.

Consolidated balance sheet

We have invested £74.0m (FY2022: £31.0m) in capital expenditure, including production plant and equipment and the ongoing development of our production facility in Miskin, Wales.

Within working capital, we have increased our inventories to £185.8m from £162.5m at the beginning of the year. This is mainly a result of targeted increases in components and sub-assemblies for our optical encoder products following global supply chain shortages in previous years. Given the reduction in demand for optical encoders some of our components are currently overstocked. Now that supply chain challenges have eased, we have plans to reduce safety stock levels of critical components. However, we remain committed to our policy of holding sufficient finished goods to ensure customer delivery performance, given our short order book.

Trade receivables reduced from £127.6m to £123.4m due to lower levels of trading in the fourth quarter of FY2023 relative to the previous year. Debtor days remained constant year-on-year at 64 days. We continue to experience low levels of defaults, and hold a provision for expected credit losses at 0.4% of trade receivables (FY2022: 0.2%).

Total equity at the end of the year was £896.7m, compared with £815.2m at 30 June 2022. This is primarily a result of profit for the year of £116.1m, offset by dividends paid of £53.4m.

Cash and liquidity

We continue to have a strong liquidity position, with cash and cash equivalents, and bank deposit balances at 30 June 2023 of £206.4m (30 June 2022: £253.2m). This is a result of our trading performance, offset by our previously noted capital investments and working capital movements, and dividends paid of £53.4m.

We disclose details of 'severe but plausible' scenario forecasts used in our going concern and viability assessments in note 1 and conclude that we have a reasonable expectation that we will retain a liquid position and be able to continue in operation for at least the next three years.

Pensions

At the end of the year, our DB pension schemes, now closed for future accrual, showed a net surplus of £57.4m, compared with £42.2m at 30 June 2022.

In October 2022, following a significant improvement in the UK scheme's funding position due to rising gilt yields, the Trustees (in consultation with the Company) de-risked the investment strategy by disinvesting from the scheme's equity and diversified growth holdings and investing the proceeds into index-linked gilts. The overall impact of these changes is to reduce investment risk, with the assets better matching the expected movements in the liabilities. We now believe the scheme is fully funded and are in the process of seeking to insure the liabilities.

During the year, pension schemes' liabilities decreased from £174.5m to £139.0m, on an IAS 19 basis, primarily reflecting the increase in the UK scheme discount rate from 3.6% to 5.1%.

Our DB pension schemes' assets at 30 June 2023 decreased to £196.3m from £216.7m at 30 June 2022, with UK asset values falling (in line with expectations) given the liability matching approach.

A termination of the US DB pension scheme was formally commenced during the year. The Trustees of the scheme and Renishaw Inc agreed that the surplus will be distributed to the members of the scheme, resulting in a change to members' benefits. Accordingly, this change has resulted in a charge of £2.1m to the Consolidated income statement, which has been excluded from Adjusted profit before tax.

See Note 23 for further details on employee benefits.

Treasury policies

Our treasury policies are designed to manage the financial risks that arise from operating in multiple foreign currencies. The majority of sales are made in these currencies, while most manufacturing and engineering is carried out in the UK, Ireland and India.

We use forward exchange contracts to hedge a proportion of anticipated foreign currency cash inflows and the translation of foreign currency denominated intercompany balances.

There are forward contracts in place to hedge against our Euro, US Dollar and Japanese Yen cash inflows, and to offset movements on Renishaw plc's Euro, US Dollar and Japanese Yen intercompany balances. We do not speculate with derivative financial instruments.

Our treasury policies are also designed to maximise interest income on our cash and bank deposits and to ensure that appropriate funding arrangements are available for each of our companies.

Sustainability

With our Sustainability team doing more work this year to better understand the risks and opportunities of climate change, we have reviewed the effect on our financial statements and financial planning. Our five-year financial plan includes estimates of the capital expenditure needed in this period to help deliver our own Net Zero plans. We have also considered the potential impact on topics such as the expected useful lives of tangible assets and the headroom on intangible assets, and have not identified a material effect on this year's financial statements. We will continue to review this as the Group further develops its work on both our own Net Zero plans and the wider impact of climate change on our risks and opportunities.

Capital allocation strategy

Our Board regularly reviews the capital requirements of the Group, to maintain a strong financial position to protect the business and provide flexibility to fund future growth.

We've consistently applied our capital allocation strategy for many years. Organic growth is our first priority and we're committed to R&D investment for new products, manufacturing processes and global support infrastructure

to generate growth in future returns and improve productivity. This is evidenced in the year by our capital expenditure, the increase in working capital and investments in R&D.

We may supplement organic growth with acquisitions in current and adjacent market niches that are aligned to our strategy. We have always valued having cash in the bank to protect the core business from downturns, and we monitor our cash against a minimum holding according to forecast overheads and revenue downturn scenarios. This cash also allows us to react swiftly as investment or market capture opportunities arise.

Actual and forecast returns, along with our strong financial position, support our progressive dividend policy, which aims to increase the dividend per share while maintaining a prudent level of dividend cover.

Earnings per share and dividend

Adjusted earnings per share is 155.1p, compared with 185.5p last year, while statutory earnings per share is 159.7p, compared with 165.4p last year.

We paid an interim dividend of 16.8 pence per share (FY2022: 16.0p) on 11 April 2023 and are pleased to propose a final dividend of 59.4 pence per share in respect of the year (FY2022: 56.6p).

Looking forward

Given the uncertain market conditions, we continue to be cautious as we enter FY2024, and are currently recruiting for critical roles only.

Where possible, we are implementing further price rises to mitigate ongoing inflation, and are focused on delivering productivity improvements across the business.

However, we have many drivers in our key markets to deliver long-term revenue growth and we continue to invest in the infrastructure required to meet the expected future demand. We expect to spend around £35m to complete phase 1 of our new production facility at Miskin, Wales, which is expected to be operational from early 2024, and continue to invest in automation and productivity opportunities.

Allen Roberts
Group Finance Director
18 September 2023

*Note 29, ‘Alternative performance measures’, defines how revenue at constant exchange rates, Adjusted profit before tax, Adjusted operating profit and Adjusted earnings per share are calculated.

PRINCIPAL RISKS AND UNCERTAINTIES

Our performance is subject to a number of risks – the principal risks, factors impacting on them and mitigations are ranked in the table below, as well as an indication of the movement of the risk in the last year, our appetite towards that risk, and how the risk links to our strategy. The Board has conducted a robust assessment of the principal risks facing the business.

Appetite:
– **Low**: Minimal risk exposure is considered the safest approach, which may mean lower returns.
– **Medium**: A balanced approach which carefully considers the risks and rewards.
– **High**: Greater risk tolerance, which may involve maximum risk for maximum return.

Link to strategy:
– **SM**: Sales & Marketing
– **E**: Engineering
– **P**: People and Culture
– **M**: Manufacturing
– **CS**: Corporate Services
– **S**: Sustainability

<table>
<tr><th colspan="2">Economic and political uncertainty</th></tr>
<tr><td colspan="2">Movement: increased risk Appetite: High Link to strategy: All Risk owner: Chief Executive</td></tr>
<tr><th colspan="2">Risk description</th></tr>
<tr><td colspan="2">As a global business, we may be affected by global political, economic or regulatory developments. This could include a global recession, USA-China trade relations, or the Russia-Ukraine conflict. This risk can also drive industry fluctuations.</td></tr>
<tr><th>Potential impact</th><th>What we are doing to manage this risk</th></tr>
<tr><td>• Loss of financial and physical assets in a region.
• Supply issues leading to failures to meet contractual obligations.
• Reduced revenue, profit and cash generation.
• Increased risk to credit, liquidity and currency.</td><td>• Monitoring external economic and commercial environments and markets in which we operate, and identifying relevant headwinds.
• Maintaining sufficient headroom in our cash balances.
• Maintaining appropriate levels of buffer inventory.
• Resilient business model and clear strategy, both of which are subject to regular scrutiny.</td></tr>
<tr><th colspan="2">Innovation strategy</th></tr>
<tr><td colspan="2">Movement: stable risk Appetite: High Link to strategy: E Risk owner: Directors of Industrial Metrology, Position Measurement and Additive Manufacturing</td></tr>
<tr><th colspan="2">Risk description</th></tr>
<tr><td colspan="2">Failure to create new cutting-edge, high-quality products, or failing to protect the intellectual property that underpins these products, which allows us to differentiate ourselves from our competitors.

As a business driven by innovation, there is a higher risk when venturing outside our traditional field of expertise where the science and engineering are less proven.</td></tr>
<tr><th>Potential impact</th><th>What we are doing to manage this risk</th></tr>
<tr><td>• Failure to lead the market in innovation of products in our core and adjacent sectors.
• Loss of market share.
• Reduced revenue, profit and cash generation.
• Failing to recover investment in R&D.</td><td>• Increase in R&D expenditure with a continued focus on investment for new product development.
• Establishing a 'Product Group Directors Team', which focuses on R&D productivity initiatives around the Group. Topics in FY2023 included: embedding the flagship projects programme and establishing in-depth quarterly reviews with the Chief Executive; and evolving hybrid working. We will see the impact of these initiatives in FY2024.
• Monthly monitoring of the 'key technologies' R&D targets, with an aim of identifying business value and accelerating our promising new technologies and associated patents very early in the life-cycle.
• Continuing the drive towards incremental development and more open customer collaboration at early stages of R&D projects, to ensure our innovations are successful in the market.</td></tr>
<tr><th colspan="2">People</th></tr>
<tr><td colspan="2">Movement: decreased risk Appetite: Medium Link to strategy: P Risk owner: Head of Group HR</td></tr>
<tr><th colspan="2">Risk description</th></tr>
<tr><td colspan="2">Our people are fundamental to the success of our business.
Inability to attract, retain and develop key talent at all levels of the organisation, as well as a failure to ensure we have appropriate succession plans in place, could mean we fail to successfully deliver our strategic objectives.</td></tr>
</table>

<table>
<tr><th>Potential impact</th><th>What we are doing to manage this risk</th></tr>
<tr><td>• Loss of expertise, skills, and specialist talent could affect delivery of objectives.
• Poor retention and engagement could slow the delivery of our strategic objectives and product delivery.
• Failure to develop future leaders, insufficient talent progression.
• Loss of market share, reduced revenue, poor customer service, and reduced profit.</td><td>• Continuing our focus on attracting, rewarding and retaining our people globally.
• Continuing our global salary benchmarking programme, with our largest investment in reward, to date. We have seen an improvement in retention since conducting our benchmarking exercises.
• Working towards implementing a global engagement platform.
• Continuing to invest in our education and early career programmes as well as talent development and succession planning. For example, we opened our dedicated STEM Centre at our headquarters in Gloucestershire, UK.
• Developing a competency framework to complement our new job architecture.
• Advancing our employee engagement through multi-media communications, surveys, promoting wellbeing, evolving feedback mechanisms and further developing our work to build an inclusive culture.
• Establishing continuity plans to enable rapid adaptation to changing circumstances.</td></tr>
<tr><td colspan="2">Industry fluctuations</td></tr>
<tr><td colspan="2">Movement: stable risk Appetite: High Link to strategy: SM, M, E Risk owner: Chief Executive</td></tr>
<tr><td colspan="2">Risk description</td></tr>
<tr><td colspan="2">We’re exposed to the cyclical nature of demand from aerospace, automotive, semiconductor and consumer electronics markets, which may be more severe if downcycles in these key industries coincide. This risk can also be influenced by economic and political uncertainty.</td></tr>
<tr><th>Potential impact</th><th>What we are doing to manage this risk</th></tr>
<tr><td>• Reduced revenue, profit and cash generation.
• Increased competition on prices.
• Loss of market share if unable to meet rapid increases in demand.</td><td>• Closely monitoring market developments.
• Expanding our product range to serve different industry sectors and markets.
• Identifying and meeting the needs of rapidly growing markets, for example in robotic automation.
• Maintaining a strong balance sheet and strategic inventories with the ability to flex.</td></tr>
<tr><td colspan="2">Route to market / customer satisfaction model</td></tr>
<tr><td colspan="2">Movement: stable risk Appetite: Medium Link to strategy: SM Risk owner: Chief Executive</td></tr>
<tr><td colspan="2">Risk description</td></tr>
<tr><td colspan="2">Failure to implement appropriate and efficient sales and support processes relating to systems integration and the sale of capital goods could restrict growth opportunities in these areas.</td></tr>
<tr><th>Potential impact</th><th>What we are doing to manage this risk</th></tr>
<tr><td>• Low capital efficiency – high people costs and low productivity.
• High application engineering and distribution costs.
• Adversely affects customer satisfaction levels, revenue, and profits.</td><td>• Focusing on key customers to generate reporting revenues.
• Closely monitoring customer feedback.
• Collaborating with complementary third parties.
• Adopting new approaches to the sale of capital goods.</td></tr>
<tr><td colspan="2">Cyber</td></tr>
<tr><td colspan="2">Movement: increased risk Appetite: Low Link to strategy: All Risk owner: Director of Group Operations</td></tr>
<tr><td colspan="2">Risk description</td></tr>
<tr><td colspan="2">External and internal threats that could result in a loss of (i) data, including IP; or (ii) our ability to operate our systems, which could severely affect our business.</td></tr>
<tr><th>Potential impact</th><th>What we are doing to manage this risk</th></tr>
<tr><td>• Loss of IP and/or commercially sensitive data and/or personal data.
• Inability to access, or disruption to, our systems leading to reduced service to customers.
• Financial loss and reputational damage.
• Impact on decision-making due to lack of clear and accurate data, or disruption caused by the lack of service.</td><td>• Ensuring substantial resilience and back-up is built into our systems, which are continuously updated for current threats and good industry practice. This includes duplication of hardware, dual and diverse connections where possible, and regular back-up schedules.
• Regularly discussing cyber and security risks at Board and Audit Committee meetings, including the strength of our control environment.
• Deploying physical and logical control measures to protect our information and systems. Real-life restores of data and services are carried out regularly.</td></tr>
</table>

	• Conducting regular security awareness training, including phishing simulation exercises, which are proving effective. We also conduct external penetration testing as appropriate.

IT transformation failure

Movement: increased risk | Appetite: Low | Link to strategy: All | Risk owner: Director of Group Operations

Risk description

The upgrade of our Sage CRM and Sage ERP systems to Microsoft Dynamics 365, to remove legacy systems and ensure our global operations are better integrated, could affect our business if there are major technical issues, or it is poorly integrated. This risk could also result in problems if there are significant delays to the programme or it runs significantly over budget.

Potential impact

- Major disruption to our systems, causing delays to our operations.
- Affect our ability to process or issue invoices and customer orders, or to procure goods and services.
- Increased costs, including to fix technical issues and restore or upgrade other affected systems.

What we are doing to manage this risk

- Maintaining close project management between ourselves, Microsoft and our system integrator.
- Working to a clear, risk-elimination-based roadmap with measurable milestones.
- Strengthening the deployment team to accelerate roll out, with targeted recruitment and upskilling.
- Obtaining commitment from the Board to invest as necessary.

Supply chain dependencies

Movement: decreased risk | Appetite: Low | Link to strategy: M, S | Risk owner: Head of Group Manufacturing

Risk description

Critical components, or some components that we buy from single-source suppliers, make us vulnerable to an interruption in supply.

Potential impact

- Inability to fulfil customer orders, leading to a reduction in revenue and profits, and damage to reputation.
- Failure to meet contractual requirements.
- Increased cost of alternative sourcing or redesign.
- Loss of market share.

What we are doing to manage this risk

- Maintaining a risk dashboard for our key manufacturing sites, to help us prioritise and determine stock levels.
- Adapting stock levels for high-risk items, to take account of supply lead times and time to redesign in the event of loss of supply. We actively seek cost-effective alternative sources of supply (including in-house manufacturing), to reduce dependency on single-source suppliers, with a continued focus on key components.
- Collaborating with product groups on an ongoing basis to review risks and, where appropriate, carry out reviews and updates to specifications where necessary to facilitate alternative sourcing or redesign.

Competitive activity

Movement: stable risk | Appetite: Low | Link to strategy: All | Risk owner: Chief Executive

Risk description

Failure to adapt to market and/or technological changes.

Potential impact

- Reduced revenue, profits and cash generation.
- Loss of market share.
- Price erosion.
- Loss of reputation as a leader in innovation.

What we are doing to manage this risk

- Ensuring we are diversified across a range of products, industries and geographies.
- Closely monitoring market developments, particularly across our core product groups.
- Maintaining local sales and engineering support to quickly identify changing local needs.
- Continuing to build our product portfolio through our strong historic and ongoing commitment to R&D (see Note 4 to the Financial statements for details of R&D expenditure).

Capital and resource allocation	
Movement: stable risk Appetite: Medium Link to strategy: E Risk owner: Group Finance Director	
Risk description	
This risk could be triggered by a failure to properly allocate budget and resource between core and emerging activities.	
Potential impact	**What we are doing to manage this risk**
• Investing in declining or less profitable areas at the expense of more profitable and strategically important areas. • Reduced profits. • Loss of market share. • Impact on innovation.	• Defining, prioritising, and developing strategies for all core and emerging areas of the business. • Scrutinising all expenditure, including regular reporting on labour costs and capital expenditure. • Regular reporting of cash balances. • Tracking performance objectives, including regular reporting on flagship project progress.

Exchange rate fluctuations	
Movement: increased risk Appetite: Medium Link to strategy: SM Risk owner: Group Finance Director	
Risk description	
We report our results and pay dividends in Sterling and, with more than 90% of our revenue generated outside the UK, we're exposed to volatility in exchange rates that could have a significant impact on our results. Movements of Sterling against our major trading currencies cause cash flow, currency translation, and intercompany balance translation risks.	
Potential impact	**What we are doing to manage this risk**
• Significant variations in profit. • Reduced cash generation. • Increased competition on product prices. • Increased costs.	• Maintaining rolling forward contracts for cash-flow hedges in accordance with Board-approved policy, and one-month forward contracts to manage risks on intercompany balances. • Tracking overseas net assets value compared to the market capitalisation. • Obtaining input from external sources, including our banks.

Climate change	
Movement: stable risk Appetite: Low Link to strategy: All Risk owner: Head of Group Manufacturing	
Risk description	
We could be exposed to climate-related physical risks, such as hurricanes, floods, wildfires and pandemics, which could potentially affect our ability to operate. Other risks related to a transition to a low-carbon economy could also affect us if we fail to react adequately to new climate-related legislation, technology or market factors.	
Potential impact	**What we are doing to manage this risk**
• Increased costs of key raw materials, due to climate- related legislation affecting the macroeconomic landscape with the introduction of carbon taxes. • Disruption to operations caused by climate-related hazards could reduce our revenue, create safety risks to our people and increase our operational costs. • If we fail to achieve Net Zero commitments, we could experience damage to reputation and loss of business.	• Our Sustainability team supports the Risk Committee in evaluating and understanding the possible effect of climate-related risks and opportunities. • Climate-related hazards have been a driver in developing our manufacturing approach. More detail on our risk mitigation work can be found in the descriptions of our Loss of manufacturing output and Supply chain dependencies risks. • Using our product groups' priorities to manage climate-related transitional risks. • Reviewing and maintaining business interruption and other insurance cover. • Investing to reduce energy consumption and increase renewable energy generation across the Group. For example, we are aiming for all new buildings and refurbishments to achieve Net Zero emissions in operation.

Loss of manufacturing output

Movement: decreased risk Appetite: Low Link to strategy: M Risk owner: Head of Group Manufacturing

Risk description

Manufacturing output can be adversely affected by factors including environmental hazards, technical delays or outages, plant or equipment failure, inadequate resourcing levels, or factors affecting the workforce, such as a pandemic.

Potential impact

- Inability to fulfil customer orders leading to a reduction in revenue, failure to meet contractual requirements and damage to reputation.
- Increased costs of alternative sourcing or redesign.
- Impact on maintenance of buffer inventory.
- Loss of market share.

What we are doing to manage this risk

- Duplication of high-dependency processes, such as component manufacturing and finishing, electronic printed circuit board assembly, and microelectronics assembly, across multiple manufacturing locations.
- Ensuring we have flexible manufacturing capacity and sufficient resilience across our manufacturing sites.
- Ensuring standardised approaches to assembly, annual risk assessments, and business continuity planning.
- Reviewing and maintaining business interruption and other insurance cover.

Non-compliance with laws and regulations

Movement: stable risk Appetite: Low Link to strategy: All
Risk owner: General Counsel & Company Secretary and Managing Director – Renishaw Medical

Risk description

We operate in a large number of territories and in some highly-regulated sectors. We are subject to a wide variety of laws and regulations, including those relating to anti-bribery, anti-money laundering, sanctions, competition law, privacy, health and safety, product safety, and medical devices.

There is a risk that somewhere in the Group we may not be fully compliant with these laws and regulations.

Potential impact

- Damage to reputation and loss of future business.
- Potential penalties and fines, and cost of investigations.
- Management time and attention in dealing with reports of non-compliance.
- Inability to attract and retain talent.

What we are doing to manage this risk

- Maintaining our whistleblowing hotline (Speak up), available to all employees and third parties who provide services for or on behalf of the Group, which means that our people and other stakeholders can make us aware of any potential non- compliance issues.
- Establishing global compliance programmes for all high-risk areas, which includes policies, key controls and effective communication. Training also includes refreshed mandatory anti-bribery and anti-corruption modules.
- Promoting all compliance functions under the umbrella brand 'Responsible Renishaw'. This helps to raise awareness about compliance, and makes it easier for our people to find the information they need to comply.
- Maintaining our global privacy programme.

Product failure

Movement: stable risk Appetite: Low Link to strategy: E, M
Risk owner: Group Quality Manager and Quality Manager – Healthcare Regulatory

Risk description

The quality of our products could be adversely affected by internal threats, such as inadequate quality management processes. Product quality could also be affected by external threats, such as substandard performance from third-party suppliers. We could also be affected by other external risk factors, including grey market and counterfeit goods in our supply chain, and this may result in latent risks where product failures are not yet realised.

This risk is particularly notable in our neurological products, where failure could result in significant personal injury claims or regulatory action.

Potential impact

- Damage to reputation.
- Claims, including personal injury.
- Potential penalties and fines, cost of investigations and high recall costs for

What we are doing to manage this risk

- Ensuring we have rigorous internal product development and testing procedures (during development, manufacturing and release) to international standards where applicable, to ensure high levels of quality assurance. This

<table>
<tr><td>medical devices.
• Increase in non-revenue-generating warranty activity.
• Inability to fulfil customer orders leading to a reduction in sales.</td><td>includes following ISO 14971 and ISO 13485 for all medical devices.
• Interacting with customers and regulators to obtain and address feedback.
• Conducting a thorough vendor approval process, and regular monitoring of third-party suppliers to ensure incoming parts and sub-contracted activity meet requirements.
• Applying grey market product verification activity where component sourcing is not from original equipment manufacturers (OEMs) or franchised providers.
• Limiting our liability through our terms and conditions of sale and we also have product liability insurance. For clinical studies, we have separate trial insurance.</td></tr>
<tr><td colspan="2">Pensions</td></tr>
<tr><td colspan="2">Movement: stable risk Appetite: Medium Link to strategy: P Risk owner: Group Finance Director</td></tr>
<tr><td colspan="2">Risk description</td></tr>
<tr><td colspan="2">Investment returns and actuarial assumptions of our defined benefit pension (DB) schemes are subject to economic and social factors outside our control.</td></tr>
<tr><td>Potential impact</td><td>What we are doing to manage this risk</td></tr>
<tr><td>• Any deficit may need additional funding in the form of supplementary cash payments to the plans or the provision of additional security.
• Significant management time.
• External support costs.
• Damage to reputation.</td><td>• Implementing recovery plan for the UK DB scheme in June 2019, with the aim of funding to self-sufficiency by 2031.
• Appointing a corporate Trustee in June 2022, which has reduced management time and support costs.
• Engaging with the corporate Trustee on investment strategy.
• The corporate Trustee works to a statement of investment principles, and the Company and corporate Trustee seek appropriate independent professional advice, if needed.
• During FY2023, the Company and Trustees of the UK DB scheme agreed to de-risk the investment strategy by disinvesting from the scheme’s equity and diversified growth holdings and investing the proceeds into index-linked gilts. This followed a significant improvement in the scheme’s funding position due to rising gilt yields. As a result, the Trustees agreed to £8.7m of funding due between 1 October 2022 and 30 September 2023 being deferred to 2026.</td></tr>
</table>

CONSOLIDATED INCOME STATEMENT
for the year ended 30 June 2023

from continuing operations	**notes**	**2023 £'000**	2022 £'000
Revenue	2	**688,573**	671,076
Cost of sales	4	**(337,908)**	(313,527)
Gross profit		**350,665**	357,549
Distribution costs		**(137,744)**	(122,455)
Administrative expenses		**(74,894)**	(69,736)
UK defined benefit pension scheme past service cost	23	**-**	(11,695)
US defined benefit pension scheme past service cost	23	**(2,139)**	-
Losses from the fair value of financial instruments	25	**(1,399)**	(10,413)
Operating profit		**134,489**	143,250
Financial income	5	**9,669**	932
Financial expenses	5	**(1,861)**	(2,938)
Share of profits of joint ventures	13	**2,768**	4,342
Profit before tax		**145,065**	145,586
Income tax expense	7	**(28,963)**	(25,235)
Profit for the year		**116,102**	120,351
Profit attributable to:			
Equity shareholders of the parent company		**116,102**	120,351
Non-controlling interest	26	**-**	-
Profit for the year		**116,102**	120,351
		pence	pence
Dividend per share arising in respect of the year	26	**76.2**	72.6
Dividend per share paid in the year	26	**73.4**	68.0
Earnings per share (basic and diluted)	8	**159.7**	165.4

Adjusted profit before tax for the year was £140,983,000 (2022: £163,742,000). See note 29 Alternative performance measures for more details.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME AND EXPENSE

for the year ended 30 June 2023

	notes	**2023 £'000**	2022 £'000
Profit for the year		**116,102**	120,351
Other items recognised directly in equity:			
Items that will not be reclassified to the Consolidated income statement:			
Current tax on contributions to defined benefit pension schemes		**-**	1,653
Deferred tax on contributions to defined benefit pension schemes		**-**	(1,653)
Remeasurement of defined benefit pension scheme assets/liabilities	23	**13,612**	69,078
Deferred tax on remeasurement of defined benefit pension scheme assets/liabilities		**(3,071)**	(15,997)
Total for items that will not be reclassified		**10,541**	53,081
Items that may be reclassified to the Consolidated income statement:			
Exchange differences in translation of overseas operations	26	**(8,000)**	12,151
Exchange differences in translation of overseas joint venture	26	**-**	118
Current tax on translation of net investments in foreign operations	26	**313**	(1,529)
Effective portion of changes in fair value of cash flow hedges, net of recycling	26	**23,167**	(28,423)
Deferred tax on effective portion of changes in fair value of cash flow hedges	7,26	**(5,692)**	6,155
Total for items that may be reclassified		**9,788**	(11,528)
Total other comprehensive income and expense, net of tax		**20,329**	41,553
Total comprehensive income and expense for the year		**136,431**	161,904
Attributable to:			
Equity shareholders of the parent company		**136,431**	161,904
Non-controlling interest	26	**-**	-
Total comprehensive income and expense for the year		**136,431**	161,904

CONSOLIDATED BALANCE SHEET

at 30 June 2023

	notes	**2023 £'000**	2022 £'000
Assets			
Property, plant and equipment	9	**286,085**	243,853
Right-of-use assets	10	**8,402**	9,950
Investment properties	11	**10,323**	10,568
Intangible assets	12	**46,468**	44,218
Investments in joint ventures	13	**22,414**	20,570
Finance lease receivables	14	**9,935**	6,961
Employee benefits	23	**57,416**	43,241
Deferred tax assets	7	**19,944**	22,893
Derivatives	25	**9,443**	-
Total non-current assets		**470,430**	402,254
Current assets			
Inventories	16	**185,757**	162,482
Trade receivables	25	**123,427**	127,551
Finance lease receivables	14	**3,764**	3,348
Contract assets		**861**	578
Short-term loans to joint ventures		**-**	302
Current tax		**19,558**	8,901
Other receivables	25	**27,979**	27,068
Derivatives	25	**5,373**	7,121
Bank deposits	15	**125,000**	100,000
Cash and cash equivalents	15,25	**81,388**	153,162
Total current assets		**573,107**	590,513
Current liabilities			
Trade payables	25	**21,551**	30,947
Contract liabilities	18	**9,971**	12,956
Current tax		**7,118**	10,078
Provisions	17	**2,758**	4,244
Derivatives	25	**5,089**	17,890
Lease liabilities	21	**3,009**	3,714
Borrowings	20	**4,694**	919
Other payables	19	**48,130**	51,949
Total current liabilities		**102,320**	132,697
Net current assets		**470,787**	457,816
Non-current liabilities			
Lease liabilities	21	**5,624**	6,466
Borrowings	20	**-**	5,160
Employee benefits	23	**45**	996
Deferred tax liabilities	7	**38,770**	22,815
Derivatives	25	**120**	9,463
Total non-current liabilities		**44,559**	44,900
Total assets less total liabilities		**896,658**	815,170
Equity			
Share capital	26	**14,558**	14,558
Share premium		**42**	42
Own shares held	26	**(2,963)**	(750)
Currency translation reserve	26	**6,772**	14,459
Cash flow hedging reserve	26	**6,552**	(10,923)
Retained earnings		**871,777**	798,541
Other reserve	26	**497**	(180)
Equity attributable to the shareholders of the parent company		**897,235**	815,747
Non-controlling interest	26	**(577)**	(577)
Total equity		**896,658**	815,170

These financial statements were approved by the Board of Directors on 18 September 2023 and were signed on its behalf by:

Sir David McMurtry **Allen Roberts**

Directors

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

for the year ended 30 June 2023

Year ended 30 June 2022	Share capital £'000	Share premium £'000	Own Shares Held £'000	Currency translation reserve £'000	Cash flow hedging reserve £'000	Retained earnings £'000	Other reserve £'000	Non-controlling interest £'000	Total £'000
Balance at 1 July 2021	14,558	42	(404)	3,719	11,345	674,603	44	(577)	703,330
Profit for the year	-	-	-	-	-	120,351	-	-	120,351
Other comprehensive income and expense (net of tax)									
Remeasurement of defined benefit pension scheme liabilities	-	-	-	-	-	53,081	-	-	53,081
Foreign exchange translation differences	-	-	-	10,622	-	-	-	-	10,622
Relating to associates and joint ventures	-	-	-	118	-	-	-	-	118
Changes in fair value of cash flow hedges	-	-	-	-	(22,268)	-	-	-	(22,268)
Total other comprehensive income and expense	-	-	-	10,740	(22,268)	53,081	-	-	41,553
Total comprehensive income and expense	-	-	-	10,740	(22,268)	173,432	-	-	161,904
Share-based payments charge	-	-	-	-	-	-	180	-	180
Own shares transferred on vesting	-	-	404	-	-	-	(404)	-	-
Own shares purchased	-	-	(750)	-	-	-	-	-	(750)
Dividends paid	-	-	-	-	-	(49,494)	-	-	(49,494)
Balance at 30 June 2022	**14,558**	**42**	**(750)**	**14,459**	**(10,923)**	**798,541**	**(180)**	**(577)**	**815,170**
Year ended 30 June 2023									
Profit for the year	-	-	-	-	-	116,102	-	-	116,102
Other comprehensive income and expense (net of tax)									
Remeasurement of defined benefit pension scheme assets/liabilities	-	-	-	-	-	10,541	-	-	10,541
Foreign exchange translation differences	-	-	-	(7,687)	-	-	-	-	(7,687)
Changes in fair value of cash flow hedges	-	-	-	-	17,475	-	-	-	17,475
Total other comprehensive income and expenses	-	-	-	(7,687)	17,475	10,541	-	-	20,329
Total comprehensive income and expenses	-	-	-	(7,687)	17,475	126,643	-	-	136,431
Share-based payments charge	-	-	-	-	-	-	677	-	677
Own shares purchased	-	-	(2,213)	-	-	-	-	-	(2,213)
Dividends paid	-	-	-	-	-	(53,407)	-	-	(53,407)
Balance at 30 June 2023	**14,558**	**42**	**(2,963)**	**6,772**	**6,552**	**871,777**	**497**	**(577)**	**896,658**

More details of share capital and reserves are given in note 26.

CONSOLIDATED STATEMENT OF CASH FLOW

for the year ended 30 June 2023

	notes	**2023 £'000**	2022 £'000
Cash flows from operating activities			
Profit for the year		**116,102**	120,351
Adjustments for:			
Depreciation of property, plant and equipment, investment properties	9,11	**19,882**	25,898
Loss on sale of property, plant and equipment	9	**155**	157
Impairment of property, plant and equipment	9	**-**	1,259
Depreciation of right-of-use assets	10	**4,223**	4,205
Impairment of right-of-use-assets		**-**	1,837
Amortisation of development costs	12	**5,150**	4,698
Amortisation of other intangibles	12	**1,012**	1,225
Impairment of development costs	12	**1,611**	-
Write-off of intangible assets		**-**	3,510
Loss on disposal of intangible assets		**550**	-
Share of profits from joint ventures	13	**(2,768)**	(4,342)
Profit on disposal of investment in associate		**-**	(582)
Write-off of lease liabilities		**-**	(1,985)
Defined benefit pension schemes past service cost	23	**2,437**	11,695
Financial income	5	**(9,669)**	(932)
Financial expenses	5	**1,861**	2,938
(Gains)/losses from the fair value of financial instruments	25	**(5,504)**	8,349
Share-based payment expense	24	**677**	180
Tax expense	7	**28,963**	25,235
		48,580	83,345
Increase in inventories		**(23,275)**	(48,919)
Increase in trade, finance lease and other receivables		**(12,379)**	(11,301)
(Decrease)/increase in trade and other payables		**(15,013)**	12,288
Decrease in provisions		**(1,486)**	(2,015)
		(52,153)	(49,947)
Defined benefit pension scheme contributions	23	**(2,341)**	(8,866)
Income taxes paid		**(25,891)**	(23,410)
Cash flows from operating activities		**84,297**	121,473
Investing activities			
Purchase of property, plant and equipment, and investment properties	9,11	**(74,024)**	(30,960)
Sale of property, plant and equipment		**7,948**	687
Development costs capitalised	12	**(10,448)**	(7,966)
Purchase of other intangibles	12	**(379)**	(929)
(Increase)/decrease in bank deposits	15	**(25,000)**	20,000
Interest received	5	**6,302**	834
Dividend received from joint ventures	13	**924**	525
Proceeds from sale of shares in associate		**-**	582
Payments from pension scheme cash escrow account		**-**	10,578
Cash flows from investing activities		**(94,677)**	(6,649)
Financing activities			
Repayment of borrowings	20	**(914)**	(974)
Interest paid	5	**(656)**	(591)
Repayment of principal of lease liabilities	22	**(4,206)**	(4,081)
Own shares purchased	26	**(2,213)**	(750)
Dividends paid	26	**(53,407)**	(49,494)
Cash flows from financing activities		**(61,396)**	(55,890)
Net (decrease)/increase in cash and cash equivalents		**(71,776)**	58,934
Cash and cash equivalents at beginning of the year		**153,162**	95,008
Effect of exchange rate fluctuations on cash held		**2**	(780)
Cash and cash equivalents at end of the year	15	**81,388**	153,162

NOTES (FORMING PART OF THE FINANCIAL STATEMENTS)

1. Accounting policies

This section sets out our significant accounting policies that relate to the financial statements as a whole, along with the critical accounting judgements and estimates that management has identified as having a potentially material impact on the Group's consolidated financial statements. Where an accounting policy is applicable to a specific note in the financial statements, the policy is described within that note.

Basis of preparation

Renishaw plc (the Company) is a company incorporated in England and Wales. The Group financial statements consolidate those of the Company and its subsidiaries (together referred to as the Group, and 'we') and equity account the Group's interest in associates and joint ventures. The parent company financial statements present information about the Company as a separate entity and not about the Group.

The financial information set out in the announcement does not constitute the Group's statutory accounts for the years ended 30 June 2023 or 30 June 2022. The financial information for the year ended 30 June 2022 is derived from the statutory accounts for that year, which have been delivered to the Registrar of Companies. The auditor reported on those accounts; their report was unqualified, did not draw attention to any matters by way of emphasis without qualifying their report and did not contain a statement under s498 (2) or (3) Companies Act 2006. In respect of the year ended 30 June 2023, an unqualified auditor's report was signed on 18 September 2023. The statutory accounts will be delivered to the Registrar of Companies following the Group's annual general meeting.

The consolidated financial statements are presented in Sterling, which is the Company's functional currency and the Group's presentational currency, and all values are rounded to the nearest thousand (£'000).

The accounting policies set out below have, unless otherwise stated, been applied consistently to all periods presented in these Group financial statements. Judgements made by the Directors, in the application of these accounting policies, that have a significant effect on the financial statements and estimates with a significant risk of material adjustment in the next year are noted below.

Basis of consolidation

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to or has rights to variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. In assessing control, the Group takes into consideration potential voting rights that are exercisable. The acquisition date is the date on which control is transferred to the acquirer. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases. Losses applicable to the non-controlling interests in a subsidiary are allocated to the non-controlling interests even if doing so causes the non-controlling interests to have a deficit balance.

Joint ventures are accounted for using the equity method (equity-accounted investees) and are initially recognised at cost. The Group's investment includes goodwill identified on acquisition, net of any accumulated impairment losses.

The consolidated financial statements include the Group's share of the total comprehensive income and equity movements of equity accounted investees, from the date that significant influence commences until the date that significant influence ceases. When the Group's share of losses exceeds its interest in an equity accounted investee, the Group's carrying amount is reduced to nil and recognition of further losses is discontinued except to the extent that the Group has incurred legal obligations or made payments on behalf of an investee.

Intragroup balances and transactions, and any unrealised income and expenses arising from intragroup transactions, are eliminated on consolidation. Unrealised gains arising from transactions with equity accounted investees are eliminated against the investment to the extent of the Group's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

Foreign currencies

On consolidation, overseas subsidiaries' results are translated into Sterling at weighted average exchange rates for the year by translating each overseas subsidiary's monthly results at exchange rates applicable to each of the respective months. Assets and liabilities denominated in foreign currencies at the balance sheet date are translated into Sterling at the foreign exchange rates prevailing at that date. Differences on exchange resulting from the translation of overseas assets and liabilities are recognised in Other comprehensive income and are accumulated in equity.

Monetary assets and liabilities denominated in foreign currencies are reported at the rates prevailing at the time, with any gain or loss arising from subsequent exchange rate movements being included as an exchange gain or loss in the Consolidated income statement. Foreign currency differences arising from transactions are recognised in the Consolidated income statement.

New, revised or changes to existing accounting standards

The following accounting standard amendments became effective as at 1 January 2022 and have been adopted in the preparation of these financial statements, with effect from 1 July 2022:

– amendments to IFRS3, References to the Conceptual Framework;

– amendments to IAS 16, Property, Plant and Equipment – Proceeds before Intended Use; and

– amendments to IAS 37, Onerous Contracts - Costs of Fulfilling a Contract.

These have not had a material effect on these financial statements.

At the date of these financial statements, the following amendments that are potentially relevant to the Group, and which have not been applied in these financial statements, were in issue but not yet effective:

– amendments to IAS 1, Classification of Liabilities as Current or Non-current (not yet endorsed by the UK);

– amendments to IAS 1 and IFRS Practice Statement 2, Disclosure of Accounting Policies;

– amendments to IAS 7, Statement of Cash Flows and IFRS 7 Financial Instruments: Disclosures (not yet endorsed by the UK);

– amendments to IAS 8, Definition of Accounting Estimates;

– amendments to IAS 12, International Tax Reform Pillar Two Model Rules;

– amendments to IAS 12, Deferred Tax related to Assets and Liabilities arising from a Single Transaction; and

– amendments to IFRS 16, Lease Liability in a Sale and Leaseback.

The adoption of these Standards and Interpretations in future periods is not expected to have a material impact on the financial statements of the Group.

The Finance (No 2) Bill 2023, that includes Pillar Two legislation, was substantively enacted on 20 June 2023 for IFRS purposes. As permitted by the amendments to IAS 12 International Tax Reform Pillar Two Model Rules the Group has applied the exemption from recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes.

Alternative performance measures

The financial statements are prepared in accordance with adopted IFRS and applied in accordance with the provisions of the Companies Act 2006. In measuring our performance, the financial measures that we use include those which have been derived from our reported results, to eliminate factors which distort year-on-year comparisons.

These are considered non-GAAP financial measures. We believe this information, along with comparable GAAP measurements, is useful to stakeholders in providing a basis for measuring our operational performance. The Board use these financial measures, along with the most directly comparable GAAP financial measures, in evaluating our performance (see note 29).

Separately disclosed items

The Directors consider that certain items should be separately disclosed to aid understanding of the Group's performance.

Gains and losses from the fair value of financial instruments are therefore separately disclosed in the Consolidated income statement, where these gains and losses relate to certain forward currency contracts that are not effective for hedge accounting. Restructuring costs are also separately disclosed where significant costs have been incurred in rationalising and reorganising our business as part of a Board-approved initiative, and relate to matters that do not frequently recur.

During the period, a change to the US defined benefit pension scheme rules, per note 23, resulted in a significant non-recurring amount being recognised in the Consolidated income statement. In the previous period, a change to the UK defined benefit pension scheme rules resulted in a significant non-recurring amount being recognised in the Consolidated income statement. These have also been separately disclosed.

These items are also excluded from Adjusted profit before tax, Adjusted operating profit and Adjusted earnings per share measures, as explained in note 29 Alternative performance measures.

Critical accounting judgements and estimation uncertainties

The preparation of financial statements in conformity with UK-adopted IAS requires management to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets and liabilities, income and expenses. The estimates and associated assumptions are based on historical experience and other factors that are believed to be reasonable under the circumstances. The results of this form the basis of making the judgements about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may therefore differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis.

The areas of key estimation uncertainty and critical accounting judgement that have a significant risk of causing a material adjustment to the carrying amount of assets and liabilities in the next financial year are summarised below, with further details included within accounting policies as indicated.

Item	Key judgements (J) and estimates (E)
Taxation	E – Estimates of future profits to use deferred tax assets
Research and development costs	J – Whether a project meets the criteria for capitalisation
Goodwill and capitalised development costs	E – Estimates of future cash flows for impairment testing
Inventories	E – Determination of net realisable value
Defined benefit pension schemes	E – Valuation of defined benefit pension schemes' liabilities
Cash flow hedges	E – Estimates of highly probable forecasts of the hedged item

Climate change

We have considered the potential effect of physical and transitional climate change risks when preparing these consolidated financial statements and have also considered the effect of our own Net Zero commitments. Our consideration of the potential effect of climate change on these consolidated financial statements included reviewing:

– discounted cashflow forecasts, used in accounting for goodwill, capitalised development costs, and deferred tax assets;
– useful economic lives and residual values of property, plant and equipment;
– planned use of right-of-use assets; and
– expected demand for inventories.

We also considered the estimated capital expenditure needed in the next five years to deliver our Net Zero plan.

Overall, we do not believe that climate change has a material effect on our accounting judgements and estimates, nor in the carrying value of assets and liabilities in the consolidated financial statements for the year ended 30 June 2023. We will continue to review the effect of climate change on financial statements in the future, and update our accounting and disclosures as the position changes.

Going concern

In preparing these financial statements, the Directors have adopted the going concern basis. The decision to adopt the going concern basis was made after considering:
– the Group's business model and key markets;
– the Group's risk management processes and principal risks;
– the Group's financial resources and strategies; and
– the process undertaken to review the Group's viability, including scenario testing.

The financial models for the viability review were based on the pessimistic version of the five-year business plan, but covering a period to 30 September 2026. For context, revenue in the first year of this pessimistic base scenario is similar to FY2023 revenue of £688.6m, while costs and other cash outflows still reflect ambitious growth plans. In the going concern assessment, the Directors reviewed this same version of the plan but to 30 September 2024, as well as the 'severe but plausible' scenarios used in the viability review, again to 30 September 2024. These scenarios reflected a significant reduction in revenue, a significant increase in costs, and a third scenario incorporating both a reduction to revenue and an increase in costs but to a less degree than the first two scenarios. In each scenario the Group's cash balances remained positive throughout the period to 30 September 2024.

The Directors also reviewed a reverse stress test for the period to 30 September 2024, identifying what would need to happen in this period for the Group to deplete its cash and cash equivalents and bank deposit balances. This identified a trading level so low (between 50 and 60% of FY2023 revenue) that the Directors feel that the events that could trigger this would be remote. The Directors also concluded that the risk of a one-off cash outflow that would exhaust the Group's cash and cash equivalents and bank deposits balances in the assessment period was also remote.

Based on this assessment, incorporating a review of the current position, the scenarios, the principal risks and mitigation, the Directors have a reasonable expectation that the Group will be able to continue operating and meet its liabilities as they fall due over the period to 30 September 2024.

2. Revenue disaggregation and segmental analysis

We manage our business by segment, comprising Manufacturing technologies and Analytical instruments and medical devices, and by geographical region. The results of these segments and regions are regularly reviewed by the Board to assess performance and allocate resources, and are presented in this note.

Accounting policy

The Group generates revenue from the sale of goods, capital equipment and services. These can be sold both on their own and together.

a) Sale of goods, capital equipment and services

The Group's contracts with customers consist both of contracts with one performance obligation and contracts with multiple performance obligations.

For contracts with one performance obligation, revenue is measured at the transaction price, which is typically the contract value except for customers entitled to volume rebates, and recognised at the point in time when control of the product transfers to the customer. This point in time is typically when the products are made available for collection by the customer, collected by the shipping agent, or delivered to the customer, depending upon the shipping terms applied to the specific contract.

Contracts with multiple performance obligations typically exist where, in addition to supplying product, we also supply services such as user training, servicing and maintenance, and installation services. Where the installation service is simple, does not include a significant integration service and could be performed by another party then the installation is accounted for as a separate performance obligation. Where the contracts include multiple performance obligations, the transaction price is allocated to each performance obligation based on the relative stand-alone selling prices. The revenue allocated to each performance obligation is then recognised when, or as, that performance obligation is satisfied. For installation, this is typically at the point in time in which installation is complete. For training, this is typically the point in time at which training is delivered. For servicing and maintenance, the revenue is recognised evenly over the course of the servicing agreement except for ad-hoc servicing and maintenance which is recognised at the point in time in which the work is undertaken.

b) Sale of software

The Group provides software licences and software maintenance to customers, sold both on their own and together with associated products. For software licences, where the licence and/or maintenance is provided as part of a contract that provides customers with software licences and other goods and services then the transaction price is allocated on the same basis as described in a) above.

The Group's distinct software licences provide a right of use, and therefore revenue from software licences is recognised at the point in time in which the licence is supplied to the customer. Revenue from software maintenance is recognised evenly over the term of the maintenance agreement.

c) Extended warranties

The Group provides standard warranties to customers that address potential latent defects that existed at point of sale and as required by law (assurance-type warranties). In some contracts, the Group also provides warranties that extend beyond the standard warranty period and may be sold to the customer (service-type warranties).

Assurance-type warranties are accounted for by the Group under IAS 37 'Provisions, Contingent Liabilities and Contingent Assets'. Service-type warranties are accounted for as separate performance obligations and therefore a portion of the transaction price is allocated to this element, and then recognised evenly over the period in which the service is provided.

d) Contract balances

Contract assets represent the Group's right to consideration in exchange for goods, capital equipment and/or services that have been transferred to a customer, and mainly includes accrued revenue in respect of goods and services provided to a customer but not yet fully billed. Contract assets are distinct from receivables, which represent the Group's right to consideration that is unconditional.

Contract liabilities represent the Group's obligation to transfer goods, capital equipment and/or services to a customer for which the Group has either received consideration or consideration is due from the customer.

e) Disaggregation of revenue

The Group disaggregates revenue from contracts with customers between: goods, capital equipment and installation, and aftermarket services; operating segment; and geographical location.

Management believe these categories best depict how the nature, amount, timing and uncertainty of the Group's revenue is affected by economic factors.

Within the two operating segments there are multiple product offerings with similar economic characteristics, similar production processes and similar customer bases. Our Manufacturing technologies business consists of industrial metrology, position measurement and additive manufacturing (AM) product groups, while our Analytical instruments and medical devices business consists of spectroscopy and neurological product lines.

Year ended 30 June 2023	**Manufacturing technologies £'000**	**Analytical instruments and medical devices £'000**	**Total £'000**
Revenue	**648,240**	**40,333**	**688,573**
Depreciation, amortisation and impairment	**28,431**	**3,447**	**31,878**
Operating profit before losses from fair value of financial instruments and US defined benefit pension scheme past service cost	**132,843**	**5,184**	**138,027**
Share of profits from joint ventures	**2,768**	**-**	**2,768**
Net financial income/(expense)	**-**	**-**	**7,808**
US defined benefit pension scheme past service cost	**-**	**-**	**(2,139)**
Losses from the fair value of financial instruments	**-**	**-**	**(1,399)**
Profit before tax	**-**	**-**	**145,065**

Year ended 30 June 2022	Manufacturing technologies £'000	Analytical instruments and medical devices £'000	Total £'000
Revenue	634,588	36,488	671,076
Depreciation, amortisation and impairment	36,552	2,570	39,122
Operating profit before losses from fair value of financial instruments and UK defined benefit pension scheme past service cost	162,549	2,809	165,358
Share of profits from joint ventures	4,342	-	4,342
Net financial expense	-	-	(2,006)
UK defined benefit pension scheme past service cost	-	-	(11,695)
Losses from the fair value of financial instruments	-	-	(10,413)
Profit before tax	-	-	145,586

There is no allocation of assets and liabilities to operating segments. Depreciation, amortisation and impairments are allocated to segments on the basis of the level of activity.

The following table shows the analysis of non-current assets, excluding deferred tax, derivatives and employee benefits, by geographical region:

	2023 £'000	2022 £'000
UK	**231,619**	181,530
Overseas	**152,008**	155,725
Total non-current assets	**383,627**	337,255

No overseas country had non-current assets amounting to 10% or more of the Group's total non-current assets.

The following table shows the disaggregation of group revenue by category:

	2023 £'000	2022 £'000
Goods, capital equipment and installation	**624,992**	615,641
Aftermarket services	**63,581**	55,435
Total Group revenue	**688,573**	671,076

Aftermarket services include repairs, maintenance and servicing, programming, training, extended warranties, and software licences and maintenance. There is no significant difference between our two operating segments as to their split of revenue by type.

The analysis of revenue by geographical market was:

	2023 £'000	2022 £'000
APAC total	**310,637**	317,023
UK (country of domicile)	**38,899**	31,536
EMEA, excluding UK	**177,582**	174,290
EMEA total	**216,481**	205,826
Americas total	**161,455**	148,227
Total Group revenue	**688,573**	671,076

Revenue in the previous table has been allocated to regions based on the geographical location of the customer. Countries with individually significant revenue figures in the context of the Group were:

	2023 £'000	2022 £'000
China	**155,360**	152,772
USA	**138,721**	128,531
Japan	**67,915**	69,829
Germany	**61,565**	58,636

There was no revenue from transactions with a single external customer which amounted to more than 10% of the Group's total revenue.

3. Personnel expenses

The remuneration costs of our people account for a significant proportion of our total expenditure, which are analysed in this note.

The aggregate payroll costs for the year were:

	2023 £'000	2022 £'000
Wages and salaries	**226,126**	207,783
Compulsory social security contributions	**26,579**	24,497
Contributions to defined contribution pension schemes	**26,142**	21,988
Share-based payment charge	**677**	180
Total payroll costs	**279,524**	254,448

Wages and salaries and compulsory social security contributions include £11,338,000 (2022: £17,914,000) relating to performance bonuses.

The average number of persons employed by the Group during the year was:

	2023 Number	2022 Number
UK	**3,332**	3,132
Overseas	**1,804**	1,799
Average number of employees	**5,136**	4,931

Key management personnel have been assessed to be the Directors of the Company and the Senior Leadership Team (SLT), which includes an average of 21 people (2022: 21 people).

The total remuneration of the Directors and the SLT was:

	2023 £'000	2022 restated* £'000	2022 £'000
Short-term employee benefits	**5,659**	8,061	3,763
Post-employment benefits	**511**	444	121
Share-based payment charge	**677**	180	180
Total remuneration of key management personnel	**6,847**	8,685	4,064

Short-term employee benefits include nil (2022: £2,791,000) relating to performance bonuses payable in cash.

The share-based payment charge relates to share awards granted in previous years, not yet vested. No shares (2022: £1,915,000 equivalent) are to be awarded in respect of 2023 (see note 24).

*The assessment of key management personnel was updated during the year to include the SLT, who are, along with the Directors, deemed to have authority and responsibility for planning, directing and controlling the activities

of the Renishaw Group. This also follows the expansion of the deferred annual equity incentive plan (DAEIP) to include the SLT, as explained in the Governance section. Accordingly, 2022 figures have been restated.

4. Cost of sales

Our cost of sales includes the costs to manufacture our products and our engineering spend on existing and new products, net of capitalisation and research and development tax credits.

Included in cost of sales are the following amounts:

	2023 £'000	2022 £'000
Production costs	**247,665**	234,919
Research and development expenditure	**72,500**	59,415
Other engineering expenditure	**28,063**	26,356
Gross engineering expenditure	**100,563**	85,771
Development expenditure capitalised (net of amortisation)	**(5,298)**	(3,268)
Development expenditure impaired	**1,611**	-
Research and development tax credit	**(6,633)**	(3,895)
Total engineering costs	**90,243**	78,608
Total cost of sales	**337,908**	313,527

Production costs includes the raw material and component costs, payroll costs and sub-contract costs, and allocated overheads associated with manufacturing our products.

Research and development expenditure includes the payroll costs, material costs and allocated overheads attributed to projects identified as being related to new products or processes. Other engineering expenditure includes the payroll costs, material costs and allocated overheads attributed to projects identified as being related to existing products or processes.

5. Financial income and expenses

Financial income mainly arises from bank interest on our deposits, while we are exposed to realised currency gains and losses on translation of foreign currency denominated intragroup balances and offsetting financial instruments.

Included in financial income and expenses are the following amounts:

Financial income	notes	**2023 £'000**	2022 £'000
Bank interest receivable		**6,302**	834
Interest on pension schemes' assets	23	**1,639**	-
Fair value gains from one-month forward currency contracts	25	**1,728**	98
Total financial income		**9,669**	932
Financial expenses			
Net interest on pension schemes' liabilities	23	**29**	306
Currency losses		**1,130**	1,414
Lease interest	21	**348**	481
Interest payable on borrowings	20	**46**	52
Other interest payable		**308**	110
Realised currency reserve losses from discontinuation of foreign operation		**-**	575
Total financial expenses		**1,861**	2,938

Currency losses relate to revaluations of foreign currency-denominated balances using latest reporting currency exchange rates. The losses recognised in 2022 and 2023 largely related to an appreciation of Sterling relative to the US dollar affecting US dollar-denominated intragroup balances in the Company.

Certain intragroup balances are classified as 'net investments in foreign operations', such that revaluations from currency movements on designated balances accumulate in the Currency translation reserve in Equity. Rolling one-month forward currency contracts are used to offset currency movements on remaining intragroup balances, with fair value gains and losses being recognised in financial income or expenses. See note 25 for further details.

6. Profit before tax

Detailed below are other notable amounts recognised in the Consolidated income statement.

Included in the profit before tax are the following costs/(income):

	notes	**2023 £'000**	2022 £'000
Depreciation and impairment of property, plant and equipment and investment properties (a)	9,11	**19,882**	27,157
Loss on sale of property, plant and equipment (a)	9	**155**	157
Depreciation and impairment of right-of-use assets (a)	10	**4,223**	6,042
Amortisation, impairment, and write-off of intangible assets (a)	12	**7,773**	5,923
Profit from sale of shares in associate (c)		**-**	582
Impairment of net assets of foreign operation (b)		**-**	2,126
Grant income (a)		**(3,017)**	(2,840)

These costs/(income) can be found under the following headings in the Consolidated income statement: (a) within cost of sales, distribution costs and administrative expenses, (b) within distribution costs, and (c) within administrative expenses. Further detail on each element can be found in the relevant notes.

Grant income relates to government grants, relating to R&D activities, which are recognised in the Consolidated income statement as a deduction against expenditure. Where grants are received in advance of the related expenses, they are initially recognised in the Consolidated balance sheet and released to match the related expenditure. Where grants are expected to be received after the related expenditure has occurred, and there is reasonable assurance that the entity will comply with the grant conditions, amounts are recognised to offset the expenditure and an asset recognised.

Costs within Administrative expenses relating to auditor fees included:

	2023 £'000	2022 £'000
Audit of these financial statements	**707**	718
Audit of subsidiary undertakings pursuant to legislation	**576**	526
Other assurance	**6**	32
All other non-audit fees	**-**	-
Total auditor fees	**1,289**	1,276

7. Taxation

The Group tax charge is affected by our geographic mix of profits and other factors explained in this note. Our expected future tax charges and related tax assets are also set out in the deferred tax section, together with our view on whether we will be able to make use of these in the future.

Accounting policy

Tax on the profit for the year comprises current and deferred tax. Tax is recognised in the Consolidated income statement except to the extent that it relates to items recognised directly in Other comprehensive income, in which case it is recognised in the Consolidated statement of comprehensive income and expense. Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the balance sheet date, and any adjustment to tax payable in previous years.

Deferred tax is provided on temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. The following temporary differences are not provided for:

- the initial recognition of goodwill;

- the initial recognition of assets or liabilities that affect neither accounting nor taxable profit other than in a business combination; and

- differences relating to investments in subsidiaries, to the extent that they will probably not reverse in the foreseeable future.

The amount of deferred tax provided is based on the expected manner of realisation or settlement of the carrying amount of assets and liabilities, using tax rates enacted or substantively enacted at the balance sheet date.

Key estimate – Estimates of future profits to support the recognition of deferred tax assets

Deferred tax assets are recognised to the extent it is probable that future taxable profits (including the future release of deferred tax liabilities) will be available, against which the deductible temporary differences can be used, based on management's assumptions relating to the amounts and timing of future taxable profits. Estimates of future profitability on an entity basis are required to ascertain whether it is probable that sufficient taxable profits will arise to support the recognition of deferred tax assets relating to the corresponding entity.

The following table shows an analysis of the tax charge:

	2023 £'000	2022 £'000
Current tax:		
UK corporation tax on profits for the year	**5,814**	9,288
UK corporation tax – prior year adjustments	**(1,307)**	(28)
Overseas tax on profits for the year	**14,161**	16,734
Overseas tax – prior year adjustments	**291**	(176)
Total current tax	**18,959**	25,818
Deferred tax:		
Origination and reversal of temporary differences	**9,140**	(1,372)
Prior year adjustments	**(1,052)**	166
Derecognition of previously recognised tax losses and excess interest	**439**	623
Recognition of previously unrecognised tax losses and excess interest	**(591)**	-
Effect on deferred tax for changes in tax rates	**2,068**	-
	10,004	(583)
Tax charge on profit	**28,963**	25,235

The tax for the year is lower (2022: lower) than the weighted UK standard rate of corporation tax of 20.5% (2022: 19%). The differences are explained as follows:

	2023 £'000	2022 £'000
Profit before tax	**145,065**	145,586
Tax at 20.5% (2022: 19%)	**29,738**	27,661
Effects of:		
Different tax rates applicable in overseas subsidiaries	**(1,695)**	(1,834)
Permanent differences	**1,595**	978
Companies with unrelieved tax losses	**292**	-
Share of profits of joint ventures	**(567)**	(825)
Tax incentives (patent box and capital allowances super-deduction)	**(679)**	(1,400)
Prior year adjustments	**(2,068)**	(38)
Effect on deferred tax for changes in tax rates	**2,068**	-
Recognition of previously unrecognised tax losses and excess interest	**(591)**	-
Derecognition of previously recognised tax losses and excess interest	**439**	623
Irrecoverable withholding tax	**609**	2
Other differences	**(178)**	68
Tax charge on profit	**28,963**	25,235
Effective tax rate	**20.0%**	17.3%

We operate in many countries around the world and the overall effective tax rate (ETR) is a result of the combination of the varying tax rates applicable throughout these countries. The FY2023 effective tax rate has increased mostly as a result of a reduction in patent box tax incentives and an increase in the UK tax rate from 19% to 25%.

The Group's future ETR will mainly depend on the geographic mix of profits and whether there are any changes to tax legislation in the Group's most significant countries of operations.

Deferred tax

Deferred tax assets and liabilities are offset where there is a legally enforceable right of offset and there is an intention to net settle the balances. After taking these offsets into account, the net position of £18,826,000 liability (2022: £78,000 asset) is presented as a £19,944,000 deferred tax asset (2022: £22,893,000 asset) and a £38,770,000 deferred tax liability (2022: £22,815,000 liability) in the Consolidated balance sheet.

Where deferred tax assets are recognised, the Directors are of the opinion, based on recent and forecast trading, that the level of profits in current and future years make it more likely than not that these assets will be recovered.

Balances at the end of the year were:

		2023			2022	
	Assets £'000	**Liabilities £'000**	**Net £'000**	Assets £'000	Liabilities £'000	Net £'000
Property, plant and equipment	**735**	**(25,124)**	**(24,389)**	517	(19,966)	(19,449)
Intangible assets	**-**	**(3,922)**	**(3,922)**	-	(2,980)	(2,980)
Intragroup trading (inventories)	**16,765**	**-**	**16,765**	20,158	-	20,158
Intragroup trading (fixed assets)	**1,770**	**-**	**1,770**	1,457	-	1,457
Defined benefit pension schemes	**6**	**(14,354)**	**(14,348)**	125	(11,173)	(11,048)
Derivatives	**-**	**(2,184)**	**(2,184)**	3,508	-	3,508
Tax losses	**2,281**	**-**	**2,281**	3,893	-	3,893
Other	**5,894**	**(693)**	**5,201**	4,953	(414)	4,539
Balance at the end of the year	**27,451**	**(46,277)**	**(18,826)**	34,611	(34,533)	78

Other deferred tax assets include temporary differences relating to inventory provisions totalling £2,256,000 (2022: £1,774,000), other provisions (including bad debt provisions) of £913,000 (2022: £975,000), and employee benefits relating to Renishaw KK of £806,000 (2022: £853,000), with the remaining balance relating to several other smaller temporary differences.

The movements in the deferred tax balance during the year were:

	2023 £'000	2022 £'000
Balance at the beginning of the year	**78**	10,890
Movements in the Consolidated income statement	**(10,004)**	583
Movement in relation to the cash flow hedging reserve	**(5,692)**	6,155
Movement in relation to the defined benefit pension schemes	**(3,071)**	(17,650)
Total movement in the Consolidated statement of comprehensive income and expense	**(8,763)**	(11,495)
Currency translation	**(137)**	100
Balance at the end of the year	**(18,826)**	78

The deferred tax movement in the Consolidated income statement is analysed as:

	2023 £'000	2022 £'000
Property, plant and equipment	**(4,940)**	(2,328)
Intangible assets	**(942)**	(371)
Intragroup trading (inventories)	**(3,393)**	5,619
Intragroup trading (fixed assets)	**313**	205
Defined benefit pension schemes	**(229)**	2,255
Derivatives	**-**	284
Tax losses	**(1,612)**	(4,472)
Other	**799**	(609)
Total movement for the year	**(10,004)**	583

Deferred tax assets of £2,281,000 (2022: £3,893,000) in respect of losses are recognised where it is considered likely that the business will generate sufficient future taxable profits. Deferred tax assets have not been recognised in respect of tax losses carried forward of £6,563,000 (2022: £4,815,000), due to uncertainty over their offset against future taxable profits and therefore their recoverability. These losses are held by Group companies in France, Brazil, Australia, Canada and the US, where for 97% of losses there are no time limitations on their utilisation.

In determining profit forecasts for each Group company, the key variable is the revenue forecasts, which have been estimated using consistently applied external and internal data sources. Sensitivity analysis indicates that a reduction of 5% to relevant revenue forecasts would result in an impairment to deferred tax assets recognised in respect of losses and intragroup trading (inventories) of less than £300,000. An increase of 5% to relevant revenue forecasts would result in additions to deferred tax assets in respect of tax losses not recognised of less than £200,000.

It is likely that the majority of unremitted earnings of overseas subsidiaries would qualify for the UK dividend exemption. However, £65,555,000 (2022: £61,204,000) of those earnings may still result in a tax liability principally as a result of withholding taxes levied by the overseas jurisdictions in which those subsidiaries operate. The tax liabilities for the earnings for which management intend to repatriate in the foreseeable future are not material and consequently no deferred tax liability has been recognised.

8. Earnings per share

Basic earnings per share is the amount of profit generated in a financial year attributable to equity shareholders, divided by the weighted average number of shares in issue during the year.

Basic and diluted earnings per share are calculated on earnings of £116,102,000 (2022: £120,351,000) and on 72,719,565 shares (2022: 72,774,147 shares), being the number of shares in issue. The number of shares excludes 68,978 (2022:14,396) shares held by the Employee Benefit Trust (EBT). On this basis, earnings per share (basic and diluted) is calculated as 159.7 pence (2022: 165.4 pence).

There is no difference between the weighted average earnings per share and the basic and diluted earnings per share.

For the calculation of adjusted earnings per share, per note 29, earnings of £116,102,000 (2022: £120,351,000) are adjusted by post-tax amounts for:

- fair value (gains)/losses on financial instruments not eligible for hedge accounting (reported in Revenue), which represents the amount by which revenue would change had all the derivatives qualified as eligible for hedge accounting, £5,488,000 gain;

- fair value (gains)/losses on financial instruments not eligible for hedge accounting (reported in Gains/(losses)

from the fair value of financial instruments), £1,133,000 loss;

- a revised estimate of 2020 restructuring costs, £570,000 gain; and

- a US defined benefit pension scheme past service cost, £1,626,000 loss.

9. Property, plant and equipment

The Group makes significant investments in distribution and in-house manufacturing infrastructure. During the year we have significantly expanded our production facility in Wales and invested in our manufacturing equipment in the UK. We expect to complete this facility and continue our investments in property, plant and equipment in the coming year.

Accounting policy

Freehold land is not depreciated. Other assets are stated at costs less accumulated depreciation and accumulated impairment losses, if any. Depreciation is provided to write off the costs of assets less their estimated residual value on a straight-line basis over their estimated useful economic lives as follows: freehold buildings, 50 years; plant and equipment, 3 to 25 years; and vehicles, 3 to 4 years.

Year ended 30 June 2023	**Freehold land and buildings £'000**	**Plant and equipment £'000**	**Motor vehicles £'000**	**Assets in the course of construction £'000**	**Total £'000**
Cost					
At 1 July 2022	**217,820**	**263,557**	**7,520**	**7,481**	**496,378**
Additions	**1,730**	**16,934**	**1,033**	**54,075**	**73,772**
Transfers	**3,240**	**4,847**	**-**	**(8,087)**	**-**
Disposals	**(5,383)**	**(9,681)**	**(1,369)**	**-**	**(16,433)**
Currency adjustment	**(4,022)**	**(2,501)**	**(72)**	**-**	**(6,595)**
At 30 June 2023	**213,385**	**273,156**	**7,112**	**53,469**	**547,122**
Depreciation					
At 1 July 2022	**43,816**	**202,214**	**6,495**	**-**	**252,525**
Charge for the year	**4,175**	**14,891**	**576**	**-**	**19,642**
Disposals	**(1,619)**	**(5,544)**	**(1,167)**	**-**	**(8,330)**
Currency adjustment	**(725)**	**(2,015)**	**(60)**	**-**	**(2,800)**
At 30 June 2023	**45,647**	**209,546**	**5,844**	**-**	**261,037**
Net book value					
At 30 June 2023	**167,738**	**63,610**	**1,268**	**53,469**	**286,085**
At 30 June 2022	174,004	61,343	1,025	7,481	243,853

Losses on disposals of Property, plant and equipment amounted to £155,000 (2022: £157,000). Additions to assets in the course of construction comprise £42,646,000 (2022: £826,000) for land and buildings and £11,429,000 (2022: £6,318,000) for plant and equipment. At 30 June 2023, properties with a net book value of £88,778,000 (2022: £54,208,000) were subject to a fixed charge to secure the UK defined benefit pension scheme liabilities.

Year ended 30 June 2022	**Freehold land and buildings £'000**	**Plant and equipment £'000**	**Motor vehicles £'000**	**Assets in the course of construction £'000**	**Total £'000**
Cost					
At 1 July 2021	216,783	242,432	7,421	7,109	473,745
Additions	5,715	16,756	1,150	7,144	30,765
Transfers of assets in the course of construction	2,800	3,972	-	(6,772)	-
Transfers to investment properties	(11,563)	-	-	-	(11,563)
Disposals	97	(3,587)	(1,269)	-	(4,759)
Currency adjustment	3,988	3,984	218	-	8,190
At 30 June 2022	217,820	263,557	7,520	7,481	496,378
Depreciation					
At 1 July 2021	38,530	182,557	6,416	-	227,503
Charge for the year	4,623	20,029	1,056	-	25,708
Impairment	1,259	-	-	-	1,259
Transfers to investment properties	(1,222)	-	-	-	(1,222)
Disposals	81	(2,837)	(1,180)	-	(3,936)
Currency adjustment	545	2,465	203	-	3,213
At 30 June 2022	43,816	202,214	6,495	-	252,525
Net book value					
At 30 June 2022	**174,004**	**61,343**	**1,025**	**7,481**	**243,853**
At 30 June 2021	178,253	59,875	1,005	7,109	246,242

10. Right-of-use assets

The Group leases mostly properties and cars from third parties and recognises an associated right-of-use asset where we are afforded control and economic benefit from the use of the asset.

Accounting policy

At the commencement date of a lease arrangement the Group recognises a right-of-use asset for the leased item and a lease liability for any payments due. Right-of-use assets are initially measured at cost, being the present value of the lease liability plus any initial costs incurred in entering the lease and less any incentives received. See note 21 for further detail on lease liabilities. Right-of-use assets are subsequently depreciated on a straight-line basis from the commencement date to the earlier of the end of the useful life or the end of the lease term.

Year ended 30 June 2023	**Leasehold property £'000**	**Plant and equipment £'000**	**Motor vehicles £'000**	**Total £'000**
Net book value				
At 1 July 2022	**8,055**	**117**	**1,778**	**9,950**
Additions	**261**	**64**	**2,907**	**3,232**
Reductions in consideration	**(308)**	**-**	**(13)**	**(321)**
Depreciation	**(2,737)**	**(93)**	**(1,392)**	**(4,222)**
Currency adjustment	**(202)**	**1**	**(36)**	**(237)**
At 30 June 2023	**5,069**	**89**	**3,244**	**8,402**

Year ended 30 June 2022	Leasehold property £'000	Plant and equipment £'000	Motor vehicles £'000	Total £'000
Net book value				
At 1 July 2021	10,297	102	2,030	12,429
Additions	1,293	115	1,058	2,466
Depreciation	(2,805)	(102)	(1,298)	(4,205)
Impairment	(1,837)	-	-	(1,837)
Currency adjustment	1,107	2	(12)	1,097
At 30 June 2022	8,055	117	1,778	9,950

11. Investment properties

The Group's investment properties consist of five properties in the UK, Ireland and India. Which, are occupied by rent-paying third parties.

Accounting policy

Where property owned by the Group is deemed to be held to earn rentals or for long-term capital appreciation it is recognised as investment property.

Where a property is part-occupied by the Group, portions of the property are recognised as investment property if they meet the above description and if these portions could be sold separately and reliably measured. If the portions could not be sold separately, the property is recognised as an investment property only if a significant proportion is held for rental or appreciation purposes.

The Group has elected to value investment properties on a cost basis, initially comprising an investment property's purchase price and any directly attributable expenditure. Depreciation is provided to write off the cost of assets on a straight-line basis over their estimated useful economic lives, being 50 years. Amounts relating to freehold land is not depreciated.

	2023	2022
	£'000	£'000
Cost		
Balance at the beginning of the year	**11,905**	-
Transfers from Property, plant and equipment	**-**	11,563
Additions	**252**	195
Disposals	**-**	(102)
Currency adjustment	**(261)**	249
Balance at the end of the year	**11,896**	11,905
Depreciation		
Balance at the beginning of the year	**1,337**	-
Transfers from Property, plant and equipment	**-**	1,222
Charge for the year	**240**	190
Disposals	**-**	(81)
Currency adjustment	**(4)**	6
Balance at the end of the year	**1,573**	1,337
Net book value	**10,323**	10,568

The Group has no restrictions on the realisability of its investment properties and no contractual obligations to purchase, construct or develop investment properties.

Amounts recognised in the Consolidated income statement relating to investment properties:

	2023	2022
	£'000	£'000
Rental income derived from investment properties	**915**	453
Direct operating expenses (including repairs and maintenance)	**258**	105
Profit arising from investment properties	**657**	348

The fair value of the Group's investment properties totalled £14,718,000 at 30 June 2023 (2022: £14,626,000). Fair values of each investment property have been determined by independent valuers who hold recognised and relevant professional qualifications and have recent experience in the location and category of each investment property being valued.

12. Intangible assets

Our Consolidated balance sheet contains significant intangible assets, mostly in relation to goodwill, which arises when we acquire a business and pay a higher amount than the fair value of its net assets, and capitalised development costs. We make significant investments into the development of new products, which is a key part of our business model, and some of these costs are initially capitalised and then expensed over the lifetime of future sales of that product.

Accounting policy

Goodwill arising on acquisition represents the difference between the cost of the acquisition and the fair value of the net identifiable assets acquired, net of deferred tax. Identifiable intangibles are those which can be sold separately or which arise from legal rights regardless of whether those rights are separable.

Goodwill is stated at cost less any accumulated impairment losses. It is not amortised but is tested annually for impairment or earlier if there are any indications of impairment. The annual impairment review involves comparing the carrying amount to the estimated recoverable amount and recognising an impairment loss if the recoverable amount is lower. Impairment losses are recognised in the Consolidated income statement.

Intangible assets such as customer lists, patents, trade marks, know-how and intellectual property that are acquired by the Group are stated at cost less amortisation and impairment losses. Amortisation is charged to the Consolidated income statement on a straight-line basis over the estimated useful lives of the intangible assets. The estimated useful lives of the intangible assets included in the Consolidated balance sheet reflect the benefit derived by the Group and vary from five to 10 years.

Expenditure on research activities is recognised in the Consolidated income statement as an expense as incurred. Expenditure on development activities is capitalised if: the product or process is technically and commercially feasible; the Group intends and has the technical ability and sufficient resources to complete development; future economic benefits are probable; and the Group can measure reliably the expenditure attributable to the intangible asset during its development.

Development activities involve a plan or design for the production of new or substantially improved products or processes. The expenditure capitalised includes the cost of materials, direct labour and an appropriate proportion of overheads. Other development expenditure is recognised in the Consolidated income statement as an expense as incurred.

Capitalised development expenditure is amortised over the useful economic life appropriate to each product or process, ranging from five to 10 years, and is stated at cost less accumulated amortisation and less accumulated impairment losses. Amortisation commences when a product or process is available for use as intended by management. Capitalised development expenditure is removed from the balance sheet 10 years after being fully amortised.

All non-current assets are tested for impairment whenever there is an indication that their carrying value may be impaired. An impairment loss is recognised in the Consolidated income statement to the extent that an asset's carrying value exceeds its recoverable amount, which represents the higher of the asset's fair value less costs to sell and its value-in-use. An asset's value-in-use represents the present value of the future cash flows expected to be derived from the asset or from the cash-generating unit to which it relates. The present value is calculated using a discount rate that reflects the current market assessment of the time value of money and the risks specific to the asset concerned.

Goodwill and capitalised development costs are subject to an annual impairment test.

Key judgement – Whether a project meets the criteria for capitalisation

Product development costs are capitalised once a project has reached a certain stage of development, being the point at which the product has passed testing to demonstrate it meets the technical specifications of the project and it satisfies all applicable regulations. Judgements are required to assess whether the new product development has reached the appropriate point for capitalisation of costs to begin. These costs are subsequently amortised over their useful economic life once ready for use. Should a product be subsequently obsoleted, the accumulated capitalised development costs would need to be immediately written off in the Consolidated income statement.

Key estimate – Estimates of future cash flows used for impairment testing.

Determining whether goodwill and capitalised development costs are impaired requires an estimation of the value-in-use of cash-generating units (CGUs) to which goodwill has been allocated. To calculate the value-in-use we need to estimate the future cashflows of each CGU and select the appropriate discount rate for each CGU.

Year ended 30 June 2023	**Goodwill £'000**	**Other intangible assets £'000**	**Internally generated development costs £'000**	**Software licences and Intellectual property £'000**	**Total £'000**
Cost					
At 1 July 2022	**20,475**	**4,629**	**168,212**	**22,379**	**215,695**
Additions	**-**	**254**	**10,448**	**125**	**10,827**
Disposals	**-**	**-**	**-**	**(10,518)**	**(10,518)**
Currency adjustment	**(214)**	**(8)**	**-**	**(8)**	**(230)**
At 30 June 2023	**20,261**	**4,875**	**178,660**	**11,978**	**215,774**
Amortisation					
At 1 July 2022	**9,028**	**2,240**	**139,460**	**20,749**	**171,477**
Charge for the year	**-**	**179**	**5,150**	**833**	**6,162**
Impairment	**-**	**-**	**1,611**	**-**	**1,611**
Disposals	**-**	**-**	**-**	**(9,969)**	**(9,969)**
Currency adjustment	**-**	**33**	**-**	**(8)**	**25**
At 30 June 2023	**9,028**	**2,452**	**146,221**	**11,605**	**169,306**
Net book value					
At 30 June 2023	**11,233**	**2,423**	**32,439**	**373**	**46,468**
At 30 June 2022	11,447	2,389	28,752	1,630	44,218

Year ended 30 June 2022	Goodwill £'000	Other intangible assets £'000	Internally generated development costs £'000	Software licences and intellectual property £'000	Total £'000
Cost					
At 1 July 2021	19,533	15,783	177,291	24,962	237,569
Additions	-	53	7,966	876	8,895
Write-off	-	-	-	(3,510)	(3,510)
Disposals	-	(11,211)	(17,045)	-	(28,256)
Currency adjustment	942	4	-	51	997
At 30 June 2022	20,475	4,629	168,212	22,379	215,695
Amortisation					
At 1 July 2021	9,028	13,254	151,807	19,685	193,774
Charge for the year	-	201	4,698	1,024	5,923
Disposals	-	(11,211)	(17,045)	-	(28,256)
Currency adjustment	-	(4)	-	40	36
At 30 June 2022	9,028	2,240	139,460	20,749	171,477
Net book value					
At 30 June 2022	11,447	2,389	28,752	1,630	44,218
At 30 June 2021	10,505	2,529	25,484	5,277	43,795

Goodwill

Goodwill has arisen on the acquisition of several businesses and has an indeterminable useful life. It is therefore not amortised but is instead tested for impairment annually and at any point during the year when an indicator of impairment exists. Goodwill is allocated to cash generating units (CGUs). This is the lowest level in the Group at which goodwill is monitored for impairment and is at a lower level than the Group's operating segments.

The analysis of goodwill according to business acquired is:

	2023 **£'000**	2022 £'000
itp GmbH	**2,985**	2,985
Renishaw Mayfield S.A.	**2,089**	2,055
Renishaw Fixturing Solutions, LLC	**5,454**	5,677
Other smaller acquisitions	**705**	730
Total goodwill	**11,233**	11,447

The recoverable amounts of acquired goodwill are based on value-in-use calculations. These calculations use cash flow projections based on the financial business plans approved by management for the next five financial years. The cash flows beyond this forecast are extrapolated to perpetuity using a nil growth rate on a prudent basis, to reflect the uncertainties over forecasting beyond five years.

The following pre-tax discount rates have been used in discounting the projected cash flows:

Business acquired	CGU	**2023 Discount rate**	2022 Discount rate
itp GmbH	itp GmbH entity ('ITP')	**13.2%**	11.3%
Renishaw Fixturing Solutions, LLC	Renishaw plc ('PLC')	**14.3%**	11.5%
Renishaw Mayfield S.A.	Renishaw Mayfield S.A. entity ('Mayfield')	**26.3%**	22.9%

The Group post-tax weighted average cost of capital, calculated at 30 June 2023, is 10.7% (2022: 9.0%). The increase is mainly driven by higher risk-free rates in the market. Pre-tax discount rates for Manufacturing technologies CGUs (ITP and PLC) are calculated from this basis, given that they are aligned with the wider Group's industries, markets and processes. The Analytical instruments and medical devices' CGU (Mayfield) has a higher risk weighting, reflecting the less mature nature of this segment.

During the period, the CGU relating to the goodwill arising on the acquisition of Renishaw Fixturing Solutions, LLC has been changed from the Renishaw fixturing product line to Renishaw plc. This follows the closure of

Renishaw Fixturing Solutions, LLC, with production of fixturing products now undertaken by the manufacturing division of Renishaw plc.

For there to be an impairment in the PLC, ITP or Mayfield CGUs the discount rate would need to increase to at least 20%, 18% and 32% respectively.

The following bases have been used in determining cash flow projections:

CGU	**2023** **Basis of forecast**	2022 Basis of forecast
itp GmbH entity	**five-year business plan**	five-year business plan
Renishaw plc	**five-year business plan**	five-year business plan
Renishaw Mayfield S.A. entity	**five-year business plan**	five-year business plan

These five-year business plans are considered fair estimates based on management's view of the future and experience of past performance of the individual CGUs, and are calculated at a disaggregated level. Within these plans, revenue forecasts are calculated with reference to external market data, Renishaw past outperformance, and new product launches, consistent with revenue forecasts across the Group. Production costs, engineering costs, distribution costs and administrative expenses are calculated based on management's best estimates of what is required to support revenue growth and new product development. Estimates of capital expenditure and working capital requirements are also included in the cash flow projections.

The key estimate within these business plans is the forecasting of revenue growth, given that the cost bases of the businesses can be flexed in line with revenue performance. Given the average revenue growth assumptions included in the five-year business plans, management's sensitivity analysis involves modelling a reduction in the forecast cash flows utilised in those business plans and therefore into perpetuity. For there to be an impairment there would need to be a reduction to these forecast cash flows of 29% for ITP, 30% for PLC and 21% for Mayfield. Management deems the likelihood of these reductions to be unlikely.

Internally generated development costs

The key assumption in determining the value-in-use for internally generated development costs is the forecast unit sales over the useful economic life, which is determined by management using their knowledge and experience with similar products and the sales history of products already available in the market. Resulting cash flow projections over five to 10 years, the period over which product demand forecasts can be reasonably predicted and internally generated development costs are written off, are discounted using pre-tax discount rates, which are calculated from the Group post-tax weighted average cost of capital of 10.7% (2022: 9.0%).

There was an impairment of £1,611,000 (2022: nil) of internally generated development costs in the year, which wholly related to a drug delivery project in our Neurological business. Revenue from our drug delivery business continues to be slow due to the long lead-time of pharmaceutical programmes, although we remain confident in our opportunity pipeline. The uncertainty of the near-term cash flows resulted in this partial impairment of £1,611,000, with the remaining net book value totalling £1,984,000 at 30 June 2023.

For the largest projects, comprising 95% of the net book value at 30 June 2023, a 10% reduction to forecast unit sales, or an increase in the discount rate by 5%, would result in an impairment of less than £800,000.

13. Investments in joint ventures

Where we make an investment in a company which gives us significant influence but not full control, we account for our share of their post-tax profits in our financial statements. We have joint venture arrangements with two companies, RLS and MSP.

The Group's investments in joint ventures (all investments being in the ordinary share capital of the joint ventures), whose accounting years end on 30 June, were:

	Country of incorporation and principal place of business	**Ownership 2023 %**	Ownership 2022 %
RLS Merilna tehnika d.o.o. ('RLS') - joint venture	Slovenia	**50.0**	50.0
Metrology Software Products Limited ('MSP') - joint venture	England & Wales	**70.0**	70.0

Although the Group owns 70% of the ordinary share capital of MSP, this is accounted for as a joint venture as the 'control' requirements of IFRS 10 are not satisfied. This is primarily because the shareholders agreement includes that for so long as the Group's holding is less than 75% of the total shares of MSP, Renishaw agrees to exercise its voting rights such that it only votes as if it has the same aggregate shareholding as the remaining Management Shareholders.

Movements during the year were:	**2023**	2022
	£'000	£'000
Balance at the beginning of the year	**20,570**	16,634
Dividends received	**(924)**	(525)
Share of profits of joint ventures	**2,768**	4,342
Currency differences	**-**	119
Balance at the end of the year	**22,414**	20,570

Summarised financial information for joint ventures:

	RLS		**MSP**	
	2023	2022	**2023**	2022
	£'000	£'000	**£'000**	£'000
Assets	**43,168**	42,308	**4,539**	4,601
Liabilities	**(4,969)**	(7,422)	**(378)**	(963)
Net assets	**38,199**	34,886	**4,161**	3,638
Group's share of net assets	**19,100**	17,443	**2,913**	2,547
Revenue	**35,764**	35,247	**2,554**	2,492
Profit/(loss) for the year	**5,162**	7,886	**264**	570
Group's share of profit/(loss) for the year	**2,583**	3,943	**185**	399

The financial statements of RLS have been prepared on the basis of Slovenian Accounting Standards.
The financial statements of MSP have been prepared on the basis of FRS 102.

14. Leases (as lessor)

The Group acts as a lessor for Renishaw-manufactured equipment on finance and operating lease arrangements. This is principally for high-value capital equipment such as our additive manufacturing machines.

Accounting policy

Where the Group transfers the risks and rewards of ownership of lease assets to a third party, the Group recognises a receivable in the amount of the net investment in the lease. The lease receivable is subsequently reduced by the principal received, while an interest component is recognised as financial income in the Consolidated income statement. Standard contract terms are up to five years and there is a nominal residual value receivable at the end of the contract.

Where the Group retains the risks and rewards of ownership of lease assets, it continues to recognise the leased asset in Property, plant and equipment. Income from operating leases is recognised on a straight-line basis over the lease term and recognised as Revenue rather than Other revenue as such income is not material. Operating leases are on one to five year terms.

The total future lease payments are split between the principal and interest amounts below:

	2023			2022		
	Gross investment £'000	**Interest £'000**	**Net investment £'000**	Gross investment £'000	Interest £'000	Net investment £'000
Receivable in less than one year	**4,375**	**611**	**3,764**	3,703	355	3,348
Receivable between one and two years	**3,600**	**447**	**3,153**	2,882	252	2,630
Receivable between two and three years	**3,283**	**289**	**2,994**	2,015	148	1,867
Receivable between three and four years	**2,478**	**151**	**2,327**	1,779	70	1,709
Receivable between four and five years	**1,502**	**41**	**1,461**	770	15	755
Total future minimum lease payments receivable	**15,238**	**1,539**	**13,699**	11,149	840	10,309

Finance lease receivables are presented as £9,935,000 (2022: £6,961,000) non-current assets and £3,764,000 (2022: £3,348,000) current assets in the Consolidated balance sheet.

The total of future minimum lease payments receivable under non-cancellable operating leases were:

	2023 **£'000**	2022 £'000
Receivable in less than one year	**1,394**	1,246
Receivable between one and four years	**1,569**	2,365
Total future minimum lease payments receivable	**2,963**	3,611

During the year, £974,000 (2022: £1,184,000) was recognised in Revenue from operating leases.

15. Cash and cash equivalents and bank deposits

We have always valued having cash in the bank to protect the Group from downturns and enable us to react swiftly to investment or market capture opportunities. We currently hold significant cash and bank deposits, which is mostly in the UK and spread across a number of banks with high credit ratings.

Accounting policy

Cash and cash equivalents comprise cash balances, and deposits with an original maturity of less than three months or with an original maturity date of more than three months where the deposit can be accessed on demand without significant penalty for early withdrawal and where the original deposit amount is recoverable in full.

Cash and cash equivalents

An analysis of cash and cash equivalents at the end of the year was:

	2023 **£'000**	2022 £'000
Bank balances and cash in hand	**80,196**	141,208
Short-term deposits	**1,192**	11,954
Balance at the end of the year	**81,388**	153,162

Bank deposits

Bank deposits at the end of the year amounted to £125,000,000 (2022: £100,000,000), of which £30,000,000 matured on 7 August 2023, and £45,000,000 matures in December 2023, and £50,000,000 matures in March 2024.

16. Inventories

We have increased our inventories in the year, in line with increases in global demand and reflecting planned increases in certain component safety stock levels to mitigate global supply shortages, and remain committed to high customer delivery performance.

Accounting policy

Inventory and work in progress is valued at the lower of actual cost on a first-in, first-out (FIFO) basis and net realisable value. In respect of work in progress and finished goods, cost includes all production overheads and the attributable proportion of indirect overhead expenses that are required to bring inventories to their present location and condition. Overheads are absorbed into inventories on the basis of normal capacity or on actual hours if higher.

Key estimate – Determination of net realisable inventory value

Determining the net realisable value of inventory requires management to estimate future demand, especially in respect of provisioning for slow moving and potentially obsolete inventory. When calculating an inventory provision, management use historic usage levels (capped at 18 months), demand from customer orders and manufacturing build plans as a basis for estimating the future annual demand of individual stock items, except in the following instances:

- *for key products and their components, provisions are typically made for quantities held in excess of three years' demand. A demand basis lower than three years is used for those key products and related components where the sales history is more volatile; and*
- *where strategic purchases of critical components have been made, an outlook beyond three years is considered where appropriate.*

An analysis of inventories at the end of the year was:

	2023 **£'000**	2022 £'000
Raw materials	**66,210**	56,034
Work in progress	**35,354**	31,002
Finished goods	**84,193**	75,446
Balance at the end of the year	**185,757**	162,482

At the end of the year, the gross cost of inventories which had provisions held against them totalled £24,525,000 (2022: £17,520,000). During the year, the amount of write-down of inventories recognised as an expense in the Consolidated income statement was £8,228,000 (2022: £481,000).

A 10% reduction in the value of exceptions in the Renishaw plc inventory calculation would result in an increase in the write-down of inventories of £1,130,000. Inventories in Renishaw plc account for 64% of total inventories of the Group.

17. Provisions

A provision is a liability recorded in the Consolidated balance sheet, where there is uncertainty over the timing or amount that will be paid, and is therefore often estimated. The main provision we hold is in relation to warranties provided with the sale of our products.

Accounting policy

The Group provides a warranty from the date of purchase, except for those products that are installed by the Group where the warranty starts from the date of completion of the installation. This is typically for a 12-month period, although up to three years is given for a small number of products. A warranty provision is included in the Group financial statements, which is calculated on the basis of historical returns and internal quality reports.

Warranty provision movements during the year were:

	2023 **£'000**	2022 £'000
Balance at the beginning of the year	**4,244**	6,259
Created during the year	**2,382**	1,975
Unused amounts reversed	**(717)**	(1,688)
Utilised in the year	**(3,151)**	(2,302)
	(1,486)	(2,015)
Balance at the end of the year	**2,758**	4,244

The warranty provision has been calculated on the basis of historical return-in-warranty information and other internal reports. It is expected that most of this expenditure will be incurred in the next financial year and all expenditure will be incurred within three years of the balance sheet date.

18. Contract liabilities

Contract liabilities represent the Group's obligation to transfer goods, capital equipment and/or services to a customer for which the Group has either received consideration or consideration is due from the customer. Our balances mostly comprise advances received from customers and payments for services yet to be completed.

Balances at the end of the year were:	**2023** **£'000**	2022 £'000
Goods, capital equipment and installation	**615**	1,470
Aftermarket services	**4,793**	4,471
Deferred revenue	**5,408**	5,941
Advances received from customers	**4,563**	7,015
Balance at the end of the year	**9,971**	12,956

The aggregate amount of the transaction price allocated to performance obligations that are unsatisfied at the end of the year is £9,971,000 (2022: £12,956,000). Of this, £2,214,000 (2022: £1,620,000) is not expected to be recognised in the next financial year.

19. Other payables

Separate to our trade payables and contract liabilities, which directly relate to our trading activities, our Other payables mostly comprises amounts payable to employees, or relating to employees.

Balances at the end of the year were:

	2023 **£'000**	2022 £'000
Payroll taxes and social security	**6,677**	6,823
Performance bonuses	**11,338**	16,179
Holiday pay and retirement accruals	**7,383**	7,810
Indirect tax payable	**4,486**	1,762
Other creditors and accruals	**18,246**	19,375
Total other payables	**48,130**	51,949

Holiday pay accruals are based on a calculation of the number of days' holiday earned during the year, but not yet taken. Other creditors and accruals includes a number of other individually smaller accruals.

20. Borrowings

The Group's only source of external borrowing is a fixed-interest loan facility in our Japanese subsidiary, entered into to directly finance the purchase of a new distribution facility in Japan in 2019.

Third-party borrowings at 30 June 2023 consist of a five year loan entered into on 31 May 2019 by Renishaw KK, with original principal of JPY 1,447,000,000 (£10,486,000). Principal of JPY 12,000,000 is repayable each month, with a fixed interest rate of 0.81% also paid on monthly accretion. The residual principal at 31 May 2024 of JPY 739,000,000 can either be repaid in full at that time, or extended for another five years. There are no covenants attached to this loan.

Movements during the year were:

	2023 **£'000**	2022 £'000
Balance at the beginning of the year	**6,079**	7,449
Interest	**46**	52
Repayments	**(914)**	(974)
Currency adjustment	**(517)**	(448)
Balance at the end of the year	**4,694**	6,079

Borrowings are held at amortised cost. There is no significant difference between the book value and fair value of borrowings, which is estimated by discounting contractual future cash flows, which represents level 2 of the fair value hierarchy defined in note 25.

21. Leases (as lessee)

The Group leases mostly distribution properties and cars from third parties and recognises an associated lease liability for the total present value of payments the lease contracts commits us to.

Accounting policy

At the commencement date of a lease arrangement the Group recognises a right-of-use asset for the leased item and a lease liability for any payments due. Lease liabilities are initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the incremental borrowing rate of the applicable entity. The lease liability is subsequently measured at amortised cost using the effective interest method and is remeasured if there is a change in future lease payments arising from a change in an index or rate (such as an inflation-linked increase) or if there is a change in the Group's assessment of whether it will exercise an extension or termination option. When this happens there is a corresponding adjustment to the right-of-use asset. Where the Group enters into leases with a lease term of 12 months or less, these are treated as 'short-term' leases and are recognised on a straight-line basis as an expense in the Consolidated income statement. The same treatment applies to low-value assets, which are typically IT equipment and office equipment.

Lease liabilities are analysed as below:

2023	**Leasehold property £'000**	**Plant and equipment £'000**	**Motor vehicles £'000**	**Total £'000**
Due in less than one year	**1,737**	**21**	**1,520**	**3,278**
Due between one and two years	**691**	**13**	**1,192**	**1,896**
Due between two and three years	**510**	**13**	**858**	**1,381**
Due between three and four years	**351**	**6**	**387**	**744**
Due between four and five years	**110**	**1**	**66**	**177**
Due in more than five years	**3,481**	**-**	**-**	**3,481**
Total future minimum lease payments payable	**6,880**	**54**	**4,023**	**10,957**
Effect of discounting	**(1,566)**	**(1)**	**(756)**	**(2,324)**
Lease liability	**5,314**	**53**	**3,267**	**8,633**

2022	Leasehold property £'000	Plant and equipment £'000	Motor vehicles £'000	Total £'000
Due in less than one year	2,916	33	930	3,879
Due between one and two years	1,857	18	523	2,398
Due between two and three years	805	10	278	1,093
Due between three and four years	624	9	78	711
Due between four and five years	553	3	7	563
Due in more than five years	3,611	-	-	3,611
Total future minimum lease payments payable	10,366	73	1,816	12,255
Effect of discounting	(1,993)	(1)	(81)	(2,075)
Lease liability	8,373	72	1,735	10,180

Lease liabilities are also presented as a £3,009,000 (2022: £3,714,000) current liability and a £5,624,000 (2022: £6,466,000) non-current liability in the Consolidated balance sheet.

Amounts recognised in the Consolidated income statement relating to leases were:

	2023 £'000	2022 £'000
Depreciation of right-of-use assets	**4,223**	4,205
Impairment of right-of-use assets	**-**	1,837
Derecognition of lease liabilities	**-**	(1,985)
Interest expense on lease liabilities	**348**	481
Expenses relating to short-term and low-value leases	**471**	51
Total expense recognised in the Consolidated income statement	**5,042**	4,589
Total cash outflows for leases	**5,025**	4,613

During the previous year we withdrew from Russia, including moving out of a leased property by August 2022. We therefore derecognised amounts relating to the leased property totalling £1,985,000, with a corresponding impairment to the right-of-use asset of £1,837,000.

22. Changes in liabilities arising from financing activities

	1July 2022	**Cash flows**	**Other**	**Currency**	**30 June 2023**
Lease liabilities	10,180	**(4,206)**	**2,918**	**(259)**	**8,633**
Borrowings	6,079	**(914)**	**46**	**(517)**	**4,694**
	16,259	**(5,120)**	**2,964**	**(776)**	**13,327**

	1July 2021	Cash flows	Other	Currency	30 June 2022
Lease liabilities	12,562	(4,081)	513	1,186	10,180
Borrowings	7,449	(974)	52	(448)	6,079
	20,011	(5,055)	565	738	16,259

See notes 20 and 21 for further details on borrowing and leasing activities.

23. Employee benefits

The Group operates contributory pension schemes, largely for UK, Ireland and USA employees, which were of the defined benefit type up to 5 April 2007, 31 December 2007 and 30 June 2012 respectively, at which time they ceased any future accrual for existing members and were closed to new members. The Group's largest defined benefit scheme is in the UK.

Accounting policy

Defined benefit pension schemes are administered by trustees who are independent of the Group finances. Investment assets of the schemes are measured at fair value using the bid price of the unitised investments, quoted by the investment manager, at the reporting date. Pension scheme liabilities are measured using a projected unit method and discounted at the current rate of return on a high-quality corporate bond of equivalent term and currency to the liability. Remeasurements arising from defined benefit schemes comprise actuarial gains and losses, the return on scheme assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest). The Company recognises them immediately in Other comprehensive income and all other expenses related to defined benefit schemes are included in the Consolidated income statement.

The pension schemes' surpluses, to the extent that they are considered recoverable, or deficits are recognised in full and presented on the face of the Consolidated balance sheet under Employee benefits. Where a guarantee is in place in relation to a pension scheme deficit, liabilities are reported in accordance with IFRIC 14 'The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction'. To the extent that contributions payable will not be available as a refund after they are paid into the plan, a liability is recognised at the point the obligation arises, which is the point at which the minimum funding guarantee is agreed. Overseas-based employees are covered by a combination of state, defined benefit and private pension schemes in their countries of residence. Actuarial valuations of overseas pension schemes were not obtained, apart from Ireland and USA, because of the low number of members.

For defined contribution schemes, the amount charged to the Consolidated income statement represents the contributions payable to the schemes in respect of the accounting period.

Key estimate – Valuation of defined benefit pension schemes' liabilities

Determining the value of the future defined benefit obligation requires estimation in respect of the assumptions used to determine the present values. These include future mortality, discount rate and inflation. Management makes these estimates in consultation with independent actuaries.

The total pension cost of the Group for the year was £26,142,000 (2022: £21,988,000), of which £126,000 (2022: £121,000) related to Directors and £6,220,000 (2022: £5,292,000) related to overseas schemes.

The latest full actuarial valuation of the UK defined benefit pension scheme was carried out as at 30 September 2021 and updated to 30 June 2023 by a qualified independent actuary. The mortality assumption used for 2023 is the S3PxA base tables and CMI 2022 model, with long-term improvements of 1% per annum. Adjustments have been made to both the core base tables and CMI 2022 model to allow for the scheme's membership profile and best estimate assumptions of future mortality improvements.

Major assumptions used by actuaries for the UK, Ireland and US schemes were:

	30 June 2023			30 June 2022		
	UK scheme	**Ireland scheme**	**US scheme**	UK scheme	Ireland scheme	US scheme
Rate of increase in pension payments	**3.05%**	**2.70%**	**-**	3.05%	2.45%	-
Discount rate	**5.10%**	**3.60%**	**-**	3.60%	3.20%	4.50%
Inflation rate (RPI)	**3.25%**	**2.70%**	**-**	3.10%	2.45%	-
Inflation rate (CPI)	**2.25%** pre-2030	**-**	**-**	2.10% pre-2030	-	-
	3.25% post-2030			3.10% post-2030		
Retirement age	**64**	**65**	**65**	64	65	65

The life expectancies from the retirement age of 65 for the UK scheme implied by the mortality assumption at age 65 and 45 are:

	2023 years	2022 years
Male currently aged 65	**21.1**	21.5
Female currently aged 65	**23.5**	23.8
Male currently aged 45	**21.8**	22.2
Female currently aged 45	**24.3**	24.7

The weighted average duration of the UK defined benefit obligation is around 17 years (2022: 22 years).

The assets and liabilities in the defined benefit schemes at the end of the year were:

	30 June 2023 £'000	**% of total assets**	30 June 2022 £'000	% of total assets
Market value of assets:				
Index linked gilts	**55,183**	**28**	1,489	1
Credit and fixed income funds	**54,656**	**28**	19,489	9
Cash and other	**40,576**	**20**	802	-
Multi-asset funds	**26,966**	**14**	82,442	38
Fixed interest gilts	**13,219**	**7**	1,502	1
Equities	**5,729**	**3**	111,025	51
	196,329	**100**	216,749	100
Actuarial value of liabilities	**(138,958)**	**-**	(174,504)	-
Surplus/(deficit) in the schemes	**57,371**	**-**	42,245	-
Deferred tax thereon	**(14,348)**	**-**	(11,048)	-

The UK scheme was in a net surplus position at 30 June 2023 totalling £57,416,000, (2022: surplus £40,331,000), and is therefore presented in non-current assets in the Consolidated balance sheet. The Ireland scheme was in a net deficit position at 30 June 2023 (2022: deficit), totalling £45,000, and is therefore presented in non-current liabilities.

Equities are held in externally-managed funds and primarily relate to UK and US equities. Credit and fixed income funds, fixed interest gilts, and index linked gilts relate to UK, US and Eurozone government-linked securities, again held in externally-managed funds. The fair values of these equity and fixed income instruments are determined using the bid price of the unitised investments, quoted by the investment manager, at the reporting date and therefore represent 'Level 2' of the fair value hierarchy defined in note 25. Multi-asset funds are also held in externally-managed funds, with active asset allocation to diversify growth across asset classes such as equities, bonds and money-market instruments. The fair value of these funds is determined on a comparable basis to the equity and fixed income funds, and therefore are also 'Level 2' assets. Cash and other at 30 June 2023 mostly comprises a Sterling liquidity fund, in which the principal is preserved and same day liquidity is available.

In October 2022, following a significant improvement in the UK scheme's funding position due to rising gilt yields, the Trustees (in consultation with the Company) de-risked the investment strategy by disinvesting from the scheme's equity and diversified growth holdings and investing the proceeds into index-linked gilts. The overall impact of these changes is to reduce investment risk, with the assets better matching the expected movements in the liabilities. We now believe the scheme is fully funded and are in the process of seeking to insure the liabilities. No scheme assets are directly invested in the Group's own equity.

The movements in the schemes' assets and liabilities were:

Year ended 30 June 2023	**Assets £'000**	**Liabilities £'000**	**Total £'000**
Balance at the beginning of the year	216,749	(174,504)	42,245
Contributions paid	2,341	-	2,341
Interest on pension schemes	7,745	(6,135)	1,610
Remeasurement loss from augmentation of members' benefits (US)	-	(1,930)	(1,930)
Remeasurement gain/(loss) under IAS 19	(16,722)	30,334	13,612
Scheme administration expenses	(398)	-	(398)
(Loss)/gain on settlements	(1,098)	989	(109)
Benefits paid	(12,288)	12,288	-
Balance at the end of the year	**196,329**	**(138,958)**	**57,371**

Year ended 30 June 2022	Assets **£'000**	Liabilities **£'000**	Total **£'000**
Balance at the beginning of the year	231,355	(255,053)	(23,698)
Contributions paid	8,866	-	8,866
Interest on pension schemes	4,337	(4,643)	(306)
Remeasurement loss from augmentation of members' benefits (UK)	-	(11,695)	(11,695)
Remeasurement gain/(loss) under IAS 19, the asset ceiling and IFRIC 14	(17,264)	86,342	69,078
Benefits paid	(10,545)	10,545	-
Balance at the end of the year	**216,749**	**(174,504)**	**42,245**

The analysis of the amount recognised in the Consolidated statement of comprehensive income and expense was:

	2023 **£'000**	2022 £'000
Actuarial gain/(loss) arising from:		
- Changes in demographic assumptions	**2,028**	3,860
- Changes in financial assumptions	**37,318**	67,442
- Experience adjustment	**(9,012)**	(7,818)
Return on plan assets excluding interest income	**(16,722)**	(17,264)
Adjustment for the asset ceiling	**-**	3,280
Adjustment to liabilities for IFRIC 14	**-**	19,578
Total amount recognised in the Consolidated statement of comprehensive income and expense	**13,612**	69,078

The cumulative amount of actuarial gains and losses recognised in the Consolidated statement of comprehensive income and expense was a loss of £8,807,000 (2022: loss of £22,419,000).

The net surplus of the Group's defined benefit pension schemes, on an IAS 19 basis, has increased from £42,245,000 at 30 June 2022 to £57,371,000 at 30 June 2023, primarily reflecting the effect of an increase in the UK discount rate, based on increases in corporate bond yields, which was partially offset by a reduction in investment asset values.

In 2022, the Company agreed to an augmentation of UK scheme members' benefits to reflect current and historic administrative revaluation practice. The impact on liabilities of this plan amendment, totalling £11,695,000, was recognised as a past service cost in the Consolidated income statement.

In 2023, a termination of the US plan (other than distribution of surplus) was completed, with most members opting for lump sum payments, and it was agreed that the surplus will be distributed to qualifying scheme members. Accordingly, the surplus of £1,930,000 has been treated as an augmentation to member benefits. This, together with related expenses of £209,000, has been reported separately in the Consolidated income statement as a past service cost and excluded from adjusted profit measures.

For the UK scheme, the latest actuarial report prepared in September 2021 shows a deficit of £52,800,000, which is based on funding to self-sufficiency and uses prudent assumptions. IAS 19 requires best estimate assumptions to be used, resulting in the IAS 19 net surplus being higher than the actuarial deficit.

The existing deficit funding plan for the UK defined benefit pension scheme is in place until 30 June 2031, at which time any outstanding deficit will be paid. The agreement will end sooner if the actuarial deficit (calculated on a self-sufficiency basis) is eliminated in the meantime. The net book value of properties subject to fixed charges under this agreement at 30 June 2023 was £88,778,000 (2022: £54,208,000).

The charges may be enforced by the Trustees if one of the following occurs: (a) the Company does not pay funds into the scheme in line with the agreed plan; (b) an insolvency event occurs in relation to the Company; or (c) the Company does not pay any deficit at 30 June 2031.

Under the Ireland defined benefit pension scheme deficit funding plan, a property owned by Renishaw Ireland (DAC) is subject to a registered fixed charge to secure the Ireland defined benefit pension scheme's deficit.

For the UK defined benefit scheme, a guide to the sensitivity of the value of the respective liabilities is as follows:

	Variation	**Approximate effect on liabilities**
UK – discount rate	Increase/decrease by 0.5%	-£9.6m/+£10.7m
UK – future inflation	Increase/decrease by 0.5%	+£8.2m/-£7.6m
UK – mortality	Increased/decreased life by one year	+£4.0m/-£3.8m

24. Share-based payments

The Group provides share-based payment arrangements to certain employees in accordance with the Renishaw plc deferred annual equity incentive plan. The Governance section provides information of how these awards are determined.

Accounting policy

Renishaw shares are granted in accordance with the Renishaw plc deferred annual equity incentive plan (the Plan). The share awards are subject only to continuing service of the employee and are equity settled. The fair value of the awards at the date of grant, which is estimated to be equal to the market value, is charged to the Consolidated income statement on a straight□line basis over a three-year vesting period, with appropriate adjustments made to reflect expected or actual forfeitures. The corresponding credit is to Other reserve.

The number of shares to be awarded is calculated by dividing the relevant amount of annual bonus under the Plan by the average price of a share during a period determined by the Remuneration Committee of not more than five dealing days ending with the dealing day before the award date. These shares must be purchased on the open market and cannot be satisfied by issuance of new shares or transfer of existing treasury shares.

The Renishaw Employee Benefit Trust (EBT) is responsible for purchasing shares on the open market on behalf of the Company to satisfy the Plan awards. These are held by the EBT until transferring to the employee, which will normally be on the third anniversary of the award date, subject to continued employment. Malus and clawback provisions can be operated by the Committee within five years of the award date. During the vesting period, no dividends are payable on the shares. However, upon vesting, employees will be entitled to additional shares or cash, equivalent to the value of dividends paid on the awarded shares during this period. This amount is accrued over the vesting period.

Own shares held are recognised as an element in equity until they are transferred at the end of the vesting period, and such shares are excluded from earnings per share calculations.

The total cost recognised in the 2023 Consolidated income statement in respect of the Plan was £677,000 (2022: £180,000). See note 26 for reconciliations of amounts recognised in Equity

In accordance with the Plan, no shares (2022: £1,915,000 equivalent) are to be awarded in respect of 2023.

25. Financial instruments

The Group has exposure to credit risk, liquidity risk and market risk arising from its use of financial instruments. This note presents information about the Group's exposure to these risks, along with the Group's objectives, policies and processes for measuring and managing the risks.

Accounting policy

The Group measures financial instruments such as forward exchange contracts at fair value at each balance sheet date in accordance with IFRS 9 'Financial Instruments'. Fair value, as defined by IFRS 13 'Fair Value Measurement', is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This note provides detail on the IFRS 13 fair value hierarchy.

Trade and other current receivables are initially recognised at fair value and are subsequently held at amortised cost less any provision for bad and doubtful debts and expected credit losses according to IFRS 9. Loans to associates and joint ventures are initially recognised at fair value and are subsequently held at amortised cost. Trade and other current payables are initially recognised at fair value and are subsequently held at amortised cost.

Financial liabilities in the form of loans are initially recognised at fair value and are subsequently held at amortised cost. Financial liabilities are assessed for embedded derivatives and whether any such derivatives are closely related. If not closely related, such derivatives are accounted for at fair value in the Consolidated income statement.

Foreign currency derivatives are used to manage risks arising from changes in foreign currency rates relating to overseas sales and foreign currency-denominated assets and liabilities. The Group does not enter into derivatives for speculative purposes. Foreign currency derivatives are stated at their fair value, being the estimated amount that the Group would pay or receive to terminate them at the balance sheet date, based on prevailing foreign currency rates.

Changes in the fair value of foreign currency derivatives which are designated and effective as hedges of future cash flows are recognised in Other comprehensive income and in the Cash flow hedging reserve, and subsequently transferred to the carrying amount of the hedged item or the Consolidated income statement. Realised gains or losses on cash flow hedges are therefore recognised in the Consolidated income statement within revenue in the same period as the hedged item.

Hedge accounting is discontinued when the hedging instrument expires or when the hedging instrument or hedged item no longer qualify for hedge accounting. If the forecast transaction is still expected to occur, but is no longer highly probable, the cumulative gain or loss in the cash flow hedge reserve remains in that reserve until the transaction occurs. If the forecast transaction is no longer expected to occur, the cumulative gain or loss in the cash flow hedge reserve is immediately reclassified to the Consolidated income statement.

Changes in fair value of foreign currency derivatives, which are ineffective or do not meet the criteria for hedge accounting in IFRS 9, are recognised in the Consolidated income statement within Gains/losses from the fair value of financial instruments.

In addition to derivatives held for cash flow hedging purposes, the Group uses short-term derivatives not designated as hedging instruments to offset gains and losses from exchange rate movements on foreign currency-denominated assets and liabilities. Gains and losses from currency movements on underlying assets and liabilities, realised gains and losses on these derivatives, and fair value gains and losses on outstanding derivatives of this nature are all recognised in financial income and expenses in the Consolidated income statement.

Key estimate – Estimates of highly probable forecasts of the hedged item.

Derivatives are effective for hedge accounting to the extent that the hedged item is 'highly probable' to occur, with 'highly probable' indicating a much greater likelihood of occurrence than the term 'more likely than not'. Determining a highly probable sales forecast for Renishaw plc and Renishaw UK Sales Limited, being the hedged item, over a multiple year time period, requires judgement of the suitability of external and internal data sources and estimations of future sales.

Fair value

There is no significant difference between the fair value of financial assets and financial liabilities and their carrying value in the Consolidated balance sheet. All financial assets and liabilities are held at amortised cost, apart from the forward foreign currency exchange contracts, which are held at fair value, with changes going through the Consolidated income statement unless subject to hedge accounting.

The fair values of the forward foreign currency exchange contracts have been calculated by a third-party expert, discounting estimated future cash flows on the basis of market expectations of future exchange rates, representing level 2 in the IFRS 13 fair value hierarchy. The IFRS 13 level categorisation relates to the extent the fair value can be determined by reference to comparable market values. The classifications are: level 1 where instruments are quoted on an active market; level 2 where the assumptions used to arrive at fair value have comparable market data; and level 3 where the assumptions used to arrive at fair value do not have comparable market data.

Credit risk

The Group's liquid funds are substantially held with banks with high credit ratings and the credit risk relating to these funds is therefore limited. The Group carries a credit risk relating to non-payment of trade receivables by its customers. The Group's policy is that credit evaluations are carried out on all new customers before credit is given above certain thresholds. Risk is spread across a large number of customers with no significant concentration with one customer or in any one geographical area. The Group establishes an allowance for impairment in respect of trade receivables where recoverability is considered doubtful.

An analysis by currency of the Group's financial assets at the year end is as follows:

Currency	Trade & finance lease receivables 2023 £'000	2022 £'000	Other receivables 2023 £'000	2022 £'000	Cash and cash equivalents and bank deposits 2023 £'000	2022 £'000
Pound Sterling	**17,530**	21,391	**20,592**	19,565	**161,489**	201,668
US Dollar	**49,609**	45,433	**814**	867	**12,465**	13,965
Euro	**28,418**	28,314	**1,433**	1,568	**6,481**	8,712
Japanese Yen	**16,555**	19,480	**137**	457	**6,481**	5,720
Other	**25,014**	23,242	**5,003**	4,611	**19,472**	23,097
	137,126	137,860	**27,979**	27,068	**206,388**	253,162

The above trade & finance lease receivables, other receivables and cash and bank deposits are predominately held in the functional currency of the relevant entity, with the exception of £19,669,000 (2022: £21,271,000) of US Dollar-denominated trade receivables being held in Renishaw (Hong Kong) Limited and £1,697,000 (2022: £1,852,000) of Euro-denominated trade receivables being held in Renishaw UK Sales Limited, along with some foreign currency cash balances which are of a short-term nature.

The ageing of trade receivables past due, but not impaired, at the end of the year was:

	2023 £'000	2022 £'000
Past due zero to one month	**11,808**	9,548
Past due one to two months	**3,880**	3,879
Past due more than two months	**9,732**	5,252
Balance at the end of the year	**25,420**	18,679

Movements in the provision for impairment of trade receivables during the year were:

	2023 £'000	2022 £'000
Balance at the beginning of the year	**2,540**	3,826
Changes in amounts provided	**1,784**	(834)
Amounts used	**(886)**	(452)
Balance at the end of the year	**3,438**	2,540

The Group applies the simplified approach when measuring the expected credit loss for trade receivables, with a provision matrix used to determine a lifetime expected credit loss.

For this provision matrix, trade receivables are grouped into credit risk categories, with category 1 being the lowest risk and category 5 the highest. Risk scores are allocated to the customer's country of operation, their type (such as distributor, end-user and OEM), their industry and the proportion of their debt that was past due at the year-end. These scores are then weighted to produce an overall risk score for the customer, with the lowest scores being allocated to category 1 and the highest scores to category 5. The matrix then applies an expected credit loss rate to each category, with this rate being determined by adjusting the Group's historic credit loss rates to reflect forward-looking information.

Where certain customers have been identified as having a significantly elevated credit risk these have been provided for on a specific basis. Both elements of expected credit loss are shown in the matrix below and have been shown separately so as not to distort the expected credit loss rate.

Year ended 30 June 2023	**Risk category 1 £'000**	**Risk category 2 £'000**	**Risk category 3 £'000**	**Risk category 4 £'000**	**Risk category 5 £'000**	**2023 Total £'000**
Gross trade receivables	**3,126**	**60,826**	**57,991**	**4,922**	**-**	**126,865**
Expected credit loss rate	**0.34%**	**0.38%**	**0.41%**	**0.44%**	**-**	**0.39%**
Expected credit loss allowance	**11**	**228**	**240**	**22**	**-**	**501**
Specific loss allowance	**-**	**219**	**1,313**	**1,405**	**-**	**2,937**
Total expected credit loss	**11**	**447**	**1,553**	**1,427**	**-**	**3,438**
Net trade receivables	**3,115**	**60,379**	**56,438**	**3,495**	**-**	**123,427**

Year ended 30 June 2022	Risk category 1 £'000	Risk category 2 £'000	Risk category 3 £'000	Risk category 4 £'000	Risk category 5 £'000	2022 Total £'000
Gross trade receivables	2,742	51,598	70,298	5,453	-	130,091
Expected credit loss rate	0.19%	0.20%	0.22%	0.24%	-	0.21%
Expected credit loss allowance	5	104	154	13	-	276
Specific loss allowance	-	-	1,502	762	-	2,264
Total expected credit loss	5	104	1,656	775	-	2,540
Net trade receivables	2,737	51,494	68,642	4,678	-	127,551

Finance lease receivables are subject to the same approach as noted above for trade receivables.

Derivative assets are assessed based on the credit risk of the banks counterparty to the forward contracts.

Other receivables include mostly prepayments and indirect tax receivables. Prepayment balances are reviewed at each reporting period to confirm that prepaid goods or services are still expected to be received, while tax balances are reviewed for recoverability.

Other receivables at the year end comprised:

	2023 £'000	2022 £'000
Indirect tax receivable	**9,304**	9,010
Software maintenance	**5,857**	7,430
Grants	**1,426**	1,250
Other prepayments	**11,392**	9,378
Total other receivables	**27,979**	27,068

The maximum exposure to credit risk is £386,309,000 (2022: £425,211,000), comprising the Group's trade, finance and other receivables, cash and cash equivalents and derivative assets.

The maturities of non-current other receivables, being only derivatives, at the year end were:

	2023 £'000	2022 £'000
Receivable between one and two years	**9,443**	-
Receivable between two and five years	**-**	-
	9,443	-

Liquidity risk

Our approach to managing liquidity is to ensure, as far as possible, that we will always have sufficient liquidity to meet our liabilities when due, without incurring unacceptable losses or risking damage to the Group's reputation. We use monthly cash flow forecasts on a rolling 12-month basis to monitor cash requirements.

With cash and cash equivalents and bank deposits at 30 June 2023 totalling £206,388,000 and £84,297,000 cash flows generated from operating activities in the period, the Group remains in a strong liquidity position.

In respect of cash and cash equivalents and bank deposits, the carrying value is materially the same as fair value because of the short maturity of the bank deposits. Bank deposits are affected by interest rates that are either fixed or floating, which can change over time, affecting the Group's interest income. An increase of 1% in interest rates would result in an increase in interest income of approximately £1,250,000.

The contractual maturities of financial liabilities at the year end were:

				Contractual cash flows		
Year ended 30 June 2023	**Carrying amount £'000**	**Effect of discounting £'000**	**Gross maturities £'000**	**Up to 1 year £'000**	**1-2 years £'000**	**2-5 years £'000**
Trade payables	**21,551**	**-**	**21,551**	**21,551**	**-**	**-**
Other payables	**48,130**	**-**	**48,130**	**48,130**	**-**	**-**
Borrowings	**4,694**	**36**	**4,730**	**4,730**	**-**	**-**
Forward exchange contracts	**5,209**	**-**	**5,209**	**5,089**	**120**	**-**
	79,584	**36**	**79,620**	**79,500**	**120**	**-**

Year ended 30 June 2022	Carrying amount £'000	Effect of discounting £'000	Gross maturities £'000	Contractual cash flows Up to 1 year £'000	1-2 years £'000	2-5 years £'000
Trade payables	30,947	-	30,947	30,947	-	-
Other payables	51,949	-	51,949	51,949	-	-
Borrowings	6,079	82	6,161	926	5,235	-
Forward exchange contracts	27,353	-	27,353	17,890	9,463	-
	116,328	82	116,410	101,712	14,698	-

Market risk

The Group operates in several foreign currencies with the majority of sales being made in these non-Sterling currencies, but with most manufacturing being undertaken in the UK, Ireland and India.

A large proportion of sales are made in US Dollar, Euro and Japanese Yen, therefore the Group enters into US Dollar, Euro and Japanese Yen derivative financial instruments to manage its exposure to foreign currency risk, including:

i. forward foreign currency exchange contracts to hedge a significant proportion of the Group's forecasted US Dollar, Euro and Japanese Yen revenues over the next 24 months;
ii. foreign currency option contracts, entered into alongside the forward contracts above until May 2018 as part of the Group hedging strategy, are ineffective for cash flow hedging purposes. Note 29, 'Alternative performance measures', gives an adjusted measure of profit before tax to reflect the original intention that these derivatives were entered into for hedging purposes. The final option contract matured in November 2021; and
iii. one-month forward foreign currency exchange contracts to offset the gains/losses from exchange rate movements arising from foreign currency-denominated intragroup balances of the Company.

The amounts of foreign currencies relating to these forward contracts and options are, in Sterling terms:

	2023		2022	
	Nominal value £'000	**Fair value £'000**	Nominal value £'000	Fair value £'000
US Dollar	**345,010**	**5,009**	306,270	(26,249)
Euro	**179,992**	**1,389**	129,799	1,711
Japanese Yen	**30,318**	**3,209**	37,941	4,306
	555,320	**9,607**	474,010	(20,232)

The following are the exchange rates which have been applicable during the financial year.

	2023			2022		
Currency	**Average forward contract rates**	**Year end exchange rate**	**Average exchange rate**	Average forward contract rates	Year end exchange rate	Average exchange rate
US Dollar	**1.24**	**1.27**	**1.21**	1.34	1.22	1.33
Euro	**1.13**	**1.16**	**1.15**	1.12	1.16	1.18
Japanese Yen	**141**	**183**	**166**	132	165	156

Hedging

In relation to the forward currency contracts in a designated cash flow hedge, the hedged item is a layer component of forecast sales transactions. Forecast transactions are deemed highly probable to occur and Group policy is to hedge around 75% of net foreign currency exposure for USD, EUR and JPY. The hedged item creates an exposure to receive USD, EUR or JPY, while the forward contract is to sell USD, EUR or JPY and buy GBP. Therefore, there is a strong economic relationship between the hedging instrument and the hedged item. The hedge ratio is 100%, such that, by way of example, £10m nominal value of forward currency contracts are used to hedge £10m of forecast sales. Fair value gains or losses on the forward currency contracts are offset by foreign currency gain or losses on the translation of USD, EUR and JPY based sales revenue, relative to the forward rate at the date the forward contracts were arranged. Foreign currency exposures in HKD and USD are aggregated and only USD forward currency contracts are used to hedge these currency exposures. Sources of hedge ineffectiveness according to IFRS 9 Financial Instruments include:

– changes in timing of the hedged item;

– reduction in the amount of the hedged sales considered to be highly probable;
– a change in the credit risk of Renishaw or the bank counterparty to the forward contract; and
– differences in assumptions used in calculating fair value.

During 2020, global macroeconomic uncertainty resulted in a reduction to the ‘highly probable’ revenue forecasts of Renishaw plc and Renishaw UK Sales Limited, being the hedged item, which resulted in proportions of forward contracts failing hedge effectiveness testing, with nominal value amounting to £247,547,000. These contracts have matured in the periods since, and the remaining nominal value of ineffective forward contracts at 30 June 2023 was nil (2022: £63,045,000). Fair value gains of £5,504,000 (2022: £8,349,000 losses) recognised in the Consolidated income statement relate to the unwinding of the mark-to-market valuations of the ineffective contracts.

No contracts have become ineffective during the period. A decrease of 10% in the highly probable forecasts would result in around £30,000,000 nominal value of forward contracts becoming ineffective.

The following table details the fair value of these forward foreign currency derivatives according to the categorisations of instruments noted previously:

	2023 Nominal value £’000	**Fair value £’000**	2022 Nominal value £’000	Fair value £’000
Forward currency contracts in a designated cash flow hedge (i)				
Non-current derivative assets	**268,908**	**9,443**	-	-
Current derivative assets	**118,271**	**4,461**	77,460	7,077
Current derivative liabilities	**109,434**	**(5,048)**	128,950	(12,046)
Non-current derivative liabilities	**21,148**	**(120)**	179,149	(9,463)
	517,761	**8,736**	385,559	(14,432)
Amounts recognised in the Consolidated statement of comprehensive income and expense	**-**	**23,167**	-	28,423
Forward currency contracts ineffective as a cash flow hedge (i)				
Current derivative liabilities	**-**	**-**	63,045	(5,504)
Amounts recognised in Gains/(losses) from the fair value of financial instruments in the Consolidated income statement	**-**	**(1,399)**	-	(11,551)
Amounts recognised in Gains/(losses) from the fair value of financial instruments in the Consolidated income statement	**-**	**-**	-	1,138
Forward currency contracts not in a designated cash flow hedge (iii)				
Current derivative assets	**17,134**	**912**	4,880	44
Current derivative liabilities	**20,425**	**(41)**	20,526	(340)
	37,559	**871**	25,406	(296)
Amounts recognised in Financial income/(expense) in the Consolidated income statement	-	**1,728**	-	98
Total forward contracts and options				
Non-current derivative assets	**268,908**	**9,443**	-	-
Current derivative assets	**135,405**	**5,373**	82,340	7,121
Current derivative liabilities	**129,859**	**(5,089)**	212,521	(17,890)
Non-current derivative liabilities	**21,148**	**(120)**	179,149	(9,463)
	555,320	**9,607**	474,010	(20,232)

The total losses recognised in Revenue in the Consolidated income statement relating to cash flow hedges previously recognised through other comprehensive income amounted to £21,553,000 (2022: £3,385,000).

For the Group’s foreign currency forward contracts at the balance sheet date, if Sterling appreciated by 5% against the US Dollar, Euro and Japanese Yen, this would increase pre-tax equity by £24,655,000 and increase profit before tax by £1,789,000, while a depreciation of 5% would decrease pre-tax equity by £27,251,000 and decrease profit before tax by £1,977,000.

26. Share capital and reserves

The Group defines capital as being the equity attributable to the owners of the Company, which is captioned on the Consolidated balance sheet. The Board's policy is to maintain a strong capital base, ensuring the security of the Group, and to maintain a balance between significant returns to shareholders, with a progressive dividend policy. This note presents figures relating to this capital management, along with an analysis of all elements of Equity attributable to shareholders and non-controlling interests.

Share capital

	2023	2022
	£'000	£'000
Allotted, called-up and fully paid 72,788,543 ordinary shares of 20p each	**14,558**	14,558

The ordinary shares are the only class of share in the Company. Holders of ordinary shares are entitled to vote at general meetings of the Company and receive dividends as declared. The Articles of Association of the Company do not contain any restrictions on the transfer of shares nor on voting rights.

Dividends paid

Dividends paid comprised:

	2023	2022
	£'000	£'000
2022 final dividend paid of 56.6p per share (2021: 52.0p)	**41,190**	37,850
Interim dividend paid of 16.8p per share (2022: 16.0p)	**12,217**	11,644
Total dividends paid	**53,407**	49,494

A final dividend of 59.4p per share is proposed in respect of 2023, which will be payable on 7 December 2023 to shareholders on the register on 3 November 2023.

Own shares held

The EBT is responsible for purchasing shares on the open market on behalf of the Company to satisfy the Plan awards, see note 24 for further detail. Own shares held are recognised as an element in equity until they are transferred at the end of the vesting period.

Movements during the year were:

	2023	2022
	£'000	£'000
Balance at the beginning of the year	**(750)**	(404)
Disposal of own shares on vesting of awards	**-**	404
Acquisition of own shares	**(2,213)**	(750)
Balance at the end of the year	**(2,963)**	(750)

In November 2021, 14,396 shares were purchased on the open market by the EBT at a price of £52.10, costing a total of £750,017. The fair value of these awards at the grant date, being 28 October 2021, was £734,317. These shares will vest on 28 October 2024, with no forfeitures expected at 30 June 2023.

In November 2022, 54,582 shares were purchased on the open market by the EBT at a price of £40.24, costing a total of £2,212,831. The fair value of these awards at the grant date, being 26 October 2022, was £1,915,000. These shares will vest on 26 October 2025, with no forfeitures expected at 30 June 2023.

Other reserve

The other reserve relates to share-based payments charges according to IFRS 2 in relation to the Plan, along with historical amounts relating to investments in subsidiary undertakings not eliminated on consolidation.

Movements during the year were:

	2023	2022
	£'000	£'000
Balance at the beginning of the year	**(180)**	44
Share-based payments charge in respect of share vesting in 2022	**-**	16
Transfer of own shares on vesting of awards	**-**	(404)
Share-based payments charge in respect of share vesting in 2024	**245**	164
Share-based payments charge in respect of shares vesting in 2025	**432**	-
Balance at the end of the year	**497**	(180)

Currency translation reserve

The currency translation reserve comprises all foreign exchange differences arising from the translation of the financial statements of the overseas operations and currency movements on intragroup loan balances classified as net investments in overseas operations.

Movements during the year were:	**2023 £'000**	2022 £'000
Balance at the beginning of the year	**14,459**	3,719
(Loss)/gain on net assets of foreign currency operations	**(5,905)**	3,529
Transfer of accumulated loss relating to net assets of Russian operation	**-**	575
(Loss)/gain on intragroup loans classified as net investments in foreign operations	**(2,095)**	8,047
Tax on translation of net investments in foreign operations	**313**	(1,529)
(Loss)/gain in the year relating to subsidiaries	**(7,687)**	10,622
Currency exchange differences relating to joint ventures	**-**	118
Balance at the end of the year	**6,772**	14,459

See note 5 for further information on intragroup loans classified as net investments.

Cash flow hedging reserve

The cash flow hedging reserve, for both the Group and the Company, comprises all foreign exchange differences arising from the valuation of forward exchange contracts which are effective hedges and mature after the year end. These are valued on a mark-to-market basis, are accounted for in Other comprehensive income and expense and accumulated in Equity, and are recycled through the Consolidated income statement and Company income statement when the hedged item affects the income statement, or when the hedging relationship ceases to be effective. See note 25 for further detail.

Movements during the year were:	**2023 £'000**	2022 £'000
Balance at the beginning of the year	**(10,923)**	11,345
Losses on contract maturity recognised in revenue during the year	**(21,553)**	(3,385)
Revaluations during the year	**44,720**	(25,038)
Deferred tax movement	**(5,692)**	6,155
Balance at the end of the year	**6,552**	(10,923)

Non-controlling interest

Movements during the year were:	**2023 £'000**	2022 £'000
Balance at the beginning of the year	**(577)**	(577)
Share of profit for the year	**-**	-
Balance at the end of the year	**(577)**	(577)

The non-controlling interest represents the minority shareholdings in Renishaw Diagnostics Limited – 7.6%.

27. Capital commitments

At the end of a financial year, we typically have obligations to make payments in the future, for which no provision is made in the financial statements. In 2022, we committed to the expansion of one of our production facilities in Wales, UK, which is expected to cost an additional £35m over the next year.

Authorised and committed capital expenditure at the end of the year were:

	2023 £'000	2022 £'000
Freehold land and buildings	**35,607**	65,328
Plant and equipment	**11,423**	22,760
Motor vehicles	**14**	319
Total committed capital expenditure	**47,044**	88,407

28. Related parties

We report our two joint venture companies, RLS Merilna tehnika d.o.o. and Metrology Software Products Limited, as related parties.

Joint ventures and other related parties had the following transactions and balances with the Group:

	Joint ventures	
	2023 £'000	2022 £'000
Purchased goods and services from the Group during the year	**117**	553
Sold goods and services to the Group during the year	**24,271**	29,355
Paid dividends to the Group during the year	**924**	525
Amounts owed to the Group at the year end	**35**	1
Amounts owed by the Group at the year end	**2,837**	3,950
Loans owed to the Group at the year end	**-**	350

There were no bad debts relating to related parties written off during 2023 or 2022.

By virtue of their long-standing voting agreement, Sir David McMurtry (Executive Chairman 36.23% shareholder) and John Deer (Non-executive Deputy Chairman, together with his wife, 16.59%), are the ultimate controlling party of the Group.

29. Alternative performance measures

There are sometimes infrequently occurring events which impact on our financial statements, recognised according to applicable IFRS, that we believe should be excluded from adjusted performance measures in order to give readers a more understandable and comparable view of our underlying performance.

In accordance with Renishaw's alternative performance measures (APMs) policy and ESMA Guidelines on Alternative Performance Measures (2015), APMs are defined as - Revenue at constant exchange rates, Adjusted profit before tax, Adjusted earnings per share and Adjusted operating profit.

Revenue at constant exchange rates is defined as revenue recalculated using the same rates as were applicable to the previous year and excluding forward contract gains and losses.

Revenue at constant exchange rates	**2023 £'000**	2022 £'000
Statutory revenue as reported	**688,573**	671,076
Adjustment for forward contract gains	**7,815**	(744)
Adjustment to restate current year at previous year exchange rates	**(33,549)**	-
Revenue at constant exchange rates	**662,839**	670,332
Year-on-year revenue growth at constant exchange rates	**-1.1%**	-

Year-on-year revenue growth at constant exchange rates for 2022 was +18.3%.

Adjusted profit before tax, Adjusted earnings per share and Adjusted operating profit are defined as the profit before tax, earnings per share and operating profit after excluding:

– costs relating to a revision to a provision made in 2020 relating to restructuring (a);
– third-party costs relating to the formal sales process ('FSP') (b);
– a UK defined benefit pension scheme past service cost (c);
– a US defined benefit pension scheme past service cost (d); and
– gains and losses in fair value from forward currency contracts which did not qualify for hedge accounting and which have yet to mature (e).

a) Restructuring costs, where applicable during a year, are reported separately in the Consolidated income statement and excluded from adjusted measures on the basis that they relate to matters that do not frequently recur. During 2022, a revised estimate of a warranty provision relating to restructuring in 2020 resulted in a reduction to this provision of £1,688,000, then in 2023 a further revision resulted in a reduction of £717,000. As this provision was initially excluded from adjusted measures, the revised estimates have also been excluded.
b) Third-party legal and advisory costs relating to the 2021 FSP were excluded from adjusted measures in 2021. During 2022, £200,000 was released from an accrual made in respect of these costs relating to indirect tax, which was also excluded in the previous year.
c) In 2022, the Company agreed to an augmentation of UK defined benefit pension scheme members' benefits. This was effected in the scheme Rules through a Deed of Amendment to the Trust Deed and Rules, signed by the Trustees and Company on 20 June 2022, therefore relates to a matter which is not expected to frequently recur. The impact on liabilities of this plan amendment, totalling £11,695,000, were recognised as a past service cost, reported separately in the Consolidated income statement and excluded from adjusted profit measures.

d) In 2023, a termination of the US plan (other than distribution of surplus) was completed, with most members opting for lump sum payments. It was agreed that the surplus will be distributed to qualifying scheme members. Accordingly, the surplus of £2,139,000 has been treated as an augmentation to member benefits, reported separately in the Consolidated income statement and excluded from adjusted profit measures. See note 23 for further detail.
e) From 2017, the gains and losses from the fair value of financial instruments not effective for cash flow hedging have been excluded from statutory profit before tax, statutory earnings per share and statutory operating profit in arriving at Adjusted profit before tax, Adjusted earnings per share and Adjusted operating profit to reflect the Board's intent that the instruments would provide effective hedges. This is classified as 'Fair value (gains)/losses on financial instruments not eligible for hedge accounting (i)' in the following reconciliations. The amounts shown as reported in revenue represent the amount by which revenue would change had all the derivatives qualified as eligible for hedge accounting.

Gains and losses which recycle through the Consolidated income statement as a result of contracts deemed ineffective during 2020, as described in note 25, are also excluded from adjusted profit measures, on the basis that all forward contracts are still expected to be effective hedges for Group revenue. This is classified as 'Fair value (gains)/losses on financial instruments not eligible for hedge accounting (ii)' in the following reconciliations.

The Board considers these alternative performance measures to be additional useful measures to analyse the underlying performance of the Group.

Adjusted profit before tax:	**2023 £'000**	2022 £'000
Statutory profit before tax	**145,065**	145,586
Revised estimate of 2020 restructuring provisions	**(717)**	(1,688)
Third-party FSP costs	**-**	(200)
UK defined benefit pension scheme past service cost	**-**	11,695
US defined benefit pension scheme past service cost	**2,139**	-
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (i):		
- reported in revenue	**-**	2,621
- reported in (gains)/losses from the fair value in financial instruments	**-**	(1,138)
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (ii):		
– reported in revenue	**(6,903)**	(4,685)
– reported in (gains)/losses from the fair value of financial instruments	**1,399**	11,551
Adjusted profit before tax	**140,983**	163,742

Adjusted earnings per share:	**2023 pence**	2022 pence
Statutory earnings per share	**159.7**	165.4
Revised estimate of 2020 restructuring provisions	**(0.8)**	(0.3)
Third-party FSP costs	**-**	(1.9)
UK defined benefit pension scheme past service cost	**-**	13.0
US defined benefit pension scheme past service cost	**2.2**	-
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (i):		
- reported in revenue	**-**	2.9
- reported in (gains)/losses in fair value in financial instruments	**-**	(1.3)
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (ii):		
– reported in revenue	**(7.5)**	(5.2)
– reported in (gains)/losses from the fair value of financial instruments	**1.5**	12.9
Adjusted earnings per share	**155.1**	185.5

Adjusted operating profit:	**2023 £'000**	2022 £'000
Statutory operating profit	**134,489**	143,250
Revised estimate of 2020 restructuring provisions	**(717)**	(1,688)
Third-party FSP costs	**-**	(200)
UK defined benefit pension scheme past service cost	**-**	11,695
US defined benefit pension scheme past service cost	**2,139**	-
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (i):		
- reported in revenue	**-**	2,621
- reported in (gains)/losses in fair value in financial instruments	**-**	(1,138)
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (ii):		
– reported in revenue	**(6,903)**	(4,685)
– reported in (gains)/losses from the fair value of financial instruments	**1,399**	11,551
Adjusted operating profit	**130,407**	161,406

Adjustments to the segmental operating profit:

Manufacturing technologies	**2023 £'000**	2022 £'000
Operating profit before losses from fair value of financial instruments and UK and US defined benefit pension schemes' past service cost	**132,843**	162,549
Revised estimate of 2020 restructuring provisions	**(717)**	(1,688)
Third-party FSP costs	**-**	(197)
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (i):		
- reported in revenue	**-**	2,576
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (ii):		
– reported in revenue	**(6,644)**	(4,605)
Adjusted manufacturing technologies operating profit	**125,482**	158,635

Analytical instruments and medical devices	**2023 £'000**	2022 £'000
Operating profit before loss from fair value of financial instruments and UK and US defined benefit pension schemes' past service cost	**5,184**	2,809
Third-party FSP costs	**-**	(3)
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (i):		
- reported in revenue	**-**	45
Fair value (gains)/losses on financial instruments not eligible for hedge accounting (ii):		
– reported in revenue	**(259)**	(80)
Adjusted analytical instruments and medical devices operating profit	**4,925**	2,771

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