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26th July 2018

Renishaw plc
Preliminary announcement of results for the year ended 30th June 2018

HIGHLIGHTS

- Record revenue of £611.5m, with growth at constant exchange rates of 18%
- Revenue growth in all metrology product lines, with strong growth in measurement and automation, co-ordinate measuring machine, machine tool and additive manufacturing product lines
- Revenue growth in all healthcare product lines, with strong growth in our neurological product line
- Record adjusted profit before tax of £145.1m, with growth of 33%
- Healthcare business achieves profit for the first time, with adjusted profit before tax of £0.3m (2017: £7.2m loss)
- Capital expenditure of £34.9m, providing for future growth
- Headcount increase of 332, including 122 graduates and apprentices
- Strong balance sheet, with cash of £103.8m, compared with £51.9m last year
- Dividend increased by 15% to 60.0p

	2018	2017	Change
Revenue (£m)	611.5	536.8	14%
Adjusted* profit before tax (£m)	145.1	109.1	33%
Adjusted* earnings per share (pence)	170.5	132.4	29%
Dividend per share (pence)	60.0	52.0	15%

STATUTORY

Profit before tax (£m)	155.2	117.1	33%
Earnings per share (pence)	181.8	141.3	29%

* Note 24, 'Alternative performance measures', defines how adjusted profit before tax, adjusted earnings per share, adjusted operating profit and revenue at constant exchange rates are calculated.

CHAIRMAN'S STATEMENT

I am pleased to report our 2018 annual results. We achieved a record turnover for the second successive year of £611.5m (2017: £536.8m) with revenue growth of 18% at constant exchange rates. We are also reporting a record adjusted* profit before tax of £145.1m (2017: £109.1m), an increase of 33%. Our total shareholder return during the year was 48%, ranking Renishaw 18th in the FTSE 250.

During the year, I took the decision to hand over my Chief Executive responsibilities. The Board and I were delighted to appoint Will Lee as Chief Executive from 1st February 2018. Will has demonstrated significant leadership capabilities in his time at Renishaw having joined in 1996 and having been appointed to the Board as Sales and Marketing Director in 2016. We have confidence that Will can inspire the next generation to build on Renishaw's heritage. The Board has prepared and agreed written statements of the key responsibilities of the Chief Executive and the Executive Chairman and they are available on our website at www.renishaw.com/corporategovernance.

Other Board changes

Kath Durrant is stepping down from the Board with effect from 31st July 2018. Kath, who was appointed to the Board in 2015 and is Chair of the Remuneration Committee, has made a considerable contribution to the Board and Renishaw and I would like to thank her and wish her well for the future with her senior executive role with Dublin based CRH plc.

We are pleased to announce the appointment of Catherine Glickman as an independent non-executive director with effect from 1st August 2018. Catherine will be a member of the Audit and Nomination Committees and Chair of the Remuneration Committee. She is an independent non-executive director and chair of the remuneration committee at Marston's plc. She is also a non-executive director at TheWorks.co.uk plc where she is chair of its remuneration committee and a member of its audit and nomination committees. Catherine brings extensive experience with her strong HR background having previously been Group HR Director at Genus plc and Tesco plc and will be a valuable addition to the Company's resources at Board level and particularly as chair of the Remuneration Committee.

In February 2018, we further strengthened our Executive Board with the appointment of Gareth Hankins, Director, Group Manufacturing Services Division, and Mark Moloney, Director and General Manager, Renishaw (Ireland) DAC. Both have over thirty years' experience with Renishaw focused on our significant investments in manufacturing processes to support increased volumes and developing capabilities for specific product lines.

Innovation

Throughout Renishaw's history, innovation has been at the heart of our business, from the generation of new technologies to new manufacturing processes. As announced in January, having stepped down as Chief Executive, I will now focus on Group innovation and product strategy, supporting our engineering teams. During the year, we continued to invest in developing future technologies, with total engineering costs of £83.6m (before net capitalised development costs and the R&D tax credit), amounting to 14% of total revenue.

Employees, diversity and corporate governance

On behalf of the Board, I would like to thank all our employees for their professionalism and dedication during the year.

The Board is committed to the highest standards of corporate governance to protect our business and its long-term success. We note the newly published Corporate Governance Code 2018 and will consider how to address the changes that it has introduced in the coming year. Further details will be provided in the 2018 Annual report and accounts in the Directors' corporate governance report. This culture is embedded in our Group Business Code and other policies.

We are also focused on gender diversity at all levels and published our Gender Pay Gap report on the Group's website. We recognise this industry still has much work to do in this area and we will continue to build upon our education outreach programmes.

Investor communications

Our fifth investor day was held on 10th May 2018, for existing and potential investors. This event included presentations on Group strategy, business segments and product lines as well as tours covering the Group's activities and an opportunity to meet the Board and senior management. There was also a Q&A session with the Board. The event was very well attended, and provided shareholders with another opportunity, in addition to the AGM, half-year and full-year webcasts, to learn more about Renishaw's business and strategy.

Dividend

A final dividend of 46.0p net per share will be paid on 23rd October 2018, to shareholders on the register on 21st September 2018, giving a total dividend of 60.0p for the year, an increase of 15% over last year's 52.0p.

Outlook

The Group is in a strong financial position and continues to invest in the development of new products and applications, along with targeted investment in production, and sales and marketing facilities around the world. We have experienced strong growth in 2018 and, whilst noting ongoing uncertainty surrounding Brexit and currency exchange rate volatility, your directors remain confident in the long-term prospects for the Group due to our innovative product base, extensive global sales and marketing presence and relevance to high-value manufacturing. At this early stage in the year, we anticipate growth in both revenue and profits in the current financial year.

Sir David McMurtry
Executive Chairman
26th July 2018

CHIEF EXECUTIVE'S REVIEW

I am delighted to have been asked to take over as Chief Executive of Renishaw and lead the Company into its next chapter. Having joined the Company 22 years ago as a graduate, I have had the opportunity to experience a range of R&D, commercial and management roles within the organisation. I have also been fortunate to work closely with Sir David for many years, most recently in my role as Group Sales and Marketing Director. I look forward to continuing to work closely together. Under Sir David's leadership Renishaw has thrived. My role is to build on this heritage and inspire the next generation to meet the opportunities and challenges of the changing global business environment.

Performance overview

As Sir David has already outlined, this is a record year for turnover and adjusted operating profit for the Group. Having discontinued the activities of Renishaw Diagnostics Limited and the spatial measurement business in 2017, this year we have focused on developing the product range and customer solutions within the metrology and healthcare segments.

Revenue

We achieved record revenue for the year ended 30th June 2018 of £611.5m, compared with £536.8m for last year, an increase of 14%. There was revenue growth of 18% at constant exchange rates. The geographical analysis of revenue is as follows:

	2018 £m	2017 £m	Change %	Constant fx change %
Far East, including Australasia	280.8	248.9	+13	+19
Continental Europe	154.2	129.9	+19	+17
North, South and Central America	126.6	113.6	+11	+19
UK and Ireland	30.5	27.6	+11	+11
Other regions	19.4	16.8	+15	+16
Total Group revenue	611.5	536.8	+14	+18

Profit and earnings per share

The Group's adjusted* profit before tax for the year was £145.1m, an increase of 33% compared with £109.1m last year. Adjusted* earnings per share on continuing activities was 170.5p compared with 132.4p last year.

Statutory profit before tax for the year was £155.2m compared with £117.1m last year. Statutory earnings per share on continuing activities was 181.8p compared with 141.3p last year.

This year's tax charge on continuing operations amounts to £22.9m (2017: £14.3m) representing a tax rate of 14.7% (2017: 12.2%). The 2017 tax charge benefited from a reduction in the UK deferred tax rate to 17% from 20% and a prior year credit of £3.0m.

Metrology

Revenue from our metrology business for the year was £575.8m, an increase of 14% compared with £503.4m last year. We have experienced revenue growth in all product lines and territories. The geographical analysis of revenue is set out below.

	2018 £m	2017 £m	Change %
Far East, including Australasia	269.5	237.9	+13
Continental Europe	144.4	121.5	+19
North, South and Central America	119.7	106.9	+12
UK and Ireland	25.5	23.2	+10
Other regions	16.7	13.9	+20
Total metrology revenue	575.8	503.4	+14

There was strong growth in our measurement and automation, co-ordinate measuring machine, machine tool and additive manufacturing product lines.

Adjusted* operating profit for our metrology business was £142.8m (2017: £115.9m).

We have continued to invest in research and development (R&D), with total engineering costs in this business segment of £77.1m (before net capitalised development costs and the R&D tax credit) compared with £68.8m in 2017.

A number of new products were launched during the year. The additive manufacturing product line introduced the RenAM 500Q four laser additive manufacturing system, InfiniAM Spectral software for AM process monitoring and InfiniAM Central software for remote monitoring of AM builds. The RenAM 500Q significantly improves the productivity of the most commonly used machine platform size.

The machine tool product line launched an enhanced version of the NC4 non-contact tool setting system, the MP250 high accuracy probe for grinding machines and SupaScan v3 with SPRINT scanning technology which gives users a surface condition monitoring capability. A new larger version of the Equator gauging system, the Equator 500, was launched by our measurement and automation product line.

The encoder product line launched the QUANTiC super-compact, digital all-in-one incremental open optical encoder and the RESOLUTE™ FS (functional safety) encoder.

Healthcare

Revenue from our healthcare business for the year was £35.7m, an increase of 7% over the £33.4m last year. We experienced growth in all our product lines.

There was an adjusted* operating profit of £0.3m, compared with a loss of £7.2m last year. We restructured the neurological and medical dental businesses during the last year and are delighted to have moved this business sector into profit.

Healthcare also saw continued investment in research and development, with total engineering costs in this business segment of £6.5m (before net capitalised development costs and the R&D tax credit) compared with £9.2m in 2017.

During the year the USA's Food and Drug Administration (FDA) cleared the combined use of the neuromate™ stereotactic robot with neuroinspire™ planning software. In Sweden and Finland the first patients in a new clinical study were implanted with a novel drug delivery system, developed by Renishaw. This is a joint clinical study with Herantis Pharma to investigate the treatment of Parkinson's disease using Cerebral Dopamine Neurotrophic Factor (CDNF). The medical dental product line has experienced growth resulting from a continued focus on sales of additive manufacturing technologies into the healthcare market.

Strategy and markets

Our strategy is fundamentally based on long term investments in patented and innovative products and processes, high-quality manufacturing, and the provision of excellent local support to our customers in all our markets around the globe. This strategy is consistent across all the product lines and market sectors in which we operate.

Renishaw has moved in recent years from primarily being a supplier of products to capital equipment manufacturers, to becoming much more focused on understanding and solving our global clients' problems and delivering a full solution directly to end-users. This is helping to build brand loyalty and opening-up new revenue opportunities.

At the same time, we are seeing external market growth drivers – including global skills shortages, rising energy costs, a focus on reducing emissions and waste, population growth and rising life expectancy – that are creating positive opportunities for our business.

We are increasingly spreading risk through the diversification of our applications for product lines, our customer base and our routes to market.

Engineering opportunities for corporate social responsibility

As a socially responsible business, we recognise the importance of operating in a way that delivers long-term sustainable value for all stakeholders. This year we have: increased investment in developing the skills of our employees; assisted in supporting local organisations through charitable donations; reached more than 8,000 children with our education outreach programmes and donated over 13,000 hours of paid time to educational and other local organisations; recruited a record number of graduates and apprentices on our training schemes; reduced our CO₂ emissions by 24%; and reduced our accident frequency rate, all of which has been delivered whilst achieving strong organic growth. We have also introduced a new KPI for greenhouse gases (GHG).

Continued investment for long-term growth

The Group continues its strategy to invest for the long term, expanding our global marketing and distribution infrastructure, along with increasing manufacturing capacity and research and development activities.

This year saw the completion of our new facility in Apodaca, Mexico, the refurbishment of our offices in Italy and the purchase of two properties in Exeter and Edinburgh to facilitate expansion of our UK research and development function.

Capital expenditure on property, plant and equipment for the year was £34.9m (2017: £42.6m), of which £10.0m (2017: £24.2m) was spent on property and £24.9m (2017: £18.4m) on plant and equipment.

Working capital

Group inventory increased from £87.7m at the start of the year to £110.6m reflecting increased trading levels and our expanded additive manufacturing product range. We continue to focus on working capital management whilst remaining committed to our policy of holding sufficient finished inventory to ensure customer delivery performance, given our short order book. Trade debtors increased from £137.5m to £154.6m, with debtor days outstanding at the end of the current year at 69 days (2017: 73 days).

Net cash balances at 30th June 2018 were £103.8m, compared with £51.9m at 30th June 2017. Additionally, there is an escrow account of £10.4m (2017: £12.9m) relating to the provision of security to the UK defined benefit pension scheme.

Our people

Our workforce at the end of June 2018 was 4,862 (2017: 4,530) an increase of 7%. During the year, 122 apprentices and graduates were taken on as part of our ongoing commitment to train and develop skilled resource for the Group in the future. We also took on 105 new paid industrial and summer placements in the year.

I would like to express my thanks to all employees for their invaluable contribution to the success of the Group during the year.

Will Lee

Chief Executive
26th July 2018

* Note 24, 'Alternative performance measures', defines how adjusted profit before tax, adjusted earnings per share, adjusted operating profit and revenue at constant exchange rates are calculated.

CONSOLIDATED INCOME STATEMENT
for the year ended 30th June 2018

from continuing operations	Notes	2018 £'000	2017 £'000
Revenue	2	611,507	536,807
Cost of sales		(284,889)	(251,384)
Gross profit		326,618	285,423
Distribution costs		(121,352)	(112,691)
Administrative expenses		(56,911)	(52,376)
Gains/(losses) from the fair value of financial instruments		4,834	(3,601)
Operating profit		153,189	116,755
Financial income	4	653	766
Financial expenses	4	(1,587)	(2,256)
Share of profits of associates and joint ventures		2,970	1,836
Profit before tax	5	155,225	117,101
Income tax expense	7	(22,870)	(14,343)
Profit for the year from continuing operations		132,355	102,758
Profit/(loss) for the period from discontinued operations	8	582	(13,931)
Profit for the year		132,937	88,827
Profit attributable to:			
Equity shareholders of the parent company		132,924	88,955
Non-controlling interest	19	13	(128)
Profit for the year		132,937	88,827
		Pence	Pence
Dividend per share arising in respect of the year	19	60.0	52.0
Dividend per share paid in the year		53.5	48.0
Earnings per share from continuing operations (basic and diluted)	6	181.8	141.3
Earnings/(losses) per share from discontinued operations (basic and diluted)	6	0.8	(19.1)
Earnings per share from continuing and discontinued operations (basic and diluted)		182.6	122.2

All discontinued operations relate to operations discontinued as at June 2017. See note 8 'Discontinued operations' for further details.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME AND EXPENSE
for the year ended 30th June 2018

	Notes	2018 £'000	2017 £'000
Profit for the year		132,937	88,827
Other items recognised directly in equity:			
Items that will not be reclassified to the Consolidated income statement:			
Remeasurement of defined benefit pension scheme liabilities	14	(3,813)	(1,608)
Deferred tax on remeasurement of defined benefit pension scheme liabilities		783	(835)
Total for items that will not be reclassified		(3,030)	(2,443)
Items that may be reclassified to the Consolidated income statement:			
Exchange differences in translation of foreign operations		2,107	3,889
Comprehensive income and expense of associates and joint ventures		48	173
Effective portion of changes in fair value of cash flow hedges, net of recycling	19	14,470	8,495
Deferred tax on effective portion of changes in fair value of cash flow hedges	19	(2,810)	(1,573)
Total for items that may be reclassified		13,815	10,984
Total other comprehensive income and expense, net of tax		10,785	8,541
Total comprehensive income and expense for the year		143,722	97,368
Attributable to:			
Equity shareholders of the parent company		143,709	97,496
Non-controlling interest	19	13	(128)
Total comprehensive income and expense for the year		143,722	97,368

CONSOLIDATED BALANCE SHEET
at 30th June 2018

	Notes	2018 £'000	2017 £'000
Assets			
Property, plant and equipment	9	232,557	228,050
Intangible assets	10	54,511	54,507
Investments in associates and joint ventures	11	9,822	7,311
Long-term loans to associates and joint ventures	11,20	4,207	3,080
Deferred tax assets	12	27,428	25,437
Derivatives	13	9,578	3,546
Total non-current assets		338,103	321,931
Current assets			
Inventories	15	110,563	87,697
Trade receivables	20	154,587	137,507
Current tax		730	2,276
Other receivables	20	21,988	15,907
Derivatives	13	1,368	-
Pension scheme cash escrow account	14	10,413	12,850
Cash and cash equivalents	16,20	103,847	51,942
Total current assets		403,496	308,179
Current liabilities			
Trade payables		25,232	19,544
Current tax		9,256	2,803
Provisions	17	3,453	2,960
Derivatives	13	22,478	25,261
Other payables	18	47,979	37,304
Total current liabilities		108,398	87,872
Net current assets		295,098	220,307
Non-current liabilities			
Employee benefits	14	67,378	66,787
Deferred tax liabilities	12	188	166
Derivatives	13	17,041	31,471
Total non-current liabilities		84,607	98,424
Total assets less total liabilities		548,594	443,814
Equity			
Share capital	19	14,558	14,558
Share premium		42	42
Currency translation reserve	19	12,665	10,510
Cash flow hedging reserve	19	(19,389)	(31,049)
Retained earnings		541,755	450,803
Other reserve		(460)	(460)
Equity attributable to the shareholders of the parent company		549,171	444,404
Non-controlling interest	19	(577)	(590)
Total equity		548,594	443,814

*2017 deferred tax figures have been reclassified between assets and liabilities to reflect the right of offset, see note 12.

These financial statements were approved by the Board of directors on 26th July 2018 and were signed on its behalf by:

Sir David McMurtry **A C G Roberts**
Directors

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY
for the year ended 30th June 2018

Year ended 30th June 2017	Share capital £'000	Share premium £'000	Currency translation reserve £'000	Cash flow hedging reserve £'000	Retained earnings £'000	Other reserve £'000	Non-controlling interest £'000	Total £'000
Balance at 1st July 2016	14,558	42	6,448	(37,971)	401,930	(460)	(3,162)	381,385
Profit/(loss) for the year	-	-	-	-	88,955	-	(128)	88,827
Other comprehensive income and expense (net of tax)								
Remeasurement of defined benefit scheme pension liabilities	-	-	-	-	(2,443)	-	-	(2,443)
Foreign exchange translation differences	-	-	3,889	-	-	-	-	3,889
Relating to associates and joint ventures	-	-	173	-	-	-	-	173
Changes in fair value of cash flow hedges	-	-	-	6,922	-	-	-	6,922
Total other comprehensive income and expense	-	-	4,062	6,922	(2,443)	-	-	8,541
Total comprehensive income and expense	-	-	4,062	6,922	86,512	-	(128)	97,368
Acquisition of non-controlling interest	-	-	-	-	(2,700)	-	2,700	-
Dividends paid	-	-	-	-	(34,939)	-	-	(34,939)
Balance at 30th June 2017	14,558	42	10,510	(31,049)	450,803	(460)	(590)	443,814
Year ended 30th June 2018								
Profit for the year	-	-	-	-	132,924	-	13	132,937
Other comprehensive income and expense (net of tax)								
Remeasurement of defined benefit scheme pension liabilities	-	-	-	-	(3,030)	-	-	(3,030)
Foreign exchange translation differences	-	-	2,107	-	-	-	-	2,107
Relating to associates and joint ventures	-	-	48	-	-	-	-	48
Changes in fair value of cash flow hedges	-	-	-	11,660	-	-	-	11,660
Total other comprehensive income and expense	-	-	2,155	11,660	(3,030)	-	-	10,785
Total comprehensive income and expense	-	-	2,155	11,660	129,894	-	13	143,722
Dividends paid	-	-	-	-	(38,942)	-	-	(38,942)
Balance at 30th June 2018	14,558	42	12,665	(19,389)	541,755	(460)	(577)	548,594

More details of share capital and reserves are given in note 19.

CONSOLIDATED STATEMENT OF CASH FLOW
for the year ended 30th June 2018

	Notes	2018 £'000	2017 £'000
Cash flows from operating activities			
Profit for the year		132,937	88,827
Adjustments for:			
Amortisation of development costs	10	12,483	13,645
Amortisation of other intangibles	10	2,142	10,230
Impairment of goodwill		1,559	-
Depreciation	9	26,140	22,192
Loss on sale of property, plant and equipment		37	2,085
Gains from the fair value of financial instruments		(10,143)	(8,022)
Share of profits from associates and joint ventures	11	(2,970)	(1,836)
Financial income	4	(653)	(766)
Financial expenses	4	1,587	2,256
Tax expense	7	22,870	13,132
		53,052	52,916
Decrease/(increase) in inventories		(22,866)	7,262
Increase in trade and other receivables		(25,921)	(21,062)
Increase in trade and other payables		17,770	14,699
Increase in provisions	17	493	585
		(30,524)	1,484
Defined benefit pension contributions		(4,471)	(4,204)
Income taxes paid		(18,882)	(23,768)
Cash flows from operating activities		132,111	115,255
Investing activities			
Purchase of property, plant and equipment		(34,852)	(42,637)
Development costs capitalised	10	(14,602)	(15,886)
Purchase of other intangibles		(1,700)	(754)
Sale of property, plant and equipment		2,889	5,526
Sale of property, plant and equipment relating to discontinued activities		-	960
Interest received	4	653	766
Dividends received from associates and joint ventures	11	507	356
Payments from pension scheme escrow account		2,437	2,429
Cash flows from investing activities		(44,668)	(49,240)
Financing activities			
Interest paid	4	(338)	(696)
Dividends paid	19	(38,942)	(34,939)
Cash flows from financing activities		(39,280)	(35,635)
Net increase in cash and cash equivalents		48,164	30,380
Cash and cash equivalents at beginning of the year		51,942	21,303
Effect of exchange rate fluctuations on cash held		3,741	259
Cash and cash equivalents at end of the year	16	103,847	51,942

NOTES (FORMING PART OF THE FINANCIAL STATEMENTS)

1. ACCOUNTING POLICIES

Basis of preparation

Renishaw plc (the Company) is a company incorporated in the UK. The Group financial statements consolidate those of the Company and its subsidiaries (together referred to as the Group) 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 Group financial statements have been prepared and approved by the directors in accordance with International Financial Reporting Standards as adopted by the EU (adopted IFRS). The parent company financial statements have been prepared in accordance with Financial Reporting Standard 101 "Reduced Disclosure Framework". 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.

Renishaw GmbH, Pliezhausen, Germany has chosen to exercise the right under section 264 – sub-section 3 of the German Commercial Code (HGB) on exemption and preparation. The consolidated financial statements of the Group include the financial statements of Renishaw GmbH, Pliezhausen, Germany.

Basis of accounting

The financial statements have been prepared under the historical cost convention, subject to fair value items referred to in the derivative financial instruments note below. The accounting policies set out below have been consistently applied in preparing both the 2017 and 2018 financial statements.

Critical accounting judgements and estimation uncertainties

The preparation of financial statements in conformity with adopted IFRS 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 various other factors that are believed to be reasonable under the circumstances, the results of which 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 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 listed below:

Critical accounting judgements

(i) Capitalisation of development costs

Product development costs are capitalised once a project has reached a certain stage of development and these costs are subsequently amortised over a five-year period. Judgements are required to assess whether the new product development has reached the appropriate point for capitalisation of costs to begin. Should a product be subsequently obsoleted, the accumulated capitalised development costs would need to be immediately written off in the Consolidated income statement.

(ii) Discontinued activities

The closure of certain lines of business have been treated as discontinued operations on the basis that the directors are of the opinion that the underlying performance of the business is better reflected by classifying these items as discontinued.

Key sources of estimation uncertainty

(i) Inventory

Determining the value of inventory requires judgement, especially in respect of provisioning for slow moving and potentially obsolete inventory. Management consider historic and future forecast sales patterns of individual stock items when calculating inventory provisions. For most inventory lines, provisions are based on the excess levels held compared to a maximum three-year outlook. Where strategic purchases of critical components have been made, an outlook beyond three years is considered where appropriate. The sensitivities around estimates vary significantly from product to product.

(ii) Defined benefit pension scheme liabilities

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

judgements in respect of the current year are given in note 14. Based on a review of the terms of the UK scheme trust deed, management has concluded that there are no likely circumstances which would result in the Company having an unconditional right to a refund in the event of a fund surplus.

(iii) Amortisation of intangibles and impairment

The periods of amortisation of intangible assets require judgements to be made on the estimated useful lives of the intangible assets to determine an appropriate rate of amortisation. Future assessments of impairment may lead to the writing off of certain amounts of intangible assets and the consequent charge in the Consolidated income statement for the accelerated amortisation. Capitalised development costs are written off over five years, the period over which demand forecasts can be reasonably predicted.

(iv) Impairment of goodwill

Determining whether goodwill is impaired requires an estimation of the value in use of cash-generating units (CGUs) to which goodwill has been allocated. The value in use calculation involves an estimation of the future cash flows of CGUs and also the selection of appropriate discount rates, which involves judgement, to calculate present values (see note 10).

Basis of consolidation

Subsidiaries – 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.

Application of the equity method to associates and joint ventures – Associates and 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.

Transactions eliminated on consolidation – Intragroup balances and transactions, and any unrealised income and expenses arising from intragroup transactions, are eliminated. 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.

New, revised or changes to existing accounting standards

The following accounting standards have been issued but are not yet effective for the Group and have not been applied in these financial statements:

IFRS 15 'Revenue from Contracts with Customers' is effective for accounting periods beginning on or after 1st January 2018 and therefore the Annual Report and accounts for the year ended 30th June 2019 will be the first Annual Report published in accordance with IFRS 15. Based on our assessment explained below that the impact of IFRS 15 on the Group's results and net assets is not material, the Group intends to adopt a modified retrospective transition, such that the primary statements for the year ended 30th June 2018 will not be restated but instead a cumulative catch-up adjustment will be made to retained earnings, with disclosure made on a financial statement line basis as to how this adjustment has arisen. The half year results for the period to 31st December 2018 will also be prepared in accordance with IFRS 15.

In assessing that the impact of IFRS 15 is not material, the Group has reviewed the following:

- Individually-significant contracts by value
- Customers with cumulatively-significant contracts
- Variable consideration arrangements
- Warranty arrangements, analysing such arrangements between assurance-type warranties already accounted for under IAS 37 and 'service-type' warranties as defined by IFRS 15, to which revenue should be attributed to and deferred over the service period

- Sale of software licences and maintenance

Whilst the impact of IFRS 15 is not considered to be material with regards to the Group's revenue or net assets, the new standard will increase the quantitative and qualitative disclosures in the notes to the financial statements. IFRS 15 also requires certain costs relating to the fulfilment of contracts with customers to be recognised as an asset, and whilst such costs are incurred in parts of the business, the resulting contract assets are not expected to be material.

IFRS 9 'Financial Instruments' is also effective for accounting periods beginning on or after 1st January 2018 and therefore the Annual Report and accounts for the year ended 30th June 2019 will be the first Annual Report published in accordance with IFRS 9. The Standard introduces new requirements for the classification and measurement of financial assets, impairment of financial assets and hedge accounting. The classification and measurement and impairment requirements will be applied retrospectively from 1st July 2018 without the restatement of comparative periods, and accordingly an adjustment to opening reserves will be made.

The Group has undertaken an assessment of the impact of the new Standard had it applied to the year ended 30th June 2018 and has concluded that for the classification and measurement requirements, there would have been no material changes arising from IFRS 9. For the new impairment requirements, the Group will be required to recognise an 'expected credit loss' for trade receivables under the Standard's 'simplified approach' and the impact assessment has concluded that this would also not be material to the Group. The introduction of IFRS 9 is not expected to impact hedge accounting in the Group's financial statements because the Group uses foreign currency contracts to hedge the forward rate.

IFRS 16 Leases is effective for accounting periods beginning on or after 1st January 2019. Where the Group acts as a lessee, the new standard will eliminate the classification of leases as either operating or finance leases and instead the Group will recognise a right-to-use asset and a lease liability for all leases (except for low-value assets and leases under 12 months), similar to the accounting for finance leases under IAS 17. The standard is not expected to have a material effect on the profit in any year.

Revenue

Revenue from the sale of goods is recognised in the Consolidated income statement when the significant risks and rewards of ownership have been transferred to the buyer, which is normally the time of despatch. Where certain products require installation, part of the revenue may be deferred until the installation is complete. No revenue is recognised if there are significant uncertainties regarding the possible return of goods. Revenue from the sale of services is recognised over the period to which the service relates. Where goods and services are sold as a bundle, the fair value of services is deferred and recognised over the period to which the service relates with the remaining revenue recognised on despatch.

Fair value measurements

The Group measures financial instruments such as forward exchange contracts at fair value at each balance sheet date in accordance with IAS39. Fair value, as defined by IFRS13, 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. Note 20, Financial instruments, provides detail on the IFRS13 fair value hierarchy.

Foreign currencies

Consolidation - Foreign subsidiaries' results are translated into Sterling at weighted average exchange rates for the year, which is effected by translating each foreign 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 ruling at that date. Differences on exchange resulting from the translation of overseas assets and liabilities are recognised in other comprehensive income and accumulated in equity.

Transactions and balances - 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.

Hedging of net investments in foreign operations - Gains and losses arising on currency borrowings used to hedge the foreign currency exposure on the net assets of the foreign operations are recognised in other comprehensive income and expense and accumulated in equity, to the extent that hedge accounting criteria are met and are included in the Consolidated statement of comprehensive income and expense. Any ineffective portion is recognised immediately in the Consolidated income statement. The effectiveness of the hedging is tested monthly.

Foreign currency derivative cash flow hedges

Foreign currency derivatives are used to manage risks arising from changes in foreign currency rates relating to overseas sales. 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 currency 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 no longer qualifies for hedge accounting. At that time, any cumulative gain or loss on the hedging instrument previously recognised in equity is retained in equity until the hedged transaction occurs. If the hedged transaction is no longer expected to occur, the net cumulative gain or loss recognised in equity is then transferred 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 IAS 39 'Financial instruments: recognition and measurement' are recognised in the Consolidated income statement within gains/losses from the fair value of financial instruments.

Pension scheme cash escrow account

The Company holds a pension scheme escrow account as part of the security given for the UK defined benefit pension scheme. This account is shown within current assets in the Consolidated balance sheet as it may be used to settle pension scheme liabilities immediately upon enforcement of the charge over the account.

Cash and cash equivalents

Cash and cash equivalents comprise cash balances and short-term (with an original maturity of less than three months) deposits. Bank overdrafts that are repayable on demand form part of cash and cash equivalents for the purpose of the Consolidated statement of cash flow.

Other financial instruments

Long term loans to associates and joint ventures are initially recognised at fair value and are subsequently held at amortised cost. 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. Trade and other current payables are initially recognised at fair value and are subsequently held at amortised cost.

Goodwill and other intangible assets

Costs related to the acquisition, other than those associated with the issue of debt or equity securities, are expensed as incurred. Deferred consideration relating to acquisitions is subject to discounting to the date of acquisition and subsequently unwound to the date of the final payment. 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.

Business combinations are accounted for using the acquisition method as at the acquisition date, which is the date on which control is transferred to the Group.

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 through 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 ten years.

Intangible assets – research and development costs

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 and 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 five years and is stated at cost less accumulated amortisation and less accumulated impairment losses. Capitalised development expenditure is removed from the balance sheet ten years after being fully amortised.

Intangible assets – software licences

Intangible assets, comprising software licences that are acquired by the Group, are stated at cost less accumulated amortisation and impairment losses. Amortisation is charged on a straight-line basis over the estimated useful life of the assets. The useful life of each of these assets is assessed on an individual basis and they range from 2 to 10 years.

Property, plant and equipment

Freehold land is not depreciated. Other assets are stated at cost less accumulated depreciation. Depreciation is provided to write off the cost 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, Vehicles 3 to 4 years.

Impairment on non-current assets

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 net realisable value 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.

Inventory and work in progress

Inventory and work in progress is valued at the lower of actual cost on a 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.

Warranty provisions

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 financial statements, which is calculated on the basis of historical returns and internal quality reports.

Discontinued activities

Where a line of the Group's business is treated as a discontinued operation, the financial statements have been re-presented and restated where required as if operations discontinued during the current year had been discontinued from the start of the comparative year. Discontinued operations are excluded from the results of continuing operations and are presented as a single amount as a profit or loss after tax from discontinued operations in the Consolidated income statement.

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 in order 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 investors in providing a basis for measuring our operational performance. Our management uses these financial measures, along with the most directly comparable GAAP financial measures, in evaluating our performance (see note 24).

Employee benefits

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

The schemes are administered by trustees who are independent of the Group finances. Pension scheme assets of the defined benefit schemes are measured at fair value using market value. 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. 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. Foreign-based employees are covered by state, defined benefit and private pension schemes in their countries of residence. Actuarial valuations of foreign pension schemes were not obtained, apart from Ireland and USA, because of the limited 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.

Accruals are made for holiday pay, based on a calculation of the number of days holiday earned during the year, but not yet taken and also for the annual performance bonus.

Going concern

The Group's business activities, together with the factors likely to affect its future development, performance and position, are set out in the Strategic report, where details of the financial and liquidity positions are also given. In addition, note 20 in the financial statements includes the Group's objectives and policies for managing its capital, details of its financial instruments and hedging activities and its exposures to credit risk and liquidity risk. The Group has considerable financial resources at its disposal and the directors have considered the current financial projections. As a consequence, the directors believe that the Group is well placed to manage its business risks successfully.

After making enquiries, the directors have a reasonable expectation that the Company and the Group have adequate resources to continue in operational existence for a period of at least 12 months from the date of approval of the financial statements. Accordingly, they continue to adopt the going concern basis in preparing the Annual report and accounts.

Government grants

Government grants, comprising R&D tax credits are recognised in the Consolidated income statement as a deduction against expenditure.

Taxation

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. A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the asset can be utilised.

2. SEGMENTAL ANALYSIS

Renishaw manages its operations in two segments, comprising metrology and healthcare products. The results of these segments are regularly reviewed by the Board to allocate resources to segments and to assess their performance. The Group evaluates performance of the segments on the basis of profit before interest, tax and discontinued operations. Within the operating segment of metrology, there are multiple product offerings with similar economic characteristics, and where the nature of the products and production processes and their customer base are similar. More details of the Group's products and services are given in the Strategic report.

Year ended 30th June 2018	Metrology £'000	Healthcare £'000	Total £'000
Revenue	575,839	35,668	611,507
Depreciation and amortisation	38,690	2,075	40,765
Operating profit before gains from fair value of financial instruments	147,841	514	148,355
Share of profits from associates and joint ventures	2,970	-	2,970
Net financial expense	-	-	(934)
Gains from the fair value of financial instruments	-	-	4,834
Profit before tax	-	-	155,225
Year ended 30th June 2017	Metrology £'000	Healthcare £'000	Total £'000
Revenue	503,378	33,429	536,807
Depreciation and amortisation	32,983	3,831	36,814
Operating profit/(loss) before losses from fair value of financial instruments	126,830	(6,474)	120,356
Share of profits from associates and joint ventures	1,836	-	1,836
Net financial expense	-	-	(1,490)
Losses from the fair value of financial instruments	-	-	(3,601)
Profit before tax	-	-	117,101

There is no allocation of assets and liabilities to operating segments. Depreciation is included within certain other overhead expenditure which is allocated to segments on the basis of the level of activity.

The analysis of revenue by geographical market was:

	2018 £'000	2017 £'000
Far East, including Australasia	280,759	248,905
Continental Europe	154,179	129,941
North, South and Central America	126,638	113,577
UK and Ireland	30,566	27,595
Other regions	19,365	16,789
Total Group revenue	611,507	536,807

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

	2018 £'000	2017 £'000
China	150,183	134,984
USA	108,118	95,927
Germany	64,394	56,403
Japan	60,855	52,166

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

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

	2018 £'000	2017 £'000
United Kingdom	183,874	183,102
Overseas	117,223	109,846
Total non-current assets	301,097	292,948

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

3. PERSONNEL EXPENSES

The aggregate payroll costs for the year were:

	2018 £'000	2017 £'000
Wages and salaries	183,873	171,993
Compulsory social security contributions	21,809	19,341
Contributions to defined contribution pension schemes	21,127	20,238
Total payroll costs	226,809	211,572

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

	2018 Number	2017 Number
UK	2,934	2,842
Overseas	1,705	1,553
Average number of employees	4,639	4,395

Key management personnel have been assessed to be the directors of the Company. The total remuneration of the directors was:

	2018 £'000	2017 £'000
Short-term employee benefits	5,589	4,223
Post-employment benefits	180	165
Total remuneration of the directors	5,769	4,388

4. FINANCIAL INCOME AND EXPENSES

	2018 £'000	2017 £'000
Financial income		
Interest receivable	653	766
Financial expenses		
Net interest on pension schemes' liabilities (note 14)	1,249	1,560
Bank interest payable	338	696
Total financial expenses	1,587	2,256

5. PROFIT BEFORE TAX

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

	Notes	2018 £'000	2017 £'000
Depreciation of property, plant and equipment	(a)	26,140	22,098
Amortisation of intangible assets	(a)	14,625	14,945
Research and development expenditure	(b)	59,127	53,544
Research and development tax credit	(b)	(4,149)	(6,692)
Impairment of Goodwill	(c)	1,559	-
Loss on sale of property, plant and equipment	(c)	37	1,917
Foreign currency losses	(c)	604	301
Auditor:			
Audit of these financial statements	(c)	212	177
Audit of subsidiary undertakings pursuant to legislation	(c)	253	230
Audit assurance	(c)	4	5
All other non-audit fees	(c)	1	15

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 cost of sales; and (c) within administrative expenses.

6. EARNINGS PER SHARE

Basic and diluted earnings per share from continuing operations are calculated on earnings of £132,342,000 (2017: £102,886,000) and on 72,788,543 shares, being the number of shares in issue during both years. Basic and diluted earnings and losses per share from discontinued operations are calculated on profits of £582,000 (2017: £13,931,000 loss) and on 72,788,543 shares, being the number of shares in issue during both years. There is no difference between the weighted average earnings per share and the basic and diluted earnings per share.

7. INCOME TAX EXPENSE

	2018 £'000	2017 £'000
Current tax:		
UK corporation tax on profits for the year	10,806	6,418
UK corporation tax – prior year adjustments	(411)	610
Overseas tax on profits for the year	16,142	12,997
Total current tax	26,537	20,025
Deferred tax:		
Origination and reversal of other temporary differences	(2,548)	(1,589)
Prior year adjustments	(665)	(3,647)
Recognition of previously unrecognised tax losses	(1,855)	-
Effect on deferred tax for changes in tax rates	1,401	(446)
	(3,667)	(5,682)
Tax charge on profit	22,870	14,343
Total tax charge:		
	2018 £'000	2017 £'000
Income tax expense reported in the Consolidated income statement	22,870	14,343
Tax attributable to discontinued operations	80	(1,211)
	22,950	13,132

The tax for the year is lower (2017: lower) than the UK standard rate of corporation tax of 19% (2017: 19.75%). The differences are explained as follows:

	2018 £'000	2017 £'000
Profit before tax from continuing operations	155,225	117,101
Profit/(loss) before tax from discontinued operations	662	(15,142)
Total profit before tax	155,887	101,959
Tax at 19% (2017: 19.75%)	29,619	20,137
Effects of:		
Different tax rates applicable in overseas subsidiaries	(849)	(1,886)
UK patent box	(5,678)	(4,025)
Expenses not deductible for tax purposes	672	310
Companies with unrelieved tax losses	448	1,960
Share of profits of associates and joint ventures	(534)	(363)
Items with no tax effect	195	589
Prior year adjustments	(283)	(3,037)
Effect on deferred tax for change in tax rates	1,401	(446)
Recognition of previously unrecognised tax losses	(1,855)	-
Recognition of previously unrecognised deductible temporary differences	(767)	-
Other differences	581	(107)
Tax charge on profit	22,950	13,132
Effective tax rate	14.7%	12.9%

The Group's future effective tax rate (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. The UK patent box benefit has a significant impact on the ETR and is unpredictable due to factors such as currency rate movements

and the level of capital allowances claimed in any given year. The Group is not materially impacted by the changes to the international tax landscape resulting from the package of measures developed under the OECD base erosion and profit shifting project.

Deferred tax assets and liabilities have been calculated at the rate expected to be applicable when the relevant item reverses. A reduction in the UK rate of corporation tax to 17% (from 1st April 2020) has previously been substantively enacted, and on 22nd December 2017, the United States enacted the Tax Cuts and Jobs Act. This legislation reduced the headline rate of federal income tax in the United States to 21% (from 35%) from 1st January 2018. These changes have resulted in a reduction in deferred tax assets due to tax rate changes of £1,401,000. This is offset by a credit due to recognition of deferred tax assets in respect of prior year losses of £1,855,000, resulting in a combined net reduction in the ETR of 0.3%.

8. DISCONTINUED OPERATIONS

In October 2016, the Group decided to discontinue operations at Renishaw Diagnostics Limited (healthcare segment) and in June 2017, to discontinue the spatial measurements business (metrology segment), on the basis of continued losses. Certain assets of the business were sold. Financial information relating to the discontinued operations is set out below.

	2018 £'000	2017 £'000
Revenue	4,326	7,217
Expenses	(3,664)	(13,914)
Goodwill impairment	-	(8,445)
Profit/(loss) before tax	662	(15,142)
Tax (charge)/credit	(80)	1,211
Profit/(loss) for the year from discontinued operations	582	(13,931)
Cash flow	2018 £'000	2017 £'000
Profit/(loss) for the year	582	(13,931)
Adjustments for operating activities	(250)	12,155
Cash flows generated from/(used in) operating activities	332	(1,776)
Cash flows from investing activities	-	420
Net increase/(decrease) in cash and cash equivalents from discontinued operations	332	(1,356)

9. PROPERTY, PLANT AND EQUIPMENT

Year ended 30th June 2018	Freehold land and buildings £'000	Plant and equipment £'000	Motor vehicles £'000	Assets in the course of construction £'000	Total £'000
Cost					
At 1st July 2017	165,661	201,022	9,893	8,222	384,798
Additions	4,516	21,853	1,361	7,122	34,852
Transfers	6,340	2,204	-	(8,544)	-
Disposals	(1,115)	(6,580)	(1,409)	-	(9,104)
Currency adjustment	(1,246)	(481)	(109)	-	(1,836)
At 30th June 2018	174,156	218,018	9,736	6,800	408,710
Depreciation					
At 1st July 2017	28,462	121,611	6,675	-	156,748
Charge for the year	3,181	21,545	1,414	-	26,140
Released on disposals	(644)	(4,320)	(1,213)	-	(6,177)
Currency adjustment	(223)	(260)	(75)	-	(558)
At 30th June 2018	30,776	138,576	6,801	-	176,153
Net book value					
At 30th June 2018	143,380	79,442	2,935	6,800	232,557
At 30th June 2017	137,199	79,411	3,218	8,222	228,050

At 30th June 2018, properties with a net book value of £66,759,000 (2017: £66,606,000) were subject to a fixed charge to secure the UK defined benefit pension scheme liabilities.

Additions to assets in the course of construction of £7,122,000 (2017: £21,910,000) comprise £3,034,000 (2017: £17,972,000) for freehold land and buildings and £4,088,000 (2017: £3,938,000) for plant and equipment.

Year ended 30th June 2017	Freehold land and buildings £'000	Plant and equipment £'000	Motor vehicles £'000	Assets in the course of construction £'000	Total £'000
Cost					
At 1st July 2016	142,665	187,048	9,600	14,886	354,199
Additions	6,273	13,336	1,118	21,910	42,637
Transfers	23,050	5,524	-	(28,574)	-
Disposals	(8,267)	(6,489)	(1,067)	-	(15,823)
Currency adjustment	1,940	1,603	242	-	3,785
At 30th June 2017	165,661	201,022	9,893	8,222	384,798
Depreciation					
At 1st July 2016	27,241	107,045	5,996	-	140,282
Charge for the year	2,976	17,727	1,489	-	22,192
Released on disposals	(2,292)	(4,000)	(960)	-	(7,252)
Currency adjustment	537	839	150	-	1,526
At 30th June 2017	28,462	121,611	6,675	-	156,748
Net book value					
At 30th June 2017	137,199	79,411	3,218	8,222	228,050
At 30th June 2016	115,424	80,003	3,604	14,886	213,917

10. INTANGIBLE ASSETS

Year ended 30th June 2018	Goodwill on consolidation £'000	Other intangible assets £'000	Internally generated development costs £'000	Software licences and intellectual property £'000	Total £'000
Cost					
At 1st July 2017	19,919	11,647	117,349	23,066	171,981
Additions	-	104	14,602	1,596	16,302
Currency adjustment	(156)	44	-	(4)	(116)
At 30th June 2018	19,763	11,795	131,951	24,658	188,167
Amortisation					
At 1st July 2017	6,661	11,187	81,327	18,299	117,474
Charge for the year	-	69	12,483	2,073	14,625
Impairments	1,559	-	-	-	1,559
Currency adjustment	-	-	-	(2)	(2)
At 30th June 2018	8,220	11,256	93,810	20,370	133,656
Net book value					
At 30th June 2018	11,543	539	38,141	4,288	54,511
At 30th June 2017	13,258	460	36,022	4,767	54,507

Year ended 30th June 2017	Goodwill on consolidation £'000	Other intangible assets £'000	Internally generated development costs £'000	Software licences and intellectual property £'000	Total £'000
Cost					
At 1st July 2016	21,268	11,249	101,463	22,587	156,567
Additions	-	300	15,886	454	16,640
Disposals	(1,784)	-	-	-	(1,784)
Currency adjustment	435	98	-	25	558
At 30th June 2017	19,919	11,647	117,349	23,066	171,981
Amortisation					
At 1st July 2016	-	10,939	67,682	16,691	95,312
Charge for the year	-	198	13,645	1,587	15,430
Impairments	8,445	-	-	-	8,445
Released on disposal	(1,784)	-	-	-	(1,784)
Currency adjustment	-	50	-	21	71
At 30th June 2017	6,661	11,187	81,327	18,299	117,474
Net book value					
At 30th June 2017	13,258	460	36,022	4,767	54,507
At 30th June 2016	21,268	310	33,781	5,896	61,255

Goodwill acquired has arisen on the acquisition of a number of businesses and has an indeterminable useful life. Therefore, it is not amortised but is tested for impairment annually and at any point during the year when an indicator of impairment exists. Goodwill is allocated to the CGUs, which are mainly the statutory entities acquired. 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. In the following table, only the goodwill relating to the acquisition of Renishaw Metrology Fixturing Solutions, LLC is expected to be subject to tax relief.

The goodwill impairment of £1,559,000 relates to the carrying value from the acquisition of Renishaw Software Limited, reported within the metrology segment. Following the value in use calculation, using a discount rate of 12%, the carrying value has been impaired to £nil.

The analysis of acquired goodwill on consolidation is:

	2018 £'000	2017 £'000
itp GmbH	3,065	3,038
Renishaw Mayfield S.A.	1,725	1,823
Renishaw Metrology Fixturing Solutions, LLC	5,247	5,327
Renishaw Software Limited	-	1,559
Other smaller acquisitions	1,506	1,511
Total acquired goodwill	11,543	13,258

The recoverable amounts of acquired goodwill are based on value in use calculations. These calculations use cash flow projections based on either the financial business plans approved by management for next five financial years, or estimated growth rates over the five years, which are set out below. 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 further than five years.

Rates applied to key assumptions

The rates applied to key assumptions utilised in the value in use calculations are:

Discount rate

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

	2018 Discount rate	2017 Discount rate
itp GmbH	12%	12%
Renishaw Software Limited	12%	12%
Renishaw Metrology Fixturing Solutions, LLC	12%	12%
Renishaw Mayfield S.A.	15%	15%

Forecast cash flows and future growth rates

	2018 Basis of forecast	2017 Basis of forecast
itp GmbH	5 % growth rate	5 % growth rate
Renishaw Software Limited	5 % growth rate	5 % growth rate
Renishaw Metrology Fixturing Solutions, LLC	5 year business plan	5 year business plan
Renishaw Mayfield S.A.	5 year business plan	5 year business plan

These forecast cash flows are considered prudent 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. The key judgement 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.

The average growth rates included in the significant CGUs' business plans are as follows

	2018 Average revenue growth	2017 Average revenue growth
Renishaw Metrology Fixturing Solutions, LLC	20%	14%

These business plans are recognised as key inputs to the impairment calculation. They are monitored by management regularly and updated for expected variances in future performance.

Sensitivity to key assumptions

Management have performed sensitivity analysis on the key assumptions detailed above.

Discount rate

An increase of 5% in the discount rate would not result in an impairment on any of the CGUs. Management believe the likelihood of any increase in discount rates above 5% to be remote.

Forecast cash flows and future growth rates

Given the average revenue growth assumptions included in the five-year business plans, management's sensitivity analysis involves a reduction of 10% 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 of 35% for Renishaw Metrology Fixturing Solutions, LLC. Management deem the likelihood of this reduction to be remote.

11. INVESTMENT IN ASSOCIATES AND JOINT VENTURES

The Group's investments in associates and joint ventures (all investments being in the ordinary share capital of the associate and joint ventures), whose accounting years end on 30th June, except where noted otherwise, were:

	Country of incorporation & principal place of business	Ownership 2018 %	Ownership 2017 %
RLS Merilna tehnika d.o.o.	Slovenia	50.0	50.0
Metrology Software Products Limited	England & Wales	50.0	50.0
HiETA Technologies Limited (31st December)	England & Wales	24.9	24.9

For the nature of the activities, see note C.40.

Movements during the year were:

	2018	2017
	£'000	£'000
Balance at the beginning of the year	7,311	5,658
Dividends received	(507)	(356)
Share of profits of associates and joint ventures	2,970	1,836
Other comprehensive income and expense	48	173
Additions	-	-
Balance at the end of the year	9,822	7,311

The Group has recognised its share of losses in its associate in its share of profits of associates and joint ventures reported above to the extent of its interest in the associate.

Summarised aggregated financial information for associates and joint ventures:

	Joint ventures		Associate	
	2018	2017	2018	2017
	£'000	£'000	£'000	£'000
Assets	23,567	18,024	2,114	1,243
Liabilities	4,722	4,774	5,720	3,196
Net assets/(liabilities)	18,845	13,215	(3,606)	(1,953)
Group's share of net assets/(liabilities)	9,423	6,625	(868)	(486)
Revenue	23,414	17,458	816	222
Profit/(loss) for the year	6,442	4,232	(1,655)	(1,124)
Other comprehensive income and expense	96	346	-	-
Total comprehensive income and expense for the year	6,538	4,578	(1,655)	(1,124)
Group's share of profit/(loss) for the year	3,221	2,116	(251)	(280)
Group's share other comprehensive income and expense	48	173	-	-
Group's share of total comprehensive income and expense for the year	3,269	2,289	(251)	(280)

12. DEFERRED TAX ASSETS AND LIABILITIES

Balances at the end of the year were:

	2018			2017		
	Assets	Liabilities	Net	Assets	Liabilities	Net
	£'000	£'000	£'000	£'000	£'000	£'000
Property, plant and equipment	184	(8,896)	(8,712)	-	(8,908)	(8,908)
Intangible assets	17	(3,456)	(3,439)	-	(4,330)	(4,330)
Intragroup trading (inventory)	17,394	-	17,394	16,016	-	16,016
Intragroup trading (fixed assets)	2,322	-	2,322	939	-	939
Pension schemes	11,233	(138)	11,095	11,024	-	11,024
Derivatives	5,410	-	5,410	10,146	-	10,146
Tax losses	1,855	-	1,855	-	-	-
Other	1,330	(15)	1,315	561	(177)	384
Balance at the end of the year	39,745	(12,505)	27,240	38,686	(13,415)	25,271

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

	2018	2017
	£'000	£'000
Balance at the beginning of the year	25,271	18,997
Reallocation to current tax	-	3,000
Reallocation from current tax	329	-
Movements in the Consolidated income statement	3,667	5,682
Movement in relation to the cash flow hedging reserve	(2,810)	(1,573)
Movement in relation to the pension schemes	783	(835)
Total movement in the Consolidated statement of comprehensive income and expense	(2,027)	(2,408)
Balance at the end of the year	27,240	25,271

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

	2018 £'000	2017 £'000
Property, plant and equipment	196	(2,368)
Intangible assets	891	3,731
Intragroup trading (inventory)	1,378	2,562
Intragroup trading (fixed assets)	1,383	939
Pension schemes	(712)	(669)
Tax losses	1,855	-
Other	(1,324)	1,487
Total movement for the year	3,667	5,682

Deferred tax assets have not been recognised in respect of tax losses carried forward of £21,809,000 (2017: £22,147,000), of which approximately half are time limited, due to uncertainty over their offset against future taxable profits and therefore their recoverability.

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 £27,240,000 asset (2017: £25,271,000 asset) is presented as a £27,428,000 deferred tax asset (2017: £25,437,000 asset) and a £188,000 deferred tax liability (2017: £166,000 liability) in the Group's 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.

13. DERIVATIVES

For both the Group and the Company:

Derivatives comprising the fair value of outstanding forward contracts with positive fair values were:

	2018 £'000	2017 £'000
Derivatives designated as hedging instruments	6,562	2,083
Derivatives not designated as hedging instruments	4,384	1,463
Total derivatives with positive fair values	10,946	3,546
Total current	1,368	-
Total non-current	9,578	3,546
Total of derivatives with positive fair values	10,946	3,546

Derivatives comprising the fair value of outstanding forward contracts with negative fair values were:

	2018 £'000	2017 £'000
Derivatives designated as hedging instruments	38,436	41,560
Derivatives not designated as hedging instruments	1,083	15,172
Total derivatives with negative fair values	39,519	56,732
Total current	22,478	25,261
Total non-current	17,041	31,471
Total of derivatives with negative fair values	39,519	56,732

14. EMPLOYEE BENEFITS

The Group operates a number of pension schemes throughout the world. As noted in the accounting policies, actuarial valuations of foreign pension schemes are not obtained for the most part because of the limited number of members. The major scheme, which covers qualifying UK-based employees, is of the defined benefit type. This scheme, along with the Ireland and USA defined benefit schemes, has ceased any future accrual for current members and these schemes are closed to new members. UK, Ireland and USA employees are now covered by defined contribution schemes.

The latest full actuarial valuation of the UK defined benefit scheme was carried out as at 30th September 2015 and updated to 30th June 2018 by a qualified independent actuary. The mortality assumption used for 2018 is S2PMA and S2PFA tables, CMI (core) 2017 model with long-term improvements of 1% per annum.

Major assumptions used by the actuary for the UK and Ireland schemes were:

	30 th June 2018		30 th June 2017		30 th June 2016	
	UK scheme	Ireland scheme	UK scheme	Ireland scheme	UK scheme	Ireland scheme
Rate of increase in pension payments	3.3%	2.0%	3.3%	1.6%	3.2%	1.5%
Discount rate	2.8%	1.9%	2.7%	2.2%	3.2%	2.0%
Inflation rate (RPI)	3.4%	2.0%	3.4%	1.6%	3.3%	1.5%
Inflation rate (CPI)	2.4%	-	2.4%	-	2.3%	-
Retirement age	64	65	64	65	64	65

The assets and liabilities in the defined benefit schemes were:

	30 th June 2018 £'000	% of total assets	30 th June 2017 £'000	% of total assets
Market value of assets:				
Equities, analysed as:	107,982	62	108,600	64
<i>AQUILA LIFE GBL DEV FUNDAMENTAL S1 UK Scheme</i>	50,832	29	52,091	31
<i>AQ LFE CCY HEDG WRLD EX-UK EQ S1 UK Scheme</i>	45,475	26	44,879	26
<i>VANGUARD GLOBAL STOCK INDEX FUND Ireland Scheme</i>	7,007	4	6,391	4
<i>AQUILA LIFE UK EQUITY INDEX FD S1 UK Scheme</i>	4,668	3	5,239	3
Multi-asset funds, analysed as:	50,559	29	48,684	29
<i>AQUILA LIFE OVR 5YR UK IDX LKD S1 UK Scheme</i>	48,389	28	46,440	28
<i>BLACKROCK DYNAMIC ALL FD CLS X ACC UK Scheme</i>	2,170	1	2,244	1
Bonds	13,433	8	13,264	7
Cash and other	868	1	160	-
	172,842	100	170,708	100
Actuarial value of liabilities	(240,220)	-	(237,495)	-
Deficit in the schemes	(67,378)	-	(66,787)	-
Deferred tax thereon	11,095	-	11,024	-

All equities have quoted prices in active markets in the UK, North America, Europe, Asia Pacific, Japan and emerging markets.

The weighted average duration of the defined benefit obligation is around 24 years.

The total pension cost of the Group for the year was £21,127,000 (2017: £20,238,000), of which £180,000 (2017: £165,000) related to directors and £5,983,000 (2017: £6,292,000) related to overseas schemes.

A sensitivity analysis of certain elements of the UK defined benefit pension scheme will be included in the Financial review section of the Strategic report in the 2018 Annual report and accounts. It is expected that contributions to defined benefit schemes for the next financial year will be at a similar level to the current year.

For the UK scheme, whilst the trustees have the ultimate power to set the investment strategy, the current strategy has been set following agreement with the Company and the Company is consulted on significant investment changes. The main investment objective is to ensure members' accrued benefits can be paid as they fall due. Currently, the Fund is considered to be relatively immature and the focus of the investment strategy is growth. The strategy is to hold 64% of the assets in equities; 35% in Diversified Growth Funds; and 1% in index-linked gilts. The actual allocations measured at fair value may vary from this due to market price movements and intervals between rebalancing the portfolio.

The movements in the schemes' assets and liabilities were:

Year ended 30th June 2018	Assets £'000	Liabilities £'000	Total £'000
Balance at the beginning of the year	170,708	(237,495)	(66,787)
Contributions paid	4,471	-	4,471
Interest on pension schemes	4,573	(5,822)	(1,249)
Remeasurement gain/(loss)	5,979	(9,792)	(3,813)
Benefits paid	(12,889)	12,889	-
Balance at the end of the year	172,842	(240,220)	(67,378)

Year ended 30th June 2017	Assets £'000	Liabilities £'000	Total £'000
Balance at the beginning of the year	149,227	(217,050)	(67,823)
Contributions paid	4,204	-	4,204
Interest on pension schemes	4,681	(6,241)	(1,560)
Remeasurement gain/(loss)	19,028	(20,636)	(1,608)
Benefits paid	(6,432)	6,432	-
Balance at the end of the year	170,708	(237,495)	(66,787)

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

	2018 £'000	2017 £'000
Actuarial (loss)/gain arising from:		
-Changes in demographic assumptions	1,533	1,797
-Changes in financial assumptions	556	(25,471)
-Experience adjustment	2,601	4,127
Return on plan assets excluding interest income	6,797	18,739
Adjustment to liabilities for IFRIC 14	(15,300)	(800)
Total amount recognised in the consolidated statement of comprehensive income and expense	(3,813)	(1,608)

The cumulative amount of actuarial gains and losses recognised in the Consolidated statement of comprehensive income and expense was a loss of £111,077,000 (2017: loss of £107,264,000).

The life expectancies implied by the mortality assumption at age 65 are:

	2018 Years	2017 Years
Male currently aged 65	21.8	21.9
Female currently aged 65	23.7	23.7
Male currently aged 45	22.8	23.0
Female currently aged 45	24.9	25.0

An agreement was entered into in 2016 with the trustees of the UK defined benefit pension scheme in relation to deficit funding plans which supersede all previous arrangements. The Company has agreed to pay all monthly pensions payments and lump sum payments, and transfer payments up to a limit of £1,000,000 in each year (Benefits in Payment).

A number of UK properties owned by the Company are subject to fixed charges. One or more of the properties may be released from the fixed charge if on a subsequent valuation, the value of all properties under charge exceed 120% of the deficit.

The Company has also established an escrow bank account, which is subject to a floating charge. The balance of this account was £10,413,000 at the end of the year (2017: £12,850,000). The funds will be released back to the Company from the escrow account over a period of five years.

The agreement continues until 30th June 2031, but may end sooner if the deficit (calculated on a self-sufficiency basis as defined in the agreement) is eliminated in the meantime. At 30th June 2031 the Company is obliged to pay any deficit at that time. All properties will be released from charge when the deficit no longer exists. The charges may be enforced by the trustees if one of the following occurs: (a) the Company does not pay any Benefits in Payment; (b) an insolvency event occurs in relation to the Company; or (c) the Company does not pay any deficit at 30th June 2031.

The Company, trustees and their respective advisors concluded that the 2016 agreement was in the best interests of the scheme members. The agreement was subject to acceptance by tPR (the regulator) and was

submitted to the regulator in July 2016. The regulator's October 2017 response to the recovery plan submission questioned whether the 2015 recovery plan provides greater security than the 2012 recovery plan which funded to technical provisions only but required an earlier cash injection. Both the Company and the trustees have held discussions with the regulator to detail how each party satisfied itself that the 2016 agreement was preferred and to seek terms acceptable to all parties, The Company and the trustees continue to engage with the regulator. In the meantime the Company and the trustees are complying with the terms of the 2016 agreement. If this agreement terminates the parties may be required to revert to the 2012 recovery plan. In this event the Company would be required to make a contribution to the scheme of approximately £45m, adjusted for company deficit repair contributions and the potential investment return had the contribution been invested in October 2016, and agree a new recovery plan with the trustees. The next triennial valuation will be undertaken at 30th September 2018.

The present value of the projected future contributions under the 2016 agreement relating to the UK defined benefit scheme at 30th June 2018 was £60,900,000 (2017: £62,900,000) which exceeded the value of the deficit at the year end, therefore, under IFRIC 14, the UK defined benefit pension scheme's liabilities have been increased by £31,500,000 (2017: £16,200,000), to represent the maximum discounted liability as at 30th June 2018 (2017: £16,200,000). The IAS19 deficit reduced in the year primarily due to the return on scheme assets exceeding the 2017 discount rate and the effect of the 0.1% increase in the discount rate compared to 2017.

The IAS19 deficit of the UK scheme is £29,400,000 at 30th June 2018, compared with the net present value of projected future contributions under the 2016 agreement of £60,900,000 and compared with the deficit of £100,700,000 from the last actuarial valuation in September 2015. The latest actuarial report prepared in September 2017 shows a deficit of £107,600,000. The September 2015 actuarial valuation and September 2017 update are based on funding to self-sufficiency and use prudent assumptions. IAS19 requires best estimate assumptions to be used, resulting in the IAS19 deficit being lower than the actuarial deficit.

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

No scheme assets are directly invested in the Group's own equity.

15. INVENTORIES

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

	2018	2017
	£'000	£'000
Raw materials	28,094	32,477
Work in progress	29,193	19,705
Finished goods	53,276	35,515
Balance at the end of the year	110,563	87,697

During the year, the amount of inventories recognised as an expense in the Consolidated income statement was £187,834,000 (2017: £167,395,000) and the amount of write-down of inventories recognised as an expense in the Consolidated income statement was £6,995,000 (2017: £6,466,000). At the end of the year, the gross cost of inventories which had provisions held against them totalled £14,126,000 (2017: £15,413,000).

16. CASH AND CASH EQUIVALENTS

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

	2018	2017
	£'000	£'000
Bank balances and cash in hand	63,417	46,492
Short-term deposits	40,430	5,450
Balance at the end of the year	103,847	51,942

The UK defined benefit pension scheme cash escrow account is shown separately within current assets. £35,000,000 of the Group short-term deposits balance is held in the Company, maturing on 15th October 2018.

17. PROVISIONS

Warranty provision

Movements during the year were:

	2018	2017
	£'000	£'000
Balance at the beginning of the year	2,960	2,375
Created during the year	2,775	2,195
Utilised in the year	(2,282)	(1,610)
	493	585
Balance at the end of the year	3,453	2,960

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. OTHER PAYABLES

Balances at the end of the year were:

	2018	2017
	£'000	£'000
Payroll taxes and social security	7,297	7,642
Other creditors and accruals	40,682	29,662
Total other payables	47,979	37,304

Other creditors and accruals include increases in the Group bonus payable, deferred income, and pension contributions payable. The Group's exposure to currency and liquidity risk related to trade and other payables is disclosed in note 20.

19. SHARE CAPITAL AND RESERVES

Share capital

	2018	2017
	£'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.

Currency translation reserve

The currency translation reserve comprises all foreign exchange differences arising from the translation of the financial statements of the foreign operations, offset by foreign exchange differences on bank liabilities which have been accounted for in other comprehensive income and accumulated in equity on account of them being classified as hedging instruments. The policy to hedge net overseas assets ended in December 2017. Movements in the currency translation reserve after this date will therefore only arise from translation of financial statements of foreign operations.

Movements during the year were:

	2018	2017
	£'000	£'000
Balance at the beginning of the year	10,510	6,448
Gain on net assets of foreign currency operations	4,008	4,848
Loss on foreign currency overdrafts held for the purpose of net investment hedging	(1,901)	(959)
Gain in the year relating to subsidiaries	2,107	3,889
Currency exchange differences relating to associates	48	173
Balance at the end of the year	12,665	10,510

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 accumulated in equity and are recycled through the Consolidated income statement and Company income statement when the hedged item affects the income statement. The forward contracts mature over the next three and a half years.

Movements during the year were:

	2018 £'000	2017 £'000
Balance at the beginning of the year	(31,049)	(37,971)
Losses on contract maturity recognised in revenue during the year	14,598	13,358
(Gains)/losses transferred to the consolidated income statement during the year	(4,834)	3,601
Deferred tax transferred to the consolidated income statement	1,927	1,525
Revaluations during the year	2,779	(9,989)
Deferred tax movement	(2,810)	(1,573)
Balance at the end of the year	(19,389)	(31,049)

Dividends paid

Dividends paid comprised:

	2018 £'000	2017 £'000
2017 final dividend paid of 39.5p per share (2016: 35.5p)	28,752	25,840
Interim dividend paid of 14.0p per share (2017: 12.5p)	10,190	9,099
Total dividends paid	38,942	34,939

A final dividend in respect of the current financial year of £33,482,729 (2017: £28,751,474) at the rate of 46.0p net per share (2017: 39.5p) is proposed to be paid on 23rd October 2018 to shareholders on the register on 20th September 2018.

Non-controlling interest

Movements during the year were:

	2018 £'000	2017 £'000
Balance at the beginning of the year	(590)	(3,162)
Acquisition of remaining shareholding in Renishaw Mayfield S.A.	-	2,700
Share of profit/(loss) for the year	13	(128)
Balance at the end of the year	(577)	(590)

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

20. 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.

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 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 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. Credit evaluations are carried out on all new customers before credit is given above certain thresholds. There is a spread of risks among 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 receivables		Other receivables		Cash (incl. overdraft)	
	2018 £'000	2017 £'000	2018 £'000	2017 £'000	2018 £'000	2017 £'000
Pound Sterling	7,917	8,122	11,466	8,464	67,649	142,493
US Dollar	76,139	41,751	1,034	745	7,693	(45,149)
Euro	25,944	22,784	3,540	3,117	10,005	(37,744)
Japanese Yen	20,463	16,343	691	386	4,516	(16,366)
Other	24,124	48,507	5,257	3,195	13,984	8,708
	154,587	137,507	21,988	15,907	103,847	51,942

The above trade receivables, other receivables and cash are predominately held in the functional currency of the relevant entity, with the exception of £123,000 and £5,243,000 of Euro-denominated trade receivables being held in the Company and Renishaw UK Sales Limited respectively, 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:

	2018 £'000	2017 £'000
Past due 0-1 month	21,620	16,836
Past due 1-2 months	6,111	7,746
Past due more than 2 months	6,388	5,577
Balance at the end of the year	34,119	30,159

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

	2018 £'000	2017 £'000
Balance at the beginning of the year	3,115	2,921
Changes in amounts provided	525	452
Amounts utilised	(339)	(258)
Balance at the end of the year	3,301	3,115

The maximum exposure to credit risk is £300,413,000, comprising the Group's trade and other receivables, cash and cash equivalents and derivative assets.

Liquidity risk

The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, without incurring unacceptable losses or risking damage to the Group's reputation. The Group uses monthly cash flow forecasts to monitor cash requirements.

In respect of net cash, the carrying value approximates to fair value because of the short maturity of the deposits and borrowings. A significant proportion of net cash is affected by interest rates that are floating and based on LIBOR/LIBID, 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 £500,000.

The market value of forward exchange contracts is determined by reference to market data.

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

Year ended 30 th June 2018	Carrying amount £'000	Up to 1 year £'000	Contractual cash flows	
			1-2 years £'000	2-5 years £'000
Trade payables	25,232	25,232	-	-
Other payables	47,979	47,979	-	-
Forward exchange contracts	39,519	22,478	10,490	6,551
	112,730	95,689	10,490	6,551
Year ended 30 th June 2017	Carrying amount £'000	Up to 1 year £'000	1-2 years £'000	2-5 years £'000
Trade payables	19,544	19,544	-	-
Other payables	33,972	33,972	-	-
Forward exchange contracts	56,732	25,261	22,114	9,357
	110,248	78,777	22,114	9,357

The maturities of non-current other receivables, including derivatives, at the year end were:	2018	2017
	£'000	£'000
Receivable between 1 and 2 years	232	907
Receivables between 2 and 5 years	11,240	6,062
	11,472	6,969

The £4,207,000 long term loans to associates and joint ventures shown in non-current assets, comprises a £3,101,000 loan to an associate and a £1,106,000 loan to a joint venture, which is receivable between 2 and 5 years.

Market risk

As noted in the Strategic report under Principal risks and uncertainties, the Group operates in a number of foreign currencies with the majority of sales being made in these currencies, but with most manufacturing being undertaken in the UK, Ireland and India.

Exchange rates and sensitivity analysis

The Group has hedged a significant proportion of its forecasted US Dollar, Euro and Japanese Yen revenues and hence the impact on the Group's results resulting from fluctuations in these exchange rates against Sterling is lessened.

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

Currency	2018		2017	
	Year end exchange rate	Average exchange rate	Year end exchange rate	Average exchange rate
US Dollar	1.32	1.35	1.30	1.27
Euro	1.13	1.13	1.14	1.16
Japanese Yen	146	149	146	139
Average US Dollar forward contract rates		1.50		1.50
Average Euro forward contract rates		1.22		1.16
Average Japanese Yen forward contract rates		150		151

The Company has US Dollar, Japanese Yen and Euro forward contracts which mature after the balance sheet date. The fair value of these contracts at the year end resulted in a loss carried forward of £23,164,000 (2017: loss £43,040,000).

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

	2018	2017
	£'000	£'000
US Dollar	578,421	394,858
Euro	163,283	136,903
Japanese Yen	99,328	89,782

The Group classifies these forward contracts as cash flow hedges and states them at fair value. The forward contracts cover monthly revenues over the next three and a half years. Further details are noted in the treasury policies in the Financial review section of the Strategic report.

For the Group's foreign currency denominated monetary assets and liabilities at the balance sheet date, if Sterling appreciated by 5% against the US Dollar, Euro and Japanese Yen, this would increase other equity by £30,900,000, £8,400,000 and £4,600,000 respectively.

Capital management

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 and to maintain a balance between significant returns to shareholders, with a progressive dividend policy, whilst ensuring the security of the Group supported by a sound capital position. The Group may adjust dividend payments due to changes in economic and market conditions which affect, or are anticipated to affect, group results.

21. LEASES

Leases as lessee

The Group acts as lessee for land and buildings and vehicles in certain subsidiaries and recognises payments as an expense in the income statement. The total of future minimum lease payments payable under non cancellable operating leases were:

	2018		2017	
	Leasehold property £'000	Vehicles £'000	Leasehold property £'000	Vehicles £'000
Due in less than one year	3,363	1,329	3,375	971
Due between one and five years	4,929	2,988	4,994	2,683
Due in more than five years	4,019	354	3,518	628
Total future minimum lease payments	12,311	4,671	11,887	4,282

	2018		2017	
	Leasehold property £'000	Vehicles £'000	Leasehold property £'000	Vehicles £'000
Payments recognised in income statement	3,799	1,409	3,456	1,093

Leases as lessor

The Group acts as lessor for Renishaw manufactured plant and equipment on both an operating and finance lease basis.

Operating leases

Where the Group retains the risks and rewards of ownership of leased assets, it continues to recognise the leased asset in fixed assets, while the lease payments made during the term of the operating lease are recognised in revenue (2018: £1,365,000, 2017: £611,000). Operating leases are on 1 to 5 year terms. The total of future minimum lease payments receivable under noncancelable operating leases were:

	2018 £'000	2017 £'000
Receivable in less than one year	1,406	387
Receivable between one and five years	1,383	791
Receivable in more than five years	-	277
Total future minimum lease payments receivable	2,789	1,455

Finance leases

Where the Group transfers the risks and rewards of ownership of leased assets to a third party, the Group recognises a receivable in the amount of the net investment in the lease in trade debtors. The lease receivable is subsequently reduced by the principal received, while an interest component is recognised as financial income in the income statement. Standard contract terms are up to 4 years and there is a nominal residual value receivable at the end of the contract. The total future lease payments are split between the principal and interest amounts below:

	2018			2017		
	Gross investment £'000	Interest £'000	Net investment £'000	Gross investment £'000	Interest £'000	Net investment £'000
Receivable in less than one year	979	91	888	345	24	321
Receivable between one and five years	2,115	196	1,919	497	35	462
Total future minimum lease payments receivable	3,094	287	2,807	842	59	783

22. CAPITAL COMMITMENTS

Capital commitments at the end of the year, for which no provision has been made in the financial statements, were:

	2018 £'000	2017 £'000
Authorised and committed	10,855	6,812

23. RELATED PARTIES

Associates, joint ventures and other related parties had the following transactions and balances with the Group:

	2018 £'000	2017 £'000
Purchased goods and services from the Group during the year	1,500	852
Sold goods and services to the Group during the year	17,073	12,450
Paid dividends to the Group during the year	507	310
Amounts owed to the Group at the year end	432	220
Amounts owed by the Group at the year end	324	294
Loans owed to the Group at the year end	6,444	4,966

Loans owed to the Group at the year end include £1,750,000 (2017: £1,842,000) owed by joint ventures and £4,694,000 (2017: £3,124,000) owed by associates. Of the loan to the associate party, £2,400,000 relates to a working capital loan agreement set up in March 2017 and extended by £500,000 in March 2018. £475,000 of the working capital loan is ring fenced for fixed asset capital expenditure. Interest is charged at 3.5% until 31st December 2019 and at 3% above the Bank of England base rate thereafter. The loan is repayable on three month notice with a repayment date no earlier than 31st December 2019.

There were no bad debts written off during the year (2017: £nil).

24. ALTERNATIVE PERFORMANCE MEASURES

Alternative performance measures are - 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	2018 £'000	2017 £'000
Statutory revenue as reported	611,507	536,807
Adjustment for forward contract losses	14,598	13,358
Adjustment to restate current year at previous year exchange rates	21,520	-
Revenue at constant exchange rates	647,625	550,165
Year on year revenue growth at constant exchange rates	17.7%	-

Adjusted profit before tax, Adjusted earnings per share and Adjusted operating profit – These measures are defined as the profit before tax, earnings per share and operating profit after excluding gains and losses in fair value from the forward currency contracts which did not qualify for hedge accounting.

The losses from 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.

The Board consider these alternative performance measures to be more relevant and reliable in evaluating the Group's performance.

The amounts shown below as reported in revenue represent the amount by which revenue would change had all the derivatives qualified as eligible for hedge accounting.

Adjusted profit before tax:	2018 £'000	2017 £'000
Statutory profit before tax	155,225	117,101
Fair value gains and losses on financial instruments not eligible for hedge accounting:		
- reported in revenue	(5,310)	(11,623)
- reported in losses in fair value of financial instruments	(4,834)	3,601
Adjusted profit before tax	145,081	109,079

Adjusted earnings per share:	2018	2017
	pence	pence
Statutory earnings per share	181.8	141.3
Fair value gains and losses on financial instruments not eligible for hedge accounting:		
- reported in revenue	(5.9)	(12.9)
- reported in losses in fair value of financial instruments	(5.4)	4.0
Adjusted earnings per share	170.5	132.4
Adjusted operating profit:	2018	2017
	£'000	£'000
Statutory operating profit	153,189	116,755
Fair value gains and losses on financial instruments not eligible for hedge accounting:		
- reported in revenue	(5,310)	(11,623)
- reported in losses in fair value of financial instruments	(4,834)	3,601
Adjusted operating profit	143,045	108,733
Adjustments to the segmental operating profit:		
Metrology	2018	2017
	£'000	£'000
Operating profit before loss from fair value of financial instruments	147,841	126,830
Fair value gains and losses on financial instruments not eligible for hedge accounting:		
- reported in revenue	(5,066)	(10,921)
Adjusted metrology operating profit	142,775	115,909
Healthcare	2018	2017
	£'000	£'000
Operating profit/(loss) before loss from fair value of financial instruments	514	(6,474)
Fair value gains and losses on financial instruments not eligible for hedge accounting:		
- reported in revenue	(244)	(702)
Adjusted metrology operating profit/(loss)	270	(7,176)

25. Principal risks and uncertainties

Our performance is subject to a number of risks, of which the principal risks and changes impacting on them are set out in the table below.

The Board has conducted a robust assessment of the principal risks facing the business. The full business implications of Brexit remain uncertain, which will be the case for some time. The Board is closely monitoring the situation as it develops. Currency fluctuations, trading arrangements, employment issues and other risks that become apparent over time will be monitored by the Board, the executive risk committee and the Brexit steering group, and mitigations put in place where possible.

Area of risk	Description	Potential impact	Mitigation
Current trading levels and order book	Revenue growth is unpredictable and orders from customers generally involve short lead-times with the outstanding order book at any time being around one month's worth of revenue value.	<p>Global market conditions continue to highlight risks to growth and demand which can lead to fluctuating levels of revenue.</p> <p>Whilst global investment in production systems and processes is expected to expand, future growth is difficult to predict, especially with such a short-term order book. This limited forward order visibility leaves the annual revenue and profits forecasts uncertain.</p>	<p>The Group is expanding and diversifying its product range in order to maintain a world-leading position in its sales of metrology products. Investment in sales and marketing resources continues in order to support the breadth of the product offerings.</p> <p>The Group is applying its measurement expertise to grow its healthcare and additive manufacturing business activities.</p> <p>The Group retains a strong balance sheet and has the ability to flex manufacturing resource levels and shift patterns.</p>
Research and development	The development of new products and processes involves risk, such as development timescales, meeting the required technical specification and the impact of alternative technology developments.	Being at the leading edge of new technology in metrology and healthcare, there are uncertainties whether new developments will provide an economic return.	<p>Patent and intellectual property generation is core to new product developments.</p> <p>R&D programmes are regularly reviewed against milestones and, when necessary, projects are cancelled.</p> <p>Medium to long-term R&D strategies are monitored regularly by both the Board and Executive Board, including reviews of the allocation of R&D resource to key projects.</p> <p>Product development processes around the Group are reviewed and aligned where possible to provide consistency and efficiency.</p> <p>New products involve beta testing at customers to ensure they will meet the needs of the market.</p> <p>Market developments are closely monitored.</p>

Enhanced collaboration and knowledge sharing between R&D teams.

Supply chain management	Customer deliveries may be threatened by either an external or internal failure in the supply chain.	Inability to meet customer deliveries could result in loss of revenue and profit.	<p>Production facilities are maintained with fire and flood risk in mind.</p> <p>Critical production processes are replicated at different locations where practical.</p> <p>The Group is highly vertically integrated, providing increased control over many aspects of the supply chain.</p> <p>The Group has the ability to flex manufacturing resource levels and shift patterns.</p> <p>Regular vendor reviews are performed for critical part suppliers.</p> <p>Stock policies are reviewed by the Board on a regular basis.</p> <p>Product quality is closely monitored.</p>
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Regulatory legislation for healthcare products	The expansion of the Group's business in the healthcare markets involves a significantly increased requirement to obtain regulatory approval prior to the sale of these products.	Regulatory approval can be very expensive and time-consuming. This area is also very complex and there is a risk that the correct approvals are not obtained.	<p>Specialist legal and regulatory staff support the healthcare business.</p> <p>Experience of healthcare regulatory matters at board level.</p> <p>Healthcare operations in UK and France have ISO13485 certification for their quality management systems, with Ireland and other subsidiary healthcare operations falling under the UK quality management system.</p>
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Defined benefit pension schemes	Investment returns and actuarial valuations of the defined benefit pension fund liabilities are subject to economic and social factors which are outside of the control of the Group.	Volatility in investment returns and actuarial assumptions can significantly affect the defined benefit pension fund deficit, impacting on future funding requirements.	<p>The investment strategy is managed by the pension fund trustees who operate in line with a statement of investment principles and take appropriate independent professional advice when necessary.</p> <p>A new recovery plan was agreed in June 2016 for the 2015 actuarial valuation based on funding to self-sufficiency. Discussions with the pension regulator are ongoing in</p>
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relation to the timing of the scheme funding.

Exchange rate fluctuations	Fluctuating foreign exchange rates may affect the results of the Group.	With 95% of revenue generated outside of the UK, there is an exposure to major currency fluctuations, mainly in respect of the US Dollar, Euro and Japanese Yen. Such fluctuations could adversely impact both the Group's income statement and balance sheet.	<p>The Group enters into forward contracts in order to hedge varying proportions of forecast US Dollar, Euro and Japanese Yen revenue. Forward contracts which are ineffective for accounting purposes provide the protection against rate changes that management intended when entering the contracts.</p> <p>There is a monthly board review of currency rates and hedging position.</p>
Cyber security threats	For the Group to operate effectively it requires continuous access to timely and reliable information at all times. We seek to ensure continuous availability, security and operation of information systems.	<p>Reduced service to customers due to a lack of reliable management information putting the Group at a competitive disadvantage.</p> <p>Delay or impact on decision making through lack of availability of sound data or disruption in/denial of service.</p> <p>Loss of commercially sensitive and/or personal information leading to implications including reputational damage, claims or fines.</p> <p>Theft of commercial or sensitive information/data or fraud causing loss or disruption.</p>	<p>There is substantial resilience and back up built into Group systems.</p> <p>An IT security committee exists, comprising IT and business leadership.</p> <p>Cyber risks and security is a regular topic for board discussion.</p> <p>External penetration testing is utilised on an appropriate basis.</p> <p>The Group operates central IT policies in all aspects of information security.</p> <p>Regular monitoring of all Group systems takes place with regular reporting and analysis.</p> <p>Operating systems are continuously updated and refreshed in line with current threats.</p> <p>The Group employs a number of physical, logical and control measures to protect its information and systems.</p> <p>E-learning courses are rolled out as required to all employees on all cyber risks.</p> <p>The Group has put considerable resource into ensuring compliance with the General Data Protection Regulation and is well placed to handle any Subject Access Requests that arise.</p>

Financial calendar

Mailing of 2018 annual report	21st August 2018
Annual general meeting	18th October 2018
Half year results	January 2019
Trading update	May 2019

Final dividend

Ex-div date	20th September 2018
Record date	21st September 2018
Payment date	23rd October 2018

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