Judges Scientific plc

Annual Report and Accounts 2018

Continued positive momentum

Judges Scientific plc is an AIM-listed company specialising in the design and production of scientific instruments. Corporate expansion is being pursued, both through organic growth within its subsidiary companies and through the acquisition of top-quality businesses with established reputations in worldwide markets.

Investment case

- **Buy and build model** within the scientific instrument market
- **Favourable market**
- Long-term growth drivers
- Large pool of potential acquisitions in global niches
- Low capital requirements
- **Track record** of acquisitions and reputation as a good acquirer
- Sixteen acquisitions since May 2005
- **Strict acquisition discipline**
- Buying sustainable businesses at sensible prices

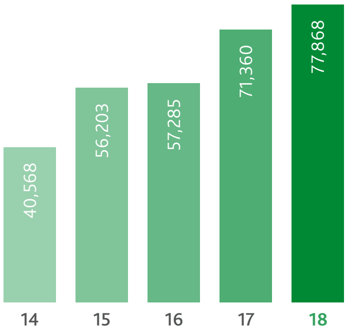
For more information visit:
www.judges.uk.com

Contents

Cover image: Armfield 22.5 metre recirculating flume with wind over wave simulation and counter current flow.

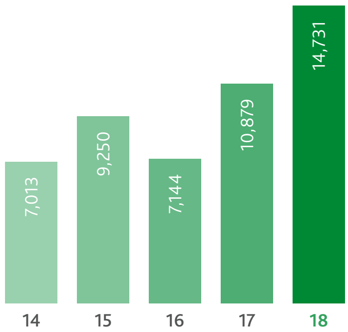
This page: GDS ELDYN Dynamic Triaxial Testing System, used for modelling the effects of dynamic loads applied to soils.

Highlights



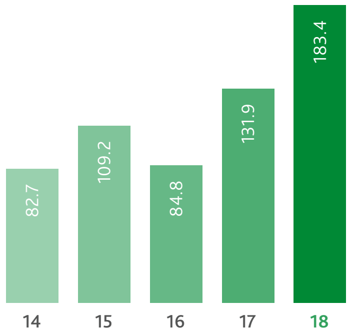
77,868
Revenue
(£000)

+9%



14,731
Adjusted operating profit
(£000)

+35%



183.4
Adjusted undiluted basic
earnings per share
(pence)

+39%

Highlights

- Revenues up 9% to a record £77.9 million (2017: £71.4 million), including 5.5% Organic* growth;
- Adjusted** operating profit up 35% to £14.7 million (2017: £10.9 million);
  - Statutory operating profit of £10.7 million (2017: £5.7 million);
- Adjusted** basic earnings per share up 39% to 183.4p (2017: 131.9p);
  - Statutory basic earnings per share of 137.5p (2017: 65.6p);
- Final dividend of 28p, totalling 40p for the year, an increase of 25%; covered 4.6 times by adjusted earnings;
- Organic* order intake up 6.2% compared with 2017;
- Order book at 14.4 weeks (1 January 2018: 14.9 weeks);
- New 5-year acquisition facilities for aggregate £35 million;
- Cash generated from operations of £15.7 million (2017: £10.9 million);
- Adjusted** net cash of £0.9 million as at 31 December 2018 (31 December 2017: £8.0 million net debt);
  - Statutory net cash of £0.7 million at 31 December 2018 (31 December 2017: £7.6 million net debt);
- Cash balances of £15.7 million as at 31 December 2018 (31 December 2017: £10.7 million);

* Organic describes the performance of the Group including businesses acquired prior to 1 January 2017.

** Adjusted earnings figures exclude adjusting items relating to amortisation of intangible assets, acquisition-related costs, share based payments and hedging of risks materialising after the end of the year. Adjusted net cash/(debt) includes acquisition-related liabilities and excludes subordinated debt owed by subsidiaries to minority shareholders.

At a glance

Specialist portfolio

Judges Scientific plc is an AIM-quoted group specialising in the acquisition and development of a portfolio of scientific instrument businesses.

Corporate expansion is being pursued, both through organic growth within its subsidiary companies and through the acquisition of top-quality businesses with established reputations in worldwide markets.

Our businesses

Dia-Stron is the leading manufacturer of automated measurement systems for single fibres and filaments. We are rooted in fibre science and technology: since 1987, we remain at the forefront of innovation in fibre metrology. Our fibre testing expertise is globally recognised by the R&D community.

Our instrumentation provides a full range of fibre measurement capabilities, from dimensional and mechanical properties (tensile, bending and torsion), to interfacial evaluation and fatigue failure analysis. Additionally, Dia-Stron contract testing services, conducted in our dedicated UK laboratory, are a key offering in building long-term relationships with our customer base.

We deliver measurement solutions to support:

- the hair care industry with product development and advancing hair fibre science; and
- the technical fibre market with the future of carbon, ceramic or natural fibre composite materials.

Sircal designs, manufactures and distributes rare gas purifiers typically for use in metal analysis utilising the Arc/Spark spectrometry technique.

This technique provides qualitative and quantitative analysis of a metallic sample for determination of its purity. The products are sold worldwide to OEM customers (spectrometer manufacturers that use such purifiers in conjunction with their own instruments) or directly to end users such as metal manufacturers and dealers, and test houses.

Scientifica is a multi-award winning, globally recognised brand in nanopositioning, photomanipulation and advanced imaging systems for neuroscience research. We develop cutting-edge equipment with leading scientists for use in neuronal electrophysiology, multiphoton imaging and optogenetics.

Our world-class equipment enables researchers to investigate the nervous system and neurological diseases. All equipment is manufactured in the United Kingdom and exported to more than 40 countries worldwide. We have offices in the United Kingdom and the United States, with Product Consultants based in Germany and China.

GDS designs, develops and manufactures equipment and software used for the computer-controlled testing of soils and rocks. This technology is used to evaluate the mechanical properties that are key in geotechnical and earthquake engineering design.

Services include:

- advanced systems for commercial soil and rock testing laboratories; and
- bespoke systems for university research in the engineering properties of soil and rock.

East Sussex-based Quorum Technologies manufactures market-leading scientific instruments primarily used for electron microscopy (EM) sample preparation. Electron microscopy is a key research tool in almost every area of scientific endeavour, from the fight against cancer and major diseases, through to food safety and the development of advanced microelectronics and new materials.

Awards:

- 2014: Queen's Award for Enterprise in International Trade.

Key products:

- Q Series of vacuum coating systems; and
- PP3010T cryo preparation systems for SEM and FIB/SEM.

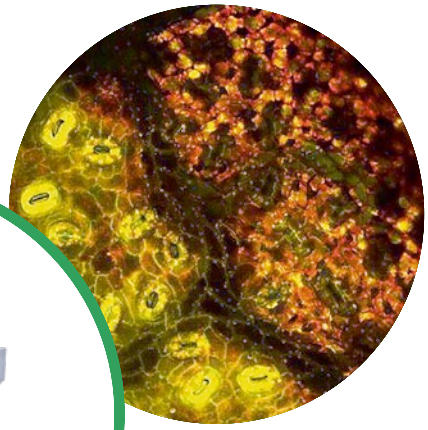
Founded in 1999, EWB Solutions specialises in the design and manufacture of edge-welded metal bellows where a high integrity hermetic seal is required in the presence of an applied movement.

Supplied globally, EWB bellows are produced in a wide range of materials, meeting a variety of life and environmental constraints for applications within a diverse range of industries such as:

- semiconductor processing;
- particle physics experimentation;
- material/surface analysis;
- oncology therapy; and
- petrochemical processing.

Dia-Stron

Dia-Stron's latest innovation: fibra.one – launched in April 2019. An all-in-one solution for multiple measurements on hair tresses including combing, friction and bending.

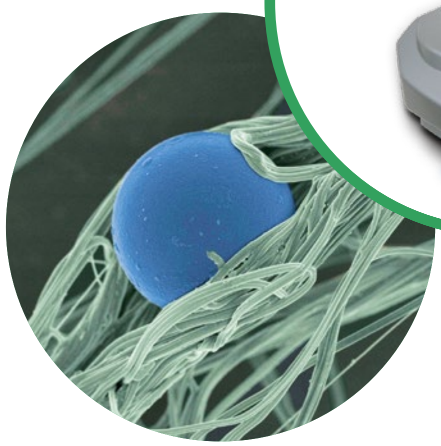


Scientifica

The HyperScope is Scientifica's most advanced multiphoton imaging system yet, enabling simultaneous multiphoton microscopy and photostimulation with exceptional performance. The HyperScope helps researchers answer complex research questions in either in vitro or in vivo samples.

Quorum Technologies

Launched in August 2018, the Q150V Plus is the latest addition to Quorum's market-leading range of sample preparation equipment, offering ultra-fine coating for use in high-resolution electron microscopes.



GDS Instruments

The GDS hydraulic loading frames are load frames with a hydraulic dynamic actuator mounted on the crossbeam for axial stress/ strain cyclic dynamic loading. The frames are available in 100kN, 250kN and 1,500kN loads.

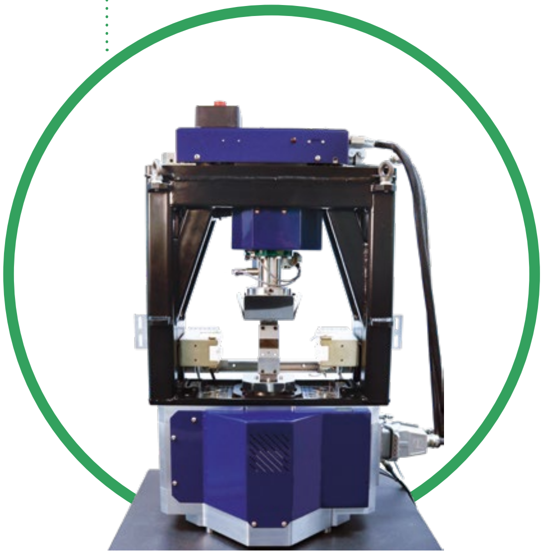
At a glance continued

FTT

The iCone Plus Calorimeter is the first in FTT's new interactive range of calorimeters, the i-series. It features the latest technology in control and automation making it the most advanced, reliable and user-friendly cone calorimeter in the world.

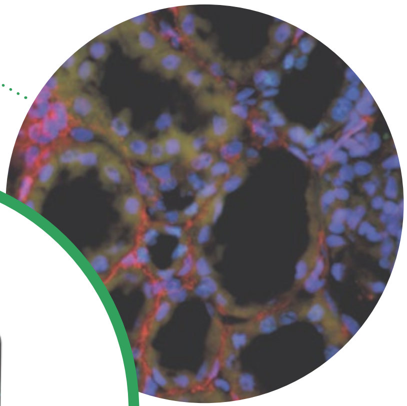
Deben

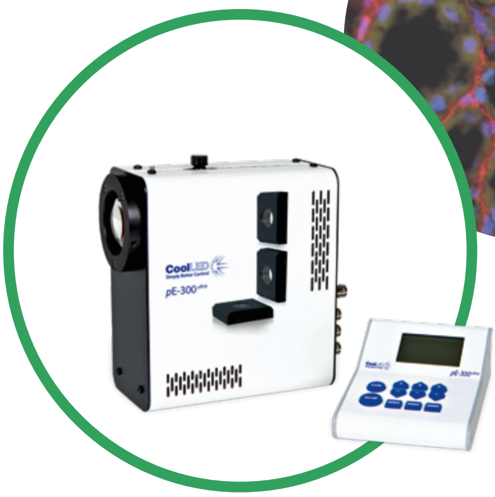
20kN Tension, Compression & Torsion Test rig with 1,000°C heating for Beamlines.



CoolLED

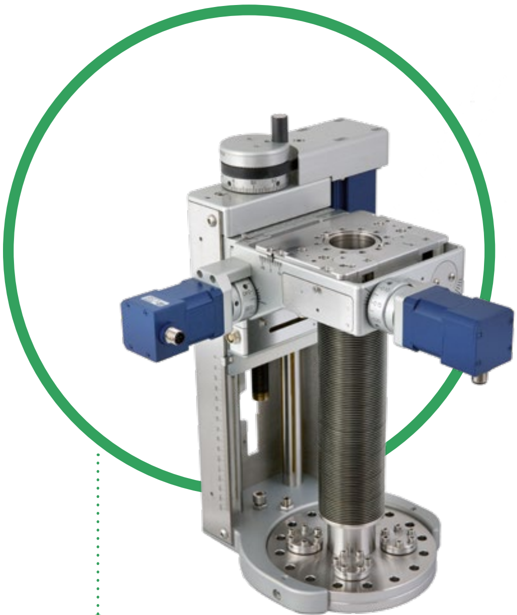
Fluorescent kidney image taken using a CoolLED pE-300ultra, Olympus BX51 40X objective and a DP71 colour camera.





Oxford Cryosystems

The new desktop Smartstream sample cooling system delivers a stream of nitrogen gas at 170 K (–103°C), helping scientists study their materials at low temperature with the push of a button.



UHV Design

The TETRAXE is a compact solution for providing X, Y, X tilt manipulation movement within an Ultra High Vacuum (UHV) environment.

FTT is internationally recognised as the world's leading supplier of fire testing instrumentation and has supplied the majority of leading fire research groups and testing laboratories around the world. Our directors and senior researchers participate in UK, ISO, CEN and ASTM standardisation committees to ensure that our instruments are always compliant. These include committees dealing with construction products, electro-technical products, furnishing products and transport applications for instruments such as the Cone Calorimeter, NBS Smoke Density Chamber, EN 50399, SBI, etc.

Oxford Cryosystems is a market-leading UK manufacturer of cryogenic devices used mainly for X-ray diffraction and radioastronomy. The company originated in Oxford University in the 1980s and now designs and manufactures a range of nitrogen and helium-based low temperature devices which are exported to leading research institutes worldwide.

Oxford Cryosystems' products are found in:

- drug discovery and research labs in major pharmaceutical and biotech companies;
- chemistry, physics and structural biology labs in universities around the world; and
- major national laboratories such as Diamond Light Source, UK, Los Alamos National Lab, USA and Shanghai Synchrotron Radiation Facility, China.

Aitchee Engineering is a well-established precision engineering company that can offer high end sheet metalwork, laser cutting and CNC machining. We use state of the art software to take customers' drawings and turn them into manufactured goods in Steel, Aluminium, Stainless Steel, Yellow metals or plastics. We can supply large batch-work, call off orders and R&D including prototypes; we can also offer manufacturing process assistance and value engineering.

Deben is a precision engineering company providing innovative solutions for SEM and µX-Ray CT in-situ tensile testing. Deben also manufactures SEM detectors and a range of SEM accessories including motor control and heating and cooling stages.

Product groups:

- in-situ tensile and compression systems;
- accessories for electron beam applications; and
- imaging and detectors for SEM and TEM.

UHV Design, founded in 1993, specialises in the design, manufacture and supply of high precision motion, manipulation, heating and cooling (cryogenic) of samples for use in the high and ultra-high vacuum environments for materials research.

Globally, our products are essential in major big physics experiments including:

- high energy particle accelerators such as CERN and SLAC; and
- synchrotron light sources including PSI (Swiss), Argonne (USA) and the UK's own facility, Diamond.

They are also used routinely in laboratory-scale R&D instrumentation focused on new state-of-the-art materials in:

- semiconductors; photovoltaics; catalysis; bio-compatible materials.

PE.fiberoptics is a leading manufacturer of equipment for testing optical fibers. Optical fibers are the main medium for long distance transmission of telecommunication data. We export 95% of our products and have an installed base in approximately 40 countries.

Products enable:

- production of optical fibers;
- characterisation of optical fiber cables;
- performance confirmation of installed telecommunication networks; and
- R&D for new fiber designs.

CoolLED is a brand-leading designer and manufacturer of cutting-edge illumination systems for life-sciences microscopy and other applications. CoolLED pioneered the use of LEDs as controllable and environmentally friendly replacements for mercury-based lamps. Our comprehensive range includes:

- pE-300 Series – an award-winning range of compact triple wavelength LED illumination systems for fluorescence microscopy, Optogenetics, Electrophysiology and other high-speed applications;
- pE- 4000 – a patented universal LED illumination system for research fluorescence microscopy, with the broadest spectrum of illumination available from 16 selectable wavelengths;
- pE-340fura – a bespoke LED illuminator for Fura-2 ratiometric calcium imaging designed following ground-breaking research at Strathclyde University; and
- pT-100 – for transmitted imaging techniques including brightfield, darkfield, DIC and phase contrast, a newly released range for 2019.

Armfield offers unrivalled experience in the design and provision of teaching equipment aligned to global Civil, Mechanical, Chemical Engineering and Food Technology curriculums from entry-level Vocational training through to bespoke Research flumes.

The Industrial Division designs and manufactures Research & Development systems focusing primarily on the food, beverage, dairy, edible oil and pharmaceutical industries for businesses of all sizes from 'Start-up' companies to the world's leading brands.

Products and services:

- ground breaking research and development flumes;
- market-leading R&D technology;
- a comprehensive range of Engineering based educational products;
- worldwide network of agents offering sales support & technical expertise;
- curriculum mapping;
- consultation in laboratory design and layout;
- installation, commissioning and training services; and
- a product support and after care service.

Chairman's Statement

For the year ended 31 December 2018

"Delivering returns to our shareholders remains the core objective of the Group and as such the Board is pleased to be recommending a final dividend of 28p, making a total of 40p in respect of 2018, a 25% increase on the prior year."

Summary

- New records achieved in order intake, revenues, cash generation, adjusted pre-tax profit and adjusted earnings per share for the year ended 31 December 2018.
- Strong organic growth supplemented by efforts to achieve operational excellence, highlighting the inherent commercial strength of the businesses within the Group.

I am delighted to report that in the financial year ended 31 December 2018, the Group achieved new records in order intake, revenues, cash generation, adjusted pre-tax profit and adjusted earnings per share. In the absence of an acquisition the Group has achieved a net cash position at the year end providing a robust position for future corporate development when opportunities arise. Pleasingly the performance has been achieved this year through organic growth and efforts to achieve operational excellence, highlighting the inherent commercial strength of the businesses within the Group. The long-term growth drivers in the scientific instruments industry remain robust and, whilst volatility in short-term demand remains a feature within our sector, the climate – and exchange rates – were in our favour as evidenced by the consistently strong demand for our products observed over more than the last two and a half years.

Delivering returns to our shareholders remains the core objective of the Group and as such the Board is pleased to be recommending a final dividend of 28p, making a total of 40p in respect of 2018, a 25% increase on the prior year (2017: 32p). As a result of this payment, the Company will have returned to its original shareholders in cumulative dividends more than twice the Company's original subscription price.

Strategy

The Group's strategy continues to be based on creating shareholder returns through highly selective and carefully structured acquisitions, underpinned by diversified, solid and consistent earnings and cashflows arising from our existing businesses.

The Group's policy is to acquire small/medium-sized scientific instrument companies, paying a disciplined multiple of earnings and to finance any acquisition, ideally, through existing cash resources and/or bank borrowings. We are highly selective in acquiring businesses with sustainable profits and cashflows in order to obtain immediate and enduring earnings enhancement for our shareholders. It is paramount that acquisitions are completed only when the Directors are satisfied that the target business has sound underlying strength. On the back of the growth of our Group it has been able to promptly reduce the acquisition debt, generating the resources to reinvest in further acquisitions, subject always to our prudent approach on gearing.

The underlying market for scientific instruments remains robust and the sector's long-term growth drivers provide comfort that the Group will continue to deliver durable returns for shareholders despite, as we have observed since 2014, the potential for some short-term variability in performance. Long-term market drivers are rooted in the global expansion of higher education and the need for improved measurement to support the relentless worldwide search for optimisation across science and industry.

Our team

This was the first year of activity for our new COO, Mark Lavelle. His contribution has been very positive and we are confident that his impact on the quality of our operations will provide a strong and growing enhancement to organic profitability.

Your Board was strengthened by the addition of Charles Holroyd as an independent Non-Executive Director. His general business acumen and knowledge of our sector will be of great benefit to the Group. Glynn Reece has left the Board but we are pleased that he will continue his long and successful association with Judges as Company Secretary.

Of course, the good performance achieved in 2018 is primarily the result of the great competence and hard work of all our colleagues at every level. The Board and, I am sure, our shareholders are grateful for their efforts that have created such a positive performance.

Alex Hambro
Chairman
18 March 2019

Chief Executive's Report

For the year ended 31 December 2018

> "The positive momentum benefitting the Group since June 2016 continued throughout 2018; this strength was observed across most Group companies and progress was made across all major export zones."

Summary

- Group revenues progressed from £71.4 million to £77.9 million, an increase of 9%, made up of organic growth of 5.5% and the full year contribution of Oxford Cryosystems which was acquired in July 2017.
- Total dividend per share of 40.0p, an increase of 25% and covered 4.6 times by adjusted earnings per share.
- The long-term fundamentals supporting demand for scientific instruments remain positive. Market demand is being driven primarily by increased worldwide investment in higher education and a growing trend towards optimisation across science and industry; optimisation requires measurement.

Revenues

Group revenues for the financial year ended 31 December 2018 progressed from £71.4 million to £77.9 million, an increase of 9%. This reflects Organic growth of 5.5% and the full year contribution of Oxford Cryosystems which was acquired in July 2017. For the year as a whole and excluding the business acquired since 1 January 2017 (this is the meaning of "Organic" in this Report and Accounts), revenues grew strongly across most of the mature economies with UK turnover increasing by 18%, the Rest of Europe up 22% and North America up 11%. China/Hong Kong was down 8% following the strong 39% growth the previous year; the Rest of the World was down by 17%.

Customers outside the UK tend to appraise the value of what they purchase in currencies other than Sterling and the weakness in Sterling throughout most of the year assisted the strength of our exports. Country by country, the most impressive swings were in the USA (up £1.9 million) and in the UK (up £1.5 million) followed by the Czech Republic, Germany and Taiwan. The Group is a strong exporter and well diversified across the globe, with 27% of the Group's revenues earned in North America, 30% in the Rest of Europe, 10% in China/Hong Kong and 20% in the Rest of the World.

Profits

Profit before tax and adjusting items progressed 37% to £14.3 million (2017: £10.4 million). Organic operating contribution was up 30% driven by improved demand throughout the Group, by good progress at the business which had suffered operating issues and by the very favourable exchange rates prevailing since the Brexit vote. The operating subsidiaries combined produced a Return on Total Invested Capital of 27.6% (2017: 20.6%).

The Group has continued to invest in the improvement of its existing products and the development of new products. Investment in research and development amounted to £4.6 million in 2018 (2017: £3.5 million), equivalent to 5.9% of Group revenue.

Earnings per share was enhanced largely by the positive Organic trading performance but also by a full year's ownership of Oxford Cryosystems and the impact of our increased shareholdings in Bordeaux Acquisition (from 51% to 75.5% in July 2017) and in PE.fiberoptics (from 51% to 67.5% in August 2018). Basic earnings per share before adjusting items advanced by 39% from 131.9p to 183.4p; fully diluted earnings per share before adjusting items also improved 39% to 180.6p (2017: 130.3p).

Order intake

The positive momentum benefitting the Group since June 2016 continued throughout 2018; this strength was observed across most Group companies and progress was made across all major export zones with the UK up 22%, Europe ahead by 14%, North America up by 14% and China/Hong Kong up 1% although the Rest of the World was down 15%. This resulted in a 6% increase in Organic order intake compared to 2017. The robust demand enabled the improved sales and left the Group with a healthy order book at 31 December 2018 representing 14.4 weeks of budgeted sales (2017: 14.9 weeks).

Cashflow

The strong trading performance produced abundant cashflow with cash generated from operations of £15.7 million (2017: £10.9 million). At 31 December 2018 the Group was in a net cash position with adjusted net cash excluding subordinated debt owed to non-controlling shareholders (and for 2017, including sums still due in respect of an acquisition) amounting to £0.9 million (2017: net debt of £8.0 million). Statutory net cash was £0.7 million (2017: statutory net debt of £7.6 million).

Dividends

Your Board is recommending a final dividend of 28p per share subject to approval at the forthcoming Annual General Meeting on 22 May 2019, which will make a total distribution of 40p per share in respect of 2018 (2017: 32p per share). Despite the proposed 25% increase, the total dividend per share is more than four and a half times covered by adjusted earnings per share (2017: four times).

Chief Executive's Report continued

For the year ended 31 December 2018

Dividends continued

The proposed final dividend, if approved by shareholders, will be payable on 5 July 2019 to shareholders on the register on 7 June 2019 and the shares will go ex-dividend on 6 June 2019.

The Company's shareholders are reminded that a Dividend Reinvestment Plan (DRIP) is in place to enable shareholders to automatically reinvest their dividends into additional Judges shares should they so wish.

Trading environment

The long-term fundamentals supporting demand for scientific instruments remain positive. Market demand is being driven primarily by increased worldwide investment in higher education and a growing trend towards optimisation across science and industry; optimisation requires measurement.

Despite these positive long-term trends, the markets across which Judges and its peers operate are characterised by a degree of shorter-term variability, influenced mostly by government spending, currency fluctuations and the business climate in major trading blocs, particularly the USA and China. In smaller territories, year-on-year comparisons are not necessarily illustrative of performance, partly due to the high value of some individual orders and the long gestation period often occurring before purchasing intentions crystallise into orders and sales. Alongside these external variables, the uncertainty in research funding in the UK resulting from Brexit may have a continuing influence on commercial activity in some of our businesses.

As a large percentage of the Group's sales are overseas, exchange rates have a significant influence on the Group's business: Judges' manufacturing costs are largely denominated in Sterling and most of its revenue originates from countries where the standard of value is the Euro (one quarter of total revenue) or the US Dollar (two thirds of total revenue). The currency movements in the run-up to the Brexit vote and since have had a positive influence (mitigated to an extent by hedging) on our margins and our competitiveness. Exchange rates during 2018 have been nearly the most favourable we have seen since 2009.

Acquisitions

As a buy and build group, the acquisition of new businesses is a fundamental feature of Group strategy. Executing this effectively is required to ensure that long-term value is generated for shareholders.

The industry in which we operate consists of a multitude of small global niches as highlighted by the diverse nature of the new entrants to our Group. The UK is recognised in this arena as a centre of excellence for product innovation and manufacturing with world-leading businesses. Our Group has built a reputation over the past decade as an experienced and well-financed buyer and a supportive home for businesses in our sector whose owners wish to sell. We are trusted to act decisively and to complete deals under the initial terms agreed. For the businesses we acquire, the Group offers advice and support wherever necessary, participates in succession planning and implements robust financial controls. We trust subsidiary management teams with the day-to-day running of their businesses. This has been a successful operating model for the Group, as management teams are given responsibility for their own destinies, as well as an environment in which they can thrive.

In 2018 no acquisition was completed. This is a reflection of the disciplined attitude of your Board and the erratic nature of deal origination given that most of our acquisitions arise from the seller's intention to retire.

Thirteen years after Judges backed the management buy-out of PE.fiberoptics ("PFO"), one of its original founders retired. PFO offered to buy back half of its own shares using part of its surplus cash. All shareholders except Judges took advantage of the offer and, as a result, the Group's percentage holding in PFO increased from 51% to 67.5%.

Current trading and prospects

Judges has started 2019 with a strong financial position and a solid order book; order intake in the first ten weeks of the new year was ahead of the corresponding prior year period.

Our business will continue to be influenced by public spending around the world and trade tensions (including Brexit) could impact our performance. More significantly, Brexit will be resolved at some point and Sterling's fate ought to be driven again by economic rather than emotional factors; we are well hedged for the current year but a stronger Sterling would not be positive in the medium term. Our well diversified Group has shown its resilience and the underlying strength of our business justifies some optimism for the current year.

David Cicurel
Chief Executive
18 March 2019

Buy and build model

Favourable market

Long-term organic growth drivers + **Low capital use** + **Large deal pool**

Long-term organic growth drivers
Long term organic growth trends in science: global higher education; process optimisation

Low capital use
Low working capital requirement

Large deal pool
Large pool of potential acquisitions in global niches

Track record of successful acquisitions

- Fragmented market with over 2,000 privately held businesses in the UK
- The UK is a recognised worldwide centre of excellence for scientific instrument development and manufacture
- Large pool of potential acquisitions; Judges is highly selective
- Judges has a strong reputation for being a good acquirer

Our acquisition strategy points

- Trusted to honour the terms agreed
- Trusted to act quickly with secured funding
- Treats vendors and staff with respect
- No micromanagement post-acquisition

Shareholder value

Diverse portfolio

Strong dividends

Sustainable returns

Our strategy

Develop the Group through a "buy-and-build" programme of carefully structured acquisitions, supported by long-term organic individual business development.

1 Leverage expertise and capital

We use our knowledge of the scientific instrument sector to identify and progress suitable acquisition targets. Through longstanding relationships, we leverage our access to capital enabling us to act decisively and in a timely fashion.

2 Accumulate sustainable, established businesses

The companies we acquire have established reputations in worldwide niche markets. Target companies need to meet exacting performance criteria that support sustainable sales, profits and cash generation. We pay three to six times EBIT according to size and borrow up to 2.5 times EBITDA at 2–4% depending on the Group's level of gearing.

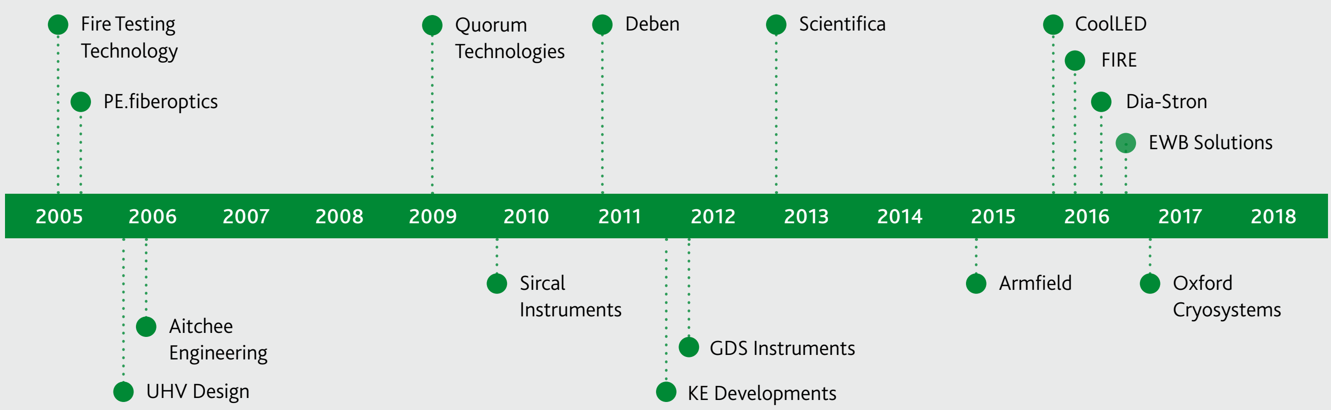
3 Create an environment where businesses can thrive

We buy successful businesses with long-term futures. Our approach is to create additional opportunities through guidance, business support, expertise and capital, under an umbrella of robust financial controls.

4 Repay debt and reinvest profits in further acquisitions

Core value is created through the repayment of debt used to acquire target companies and organic sales growth.

Timeline of our acquisitions



International competitiveness

Acquisitions

Why is it important?	What are we doing to mitigate the risk?
The most significant risk for the Group is that an acquired company does not meet its expected profitability. As an important element of the Group's business strategy is development through acquisition, the Group is also exposed to the risk of insufficient availability of target companies of requisite quality or available within the disciplined price range to which the Group adheres.	The Group manages these risks by maintaining relationships with organisations that market appropriate targets and by performing detailed research into potential acquisitions; post-acquisition, the Group provides advice and support to entity management teams as appropriate, in order to facilitate their ongoing performance.

Key personnel

Why is it important?	What are we doing to mitigate the risk?
The Group's future success is dependent on its senior management and key personnel and, given the small niche-serving nature of the Group's businesses, there is always a challenge to maintain back-up support in respect of key roles or replace key staff should they leave our organisation. Finding quality executives in our sector is a challenge and it can take a long time to replace and/or to prove the suitability of any new executive.	The Group encourages succession planning wherever possible and seeks to provide a positive work environment with opportunities for career growth coupled with appropriate remuneration and, where appropriate, longer-term rewards.

Currency and foreign exchange

Why is it important?	What are we doing to mitigate the risk?
The Group exports the large majority of its products, hence it is exposed to fluctuations in exchange rates which may impact on its competitiveness. Brexit has temporarily improved exchange rates but may cause uncertainty and greater volatility in the medium term alongside any wider global economic risk.	The Group seeks, so far as is practicable, to mitigate these currency effects for the financial year via hedging foreign exchange rates but foreign exchange fluctuations affect the Group's competitiveness in the medium term. Additional detail is set out in note 25.

Principal Risks and Uncertainties continued

Economic conditions

Why is it important?	What are we doing to mitigate the risk?
The Group's customers are internationally located and are often state owned or those whose liquidity are closely linked to government spending. Accordingly, the prevailing uncertainties in the world economy, and particularly the borrowing constraints currently affecting many western nations, represent a risk to the Group's prospects.	The Group seeks to trade globally as it operates in small worldwide niches. In the short to medium term, the decision by the UK to leave the EU also creates some uncertainty as it is still not yet clear what shape Brexit will have and hence its impact on Research funding in the UK, on the UK economy and on foreign exchange rates.

R&D and products

Why is it important?	What are we doing to mitigate the risk?
The Group continues to invest in the development of new products to meet the needs of our end customers. There is a risk that our businesses may be unable to develop suitably commercial and technically reliable new products with which to maintain and drive revenue performance. There is also a risk that new developments in science will make certain of the Group's products obsolete.	The Group maintains a focus on ensuring there are ongoing R&D roadmaps for our businesses and that we continue to invest in well-trained and qualified R&D and operations teams to deliver quality, well-engineered products for our customers.

Competition

Why is it important?	What are we doing to mitigate the risk?
The Group faces competition across all its businesses and there can be no certainty that each business will achieve the market penetration it seeks. There is also no guarantee that there will be no new competition or new entrant to the market with better products.	The Group seeks to mitigate this through detailed market analysis when considering acquisitions and seeks to acquire companies in small global niches. Additionally, the Group continues to listen carefully to its customers' aspirations for product development and, where possible, satisfy those product development requests.

On behalf of the Board

David Cicurel
Director
18 March 2019

Company registration number: 04597315

Finance Director's Report

For the year ended 31 December 2018

> "The Group has four Key Performance Indicators, which are aligned with the ability to reduce acquisition debt and fund dividend payments to shareholders. All four KPIs have improved in 2018 which reflects positive, profitable order intake across the business and its subsequent conversion into cash."

The Group's strategy is based on the acquisition of companies operating in the scientific instruments sector and the continuing generation of profitable performance at its existing subsidiary businesses.

The Group's Key Performance Indicators, which are aligned with the ability to reduce acquisition debt and fund dividend payments to shareholders, are earnings per share, operating margins, return on invested capital and cashflow generation. All four KPIs have improved in 2018 which reflects positive, profitable order intake across the business and its subsequent conversion into cash.

Revenue

Group revenues grew to £77.9 million compared to £71.4 million in 2017, an increase of 9%. This positive revenue growth included 5.5% organic growth in the year (2017: 17.8%), which was driven by pleasing performance across our businesses as a whole. The Group's 2017 acquisition also performed as expected.

The overall revenue growth was supported by both segments. The Materials Sciences segment revenues grew by £1.0 million to £35.1 million, an increase of 2.8%, and Vacuum revenues improved by 14.9% to £42.8 million (2017: £37.3 million).

Profits

Adjusted operating profits grew strongly to £14.7 million from £10.9 million in 2017, an increase of 35%. This improvement was driven by the strong revenue growth and, as a Group that exports more than 85% of our goods, we also benefited from the continued weakness in Sterling albeit to a slightly lesser degree than in 2017. As our business has a fairly high fixed cost base, marginal sales improve operating performance, and hence we have seen operating margins continue to improve to 18.9% (2017: 15.2%). This margin increase was also supported by significant improvement at the business which had production issues. Adjusted profit before tax was £14.3 million compared to £10.4 million in 2017, an increase of 37%.

Statutory operating profit increased to £10.7 million (2017: £5.7 million), and statutory profit before tax was £10.2 million compared to £5.1 million in 2017.

Adjusting items

The total pre-tax adjusting items recorded in 2018 were £4.1 million compared to £5.3 million in 2017. Amortisation of intangible assets recognised upon acquisition, as required under IFRS, totalled £3.6 million compared to £4.6 million last year and due to no acquisitions being completed in the year, there were minimal acquisition costs compared to £0.3 million during 2017.

Finance costs

Net finance costs (excluding adjusting items) totalled £0.4 million (2017: £0.5 million). Statutory net finance costs were £0.5 million (2017: £0.6 million); the difference is due to the £0.1 million net finance cost of the defined benefit pension scheme acquired with Armfield in 2015.

Taxation

The Group's tax charge arising from adjusted profit before tax was £2.1 million (2017: £1.5 million). The effective tax rate for adjusted profit is 15.0% compared to 14.2% in 2017. The effective tax rate is influenced by the wider regime of reducing UK and US corporate tax rates and by claims for UK research and development tax credits. This year our effective tax rate has increased as our Group's performance has greatly improved and this has reduced, on a percentage basis, the beneficial impact of R&D tax credits. We continue to perform well in the US however the expected increase in tax payable from this improved performance was mitigated somewhat by the reductions in US Federal tax rates. At the same time, we are still benefiting from a tax rate lower than the standard UK corporation rate and whilst we remain an SME for R&D tax credits, as the Group has less than 500 employees, the Group, as an investor in R&D, will derive benefit from this scheme.

Earnings per share

Adjusted basic earnings per share significantly improved to 183.4p, compared to 131.9p in 2017, an increase of 39.0% and adjusted diluted earnings per share increased by 38.6% to a total of 180.6p (2017: 130.3p).

Statutory basic earnings per share, after reflecting adjusting items which are influenced by the amortisation of intangible assets arising from recent acquisitions, was 137.5p (2017: 65.6p) and statutory diluted earnings per share totalled 135.4p (2017: 64.8p).

Order intake

The Group benefited from strong organic order intake throughout 2018 which followed the positive trend seen through the second half of 2016 and all of 2017. Overall organic order intake was up by 6.2% compared to 2017, and this consistent order intake fuelled the strong performance in 2018 and has given the Group a robust order platform to start 2019. Your Board considers order intake and the resultant year-end order book as an important bellwether to the Group's ability to achieve its expected results. Our order book at 1 January 2019 was a robust 14.4 weeks of budgeted sales (1 January 2018: 14.9 weeks).

Finance Director's Report continued

For the year ended 31 December 2018

Return on capital

The Group closely monitors the return it derives on the capital invested in its subsidiaries. At 31 December 2018 the annual rate of Return on Total Invested Capital ("ROTIC") was 27.6% which compares favourably with 20.6% at the end of 2017. This shows that the Group's momentum continues following the recovery in 2017, and reflects continuing good overall performance across our businesses.

The annual rate of ROTIC is calculated by comparing attributable earnings excluding central costs, adjusting items and before interest, tax and amortisation ("EBITA") with the amounts invested in plant and equipment, unamortised intangibles and goodwill and net current assets (excluding cash).

ROTIC is influenced by the overall performance of our businesses and the size of, and multiple paid for, acquisitions. We continue to strive to improve ROTIC although we remain cognisant of the downward impact that acquiring businesses at higher multiples has on overall ROTIC.

Dividends

In relation to the financial year ended 31 December 2018 the Company paid an interim dividend of 12.0p per share in November 2018. The Board is recommending a final dividend of 28.0p per share giving a total dividend for the year of 40.0p per share (2017: 32.0p per share), an increase of 25%. Dividend cover is more than four and a half times adjusted earnings per share.

Your Group's policy is to pay a progressively increasing dividend provided the Group retains sufficient cash and borrowing resources with which to pursue its longstanding business acquisition policies.

Headcount

The Group's total number of employees at year end stood at 483 (2017: 456). The change in staff numbers during the year was mainly attributable to growth in manufacturing staff required to meet increased demand.

Share capital and share options

The Group's issued share capital at 31 December 2018 totalled 6,196,678 Ordinary shares (2017: 6,141,128). The shares issued during 2018 arose from the exercise of share options by various members of staff during the year.

Share options issued during the year under the 2015 scheme totalled 4,000 (2017: 85,792) and the total share options in issue at the year end under both the 2005 and 2015 schemes amounted to 249,675 (2017: 306,203).

Defined benefit pension scheme

The Group has a defined benefit pension scheme which was assumed as part of the acquisition of Armfield Limited ("Armfield") in 2015. This scheme has been closed to new members from 2001 and closed to new accrual in 2006. The next full actuarial valuation for the scheme will be in 2020 and, subject to this valuation, the annual contributions to the scheme are £0.2 million. The Group accounts for postretirement benefits in accordance with IAS 19 Employment Benefits. The Consolidated Balance Sheet reflects the net deficit on the pension scheme, based on the market value of the assets of the scheme and the valuation of liabilities using year-end AA corporate bond yields. At 31 December 2018, the pension liability (net of deferred tax) was £1.5 million (31 December 2017: £1.8 million).

The net liability has reduced due to an increase in discount rates during 2018 from 2.5% to 2.8% together with a slight shortening in post-retirement mortality rates, partially offset by reductions in fund assets. Armfield takes its responsibility seriously to ensure the pension is adequately funded whilst also continuing to review appropriate deficit control strategies.

Cashflow and net debt

This year's strong trading performance has resulted in cash generated from operations of £15.7 million (2017: £10.9 million). The Group has a strong track record of converting profit into cash, and this is reflected in the high cash conversion rate of 106% (2017: 100%). Total capital expenditure on property, plant and equipment amounted to £1.0 million (2017: £0.7 million). Year-end cash balances totalled £15.7 million compared to £10.7 million in 2017.

The Group ended 2018 in a position of £0.9 million of adjusted net cash which compares to £8.0 million of adjusted net debt at the end of 2017, an improvement of £8.9 million. Statutory net cash was £0.7 million (2017: statutory net debt of £7.6 million). This improvement resulted from the strong operational performance across our businesses as a whole and underpins the business model we are continuing to deliver, enabling investment in acquisitions and the Group's growing dividend (£2.1 million).

We achieved net cash at 31 December 2018, such that gearing was negative compared to 31 December 2017, which was 0.73 times adjusted operating profit. We remain committed to maintaining a conservative gearing position whilst at the same time taking the opportunities of acquiring strong, sound businesses at disciplined multiples as illustrated over the history of our Group.

The Group's financial position continues to be strong. As noted in my report last year, we were seeking to renew our banking facilities and, in April 2018, the Group entered into new banking facilities ("Facility") with Lloyds Banking Group (the "Bank") which replaced its existing banking arrangements. At the point of refinancing, the Group had a total of £12.9 million outstanding. The Facility is for an aggregate £35.0 million consisting of a £10.0 million term loan ("Term Loan"), a committed £20.0 million revolving credit facility ("RCF") plus a £5.0 million accordion facility, which can be drawn at the discretion of the Bank. The Facility has a five-year term ("Borrowing Term") with covenants and interest consistent with the previous bank facilities.

The Term Loan amortises on a straight-line basis over the Borrowing Term by quarterly instalments. The RCF is repayable in a bullet at the end of the Borrowing Term. The existing lending facilities via Bordeaux Acquisition ("Bordeaux"), the Group's 75.5% owned subsidiary, which owns Deben UK and Oxford Cryosystems, remain unchanged.

We continue to appreciate the support of Lloyds Banking Group and the new Facility provides the Group with further capacity to finance acquisitions to support the Group's buy and build strategy.

Overall, your Group has had a positive year for performance and we are well placed, with a strong balance sheet and significant available borrowing capacity, to continue with its enduring strategy of achieving growth in earnings via selective acquisitions of strong niche businesses in the scientific instruments sector, alongside the ongoing performance of its existing businesses.

Brad Ormsby
Group Finance Director
18 March 2019

Governance report

Governance report

Our Board

Providing a unique combination of international business, investor and financing experience across public and private markets.

Hon. Alexander Hambro
Chairman

Alex Hambro has been active in the private equity sector both in the UK and the USA for some 30 years, during which time he acted as a principal investor, manager and sponsor of private equity and venture capital management teams.

In addition to his responsibilities at Judges Scientific plc, Alex is also Chairman of Bapco Closures Holdings Ltd and a Non-Executive Director of Octopus Apollo VCT plc, Hertsford Capital plc, Whitley Asset Management Ltd and Crescent Capital Ltd.

Alex is currently a founder partner of Welbeck Capital Partners LLP, a specialist investment syndicate that deploys secured convertible loan notes to finance growth opportunities for small-cap AIM companies.

N R

David Cicurel
Chief Executive

David Cicurel founded Judges in 2002 having spent much of his career as a turnaround specialist and, subsequently, as an "active value" investor operating with his own funds.

He has been responsible for several corporate recovery exercises including two UK public companies, International Media Communications plc (later known as Continental Foods) and International Communication and Data plc.

E

Brad Ormsby
Group Finance Director

Brad Ormsby is a Chartered Accountant who has significant senior finance and operational experience acquired during nine years at PwC followed by six years at Eurovestech plc, the pan-European development capital fund, and associated companies.

Prior to joining Judges Scientific in 2015, Brad was Chief Financial Officer at Kalibrate Technologies plc where he led the company's IPO.

E

Mark Lavelle
Chief Operating Officer

Mark Lavelle gained sales & marketing experience with PerkinElmer, and finance experience with Bank of America in London and the USA, then moved into Industrial general management, most recently with 15 years at Halma plc. At Halma he was Managing Director of two separate businesses (in Medical Devices and Ion Beam Coating), ran Acquisitions for the group, and led two Divisions (Industrial Safety and Water Analysis & UV) comprising a total of 15 companies in the UK, Europe, the USA and Asia-Pacific. He also had responsibility for Innovation at Halma, and subsequently the group's Indian presence. He has been a Pension trustee for the last 12 years. Mark is a Chemistry graduate of the University of Cambridge and holds an MBA from INSEAD in France.

E

Charles Holroyd
Non-Executive

Charles Holroyd has a BSc in Electrical and Electronics Engineering from the University of Bristol and an MBA from INSEAD. He is a Chartered Engineer and a Fellow of the Institution of Engineering and Technology. Charles has held senior management positions within a number of publicly quoted companies. Most recently Charles worked at Oxford Instruments plc, which he joined in 1999 and where he served on the board from 2005 until 2013 and was responsible for group business development including M&A activities.

He is the Senior Independent Director and is Chairman of the Remuneration Committee.

N I A R

Ralph Cohen
Non-Executive

Ralph Cohen was the Finance Director of Judges Scientific plc for nearly ten years until his retirement in April 2015. He held various senior executive positions within the energy and water divisions of the Paris based Vivendi group between 1981 and 2001, including eight years as Finance Director of a listed subsidiary, followed by positions as Managing Director within that group.

He previously spent nine years at Ernst & Young. Latterly he was the founding partner of MC Consultancy Services, where he was closely associated with major projects, including electricity supply opportunities in Europe and M&A projects.

He is also the Non-Executive Chairman of AIM-listed Yü Group PLC.

N A

Ralph Elman
Non-Executive

Ralph Elman is a former Finance Director of quoted companies Paramount plc, Delyn plc and International Communication & Data plc and Finance Director of businesses within GUS plc and RR Donnelley.

Ralph was Senior Partner of accountancy firm Elman Wall and is a Non-Executive Director of a number of private companies. He is Chairman of the Judges Audit Committee.

N A R

Glynn Reece
Company Secretary

Glynn Reece is a graduate of Oxford University and a qualified solicitor. Since 1987, he has specialised in providing corporate finance deal origination and advisory services, working for (inter alia) Coopers & Lybrand, Arthur Andersen and CLB, a specialist AIM firm.

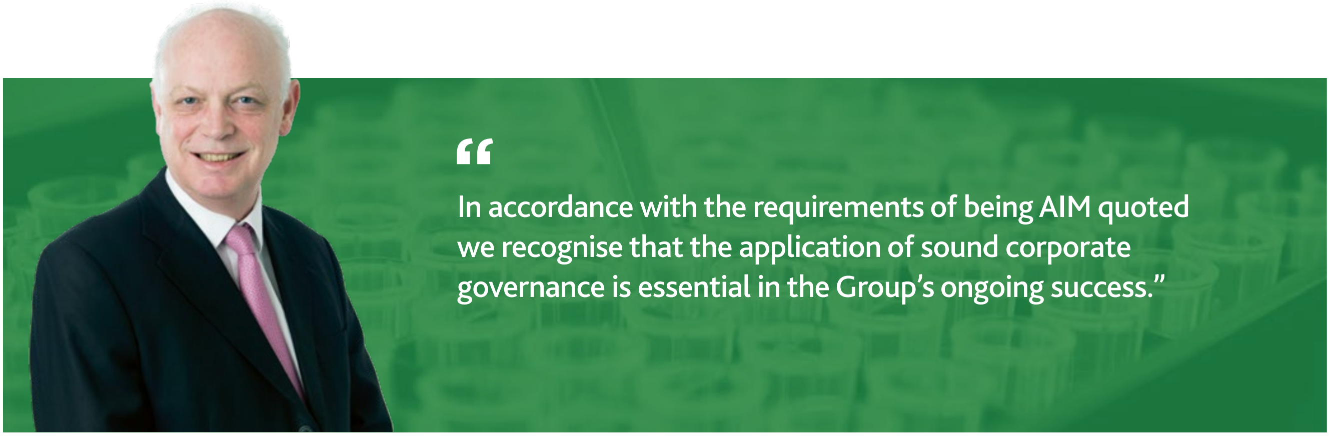
He is currently a Proprietor of Carl Reiss Meyer, a business that acts as an arranger of pre-flotation finance for small fast growing companies.

N

Committee membership

E Executive N Non-Executive I Independent A Audit Committee R Remuneration Committee

Corporate Governance Statement



Introduction

I have pleasure in introducing the Corporate Governance Statement. In accordance with the requirements of being AIM quoted we recognise that the application of sound corporate governance is essential in the Group's ongoing success and adopt the principal provisions of the QCA Corporate Governance Code for Small and Mid-Size Quoted Companies ("QCA guidelines"). This report sets out our approach to Judges' governance.

Board composition

The Board is responsible to the shareholders and sets the Group's strategy for achieving long-term success. It is also ultimately responsible for the management, governance, controls, risk management, direction and performance of the Group.

During the year the Board comprised of three Executive Directors, together with the Non-Executive Chairman and three further Non-Executive Directors. On 1 June 2018, Charles Holroyd was appointed as the Senior Independent Non-Executive Director, replacing Glynn Reece who stepped down from the Board. Glynn Reece remains with the Group as Company Secretary.

Charles has a BSc in Electrical and Electronics Engineering from the University of Bristol and an MBA from INSEAD and is a Chartered Engineer and a Fellow of the Institution of Engineering and Technology. Charles has held senior management positions within a number of publicly quoted companies. Most recently, Charles worked at Oxford Instruments plc from 1999 where he served on the board from 2005 until 2013 and was responsible for group business development.

The Group now has one independent Non-Executive Director although under the QCA guidelines, all other Non-Executive Directors are not considered independent by virtue of their tenure, as they have served more than nine years from the date of their first election or were previously an Executive Director of the Company. At the same time, the Company considers that these Non-Executive Directors act independently of the Executive management and that the value of their long association with the Company alongside their deep understanding of the Group's business model ensures that they are best placed to appropriately police adherence to the Group's enduring strategy, which continues to provide shareholders with long-term market-beating performance.

Board operation

The Board is responsible for the Company's strategy and for its overall management. The operation of the Board is documented in a formal schedule of matters reserved for its approval, which is reviewed annually. These include (although not exhaustively) matters relating to:

- the Group's strategic aims and objectives;
- the approval of significant acquisitions and expenditure;
- financial reporting, financial controls and dividend policy;
- the structure, capital and financing of the Group;
- internal control, risk and the Group's risk appetite;
- effective communication with shareholders; and
- any changes to Board membership or structure.

Board decision making

The Board has a schedule of matters covering business, financial and operational matters ensuring that all areas of Board responsibility are addressed throughout the year. The Chairman, supported by the Company Secretary, is responsible for ensuring the Directors receive accurate and timely information. The Company Secretary compiles the Board papers which are circulated to Directors in advance of meetings. The Company Secretary prepares and provides minutes of each meeting and every Director is aware of the right to formally minute any concerns.

Board meetings

The main Board meets monthly (except in August) in addition to any ad hoc Board meetings that may be required during the year. Non-Executive Directors communicate directly with Executive Directors between formal Board meetings as required.

Directors are expected to attend all meetings of the Board, and the Committees on which they sit, and to devote sufficient time to the Company's affairs to enable them to fulfil their duties as Directors. In the event that Directors are unable to attend a meeting in person they will endeavour to attend via phone, Skype or similar arrangement. Where they cannot attend, their comments on papers to be considered at the meeting will be discussed in advance with the Chairman so that their contribution can be included in the wider Board discussion.

The Directors' attendance at Board and Committee meetings during the year is disclosed in the table below:

	Board	Audit	Remuneration
AR Hambro	11/11	1/1	2/2
DE Cicurel	11/11	—	—
BL Ormsby	11/11	—	—
MS Lavelle	11/11	—	—
RL Cohen	11/11	3/3	1/1
RJ Elman	10/11	3/3	2/2
CJA Holroyd (appointed 1 June 2018)	6/6	—	1/1
GC Reece (retired 1 June 2018)	5/5	1/1	—

Board Committees

The Board has delegated specific responsibilities to the Audit and Remuneration Committees, details of which are set out below. As the Board is small, there is no separate nominations committee and consideration of future recommendations for appointments to the Board is considered by a committee of Directors set up at that time. In the recent appointment of Charles Holroyd, a committee of the Chairman, Chief Executive and one other Non-Executive Director was set up to oversee the recruitment process and propose a recommendation to the Board.

Each Committee has written terms of reference setting out its duties, authority and reporting responsibilities. Copies of all the Committee terms of reference are available on the Company's website (www.judges.uk.com) or on request from the Company Secretary. The terms of reference of each Committee are kept under continuous review to ensure they remain appropriate to the Group. Each Committee is comprised of three of the Non-Executive Directors of the Company. The Company Secretary is the secretary of each Committee.

Audit Committee

The Audit Committee is chaired by Ralph Elman and the other members are Ralph Cohen and Charles Holroyd. Glynn Reece stepped down from this Committee on 1 June 2018 when Charles Holroyd was appointed. The Audit Committee has primary responsibility for monitoring the quality of internal controls and ensuring that the financial performance of the Group is properly measured and reported on. It receives and reviews information and reports from the Group's management and Auditor relating to the annual financial statements and the accounting and internal control systems in use throughout the Group. It also advises the Board on the appointment of the Auditor, reviews their fees and discusses the nature, scope and results of the audit with the Auditor. The Audit Committee meets at least twice a year and has unrestricted access to the Group's Auditor. The Executive Directors and the Chairman attend the Committee meetings by invitation as required.

The Audit Committee Report on page 21 contains more detailed information on the Committee's role.

Remuneration Committee

The Remuneration Committee is chaired by Charles Holroyd, the Senior Independent Non-Executive Director. The other members of this Committee are Ralph Elman and Alex Hambro. Alex Hambro stepped down as Chairman of the Remuneration Committee after the appointment of Charles Holroyd. The Remuneration Committee reviews the performance of the Executive Directors and makes recommendations to the Board on matters relating to their remuneration and terms of employment. The Remuneration Committee also makes recommendations to the Board on proposals for the granting of share options and other equity incentives pursuant to any share option scheme or equity incentive scheme in operation from time to time. The remuneration and terms and conditions of appointment of the Non-Executive Directors of the Company are set by the Board. The Chief Executive and Group Finance Director are invited to attend for some parts of the Committee meetings where their input is required although they do not take part in any discussion on their own benefits and remuneration. The Remuneration Committee meets at least once per year.

The Remuneration Report on pages 22 to 24 contains more detailed information on the Committee's role and the Directors' remuneration and fees.

Board effectiveness

Biographies of the Board on pages 16 and 17 set out the skills, knowledge and experience of the Board and this mix of capabilities enables them to constructively challenge strategy and review performance.

Induction of new Directors

New Directors undergo a programme tailored to the existing knowledge and experience of the Director concerned and ensures they develop the requisite knowledge about the Group such that they can contribute fully from an early stage. Following the appointment of Charles Holroyd in June 2018, his induction included visits to all the Group's businesses to develop his knowledge of the Group.

Time commitments

All Directors are aware of the time required to fulfil the role prior to appointment and have confirmed their ability to meet the required commitment prior to appointment. This requirement is also included in their letters of appointment or service contract. The Board is satisfied that the Chairman and each of the Non-Executive Directors is able to devote sufficient time to the Group.

Development

The Company Secretary ensures that all Directors are made aware of changes in relevant legislation and regulations, with the assistance of the Company's advisers where appropriate. Executive Directors are subject to the Company's performance development review process and will obtain additional professional training as appropriate.

External appointments

In the appropriate circumstances, the Board may authorise Executive Directors to take Non-Executive positions in other companies and organisations, provided the time commitment does not impact upon the Director's ability to perform their role, since such appointments should widen their experience. The Chairman will approve any such appointment.

Corporate Governance Statement continued

Board effectiveness continued

Conflicts of interest

The Board regularly reviews any Directors' conflicts of interest. The Company's Articles of Association provide for the Board to authorise any actual or potential conflicts of interest.

Independent professional advice

Directors have access to independent professional advice at the Company's expense. In addition, they have access to the advice and services of the Company Secretary who is responsible to the Board for advice on corporate governance matters.

Directors' and Officers' liability insurance

The Company has obtained Directors' and Officers' liability insurance during the year as permitted by the Company's articles.

Election of Directors

In accordance with the Company's Articles of Association, Ralph Cohen and Ralph Elman will retire and offer themselves for re-election at the Annual General Meeting. Charles Holroyd will present himself for appointment.

Performance evaluation

The Chairman meets with each of the Directors and assesses their effectiveness. He is also responsible for the Executive composition of the Board as evidenced through his Chairmanship of the sub-committee which was responsible for the recruitment of the Group's new Chief Operating Officer. The Chief Executive assesses each Executive Director and provides informal feedback on their performance on a timely basis.

Internal controls

The Board has ultimate responsibility for the Group's system of internal control and for reviewing its effectiveness. However, any such system of internal control can provide only reasonable, but not absolute, assurance against material misstatement or loss. The Board considers that the internal controls in place are appropriate for the size, complexity and risk profile of the Group.

The principal components of the Group's internal control system include:

- overview of the day to day activities of the Group by the Executive Directors;
- all proposed acquisitions are comprehensively reviewed by the Board;
- a comprehensive annual budgeting process which is approved by the Board;
- a decentralised organisational structure with defined levels of responsibility for all trading subsidiaries, to encourage principled entrepreneurial behaviour whilst minimising risks;
- rotational visits by the Board to the trading subsidiaries;
- detailed monthly reporting of performance against budget and forecast; and
- central control over key areas such as cash/banking facilities and capital expenditure.

The Group continues to assess and develop its internal control system to ensure compliance with best practice for a Group of its size. The Board considers that the introduction of an internal audit function is not currently appropriate.

Relations with shareholders

The Group maintains communication with institutional shareholders through individual meetings with Executive Directors, particularly following publication of the Group's interim and full year results. All shareholders are encouraged to attend the Annual General Meeting which is on 22 May 2019 (full details in the Directors' Report on pages 25 and 26) at which the Group's activities are considered and questions answered. General information about the Group is also available on the Group's website (www.judges.uk.com). This includes a Group overview, detailed information about our trading businesses, details of all recent Group announcements and other relevant investor information.

Whistleblowing

The Group has had in place for several years a whistleblowing policy which sets out the formal process by which an employee of the Group may, in confidence, raise concerns about possible improprieties in financial reporting or other matters. Whistleblowing is a standing item on the Board's agenda with updates provided at each meeting. During 2018, there were no incidents for consideration.

Alex Hambro
Chairman
18 March 2019

Audit Committee Report

For the year ended 31 December 2018

On behalf of the Board, I am pleased to present the Audit Committee report for the year ended 31 December 2018.

Composition of the Committee

The Committee consists of myself (as Chairman), Ralph Cohen and Charles Holroyd. The Chairman and Executive Directors may be invited to attend Committee meetings if required. During the year, the Committee met three times, to review the audit and interim findings and approve the audit plan. The Board is satisfied that I, as Chairman of the Committee, have recent and relevant financial experience. I am a Chartered Accountant, I have served as Finance Director in a number of quoted companies and am Non-Executive Director of a number of other companies. Glynn Reece acts as Secretary to the Committee. I report the Committee's deliberations at the next Board meeting and the minutes of each meeting are made available to all members of the Board. Executive Directors may be invited to attend Audit Committee meetings as required.

Responsibilities

The main duties of the Audit Committee are set out in its Terms of Reference, which are available on the Company's website (www.judges.uk.com) and are available on request from the Company Secretary. The Committee's main duties are to:

- ensure the integrity of the financial statements (including annual and interim accounts and results announcements);
- review significant financial reporting judgements and the application of accounting policies thereon;
- ensure the Annual Report and Accounts are fair, balanced and understandable and recommend their approval to the Board;
- manage the relationship with the Group's external Auditor and review their suitability and independence;
- negotiate and approve the external Auditor's fee, the scope of their audit and terms of engagement;
- advise on the appointment of external Auditors and to review and monitor the extent of the non-audit services undertaken by the Group's external Auditor;
- review of the risk management and internal control systems;
- review the assessment of going concern; and
- assess the need for an internal audit function.

Role of the external Auditor

The Audit Committee monitors the relationship with the external Auditor, Grant Thornton UK LLP, to ensure that auditor independence and objectivity are maintained. As part of its review the Committee also monitors the provision of non-audit services by the external Auditor. An analysis of fees shared between audit and non-audit services is disclosed in note 8 to the Group's financial statements. Non-audit fees charged by Grant Thornton UK LLP to the Group relate to the provision of financial due diligence services to the Group and were less than 100% of the annual audit fee. No issues impacting upon the Auditor's independence were observed or brought to the Committee's attention.

Audit process

The external Auditor prepares an audit plan for its review of the full year financial statements. The audit plan sets out the scope of the audit, specific areas of risk to target and audit timetable. This plan is reviewed and agreed in advance by the Audit Committee. Following its review, the Auditor presented their findings to the Audit Committee for discussion. No matters of significant concern relating to either the Group's internal controls or accounting practices were highlighted by the Auditor during the year, however, areas of significant risk and other matters of audit relevance are regularly communicated.

Internal audit

At present the Group does not have a formal internal audit function and the Committee considers that management is able to derive assurance as to the adequacy and effectiveness of internal controls and risk management procedures without one. As part of the Group's development, a formal internal audit function is intended to be put in place during 2019.

Risk management and internal controls

As described in the Corporate Governance Statement on pages 18 to 20, the Group has established a framework of risk management and internal control systems and procedures. The Audit Committee is responsible for reviewing the risk management and internal control framework and ensuring that it operates effectively. During the year, the Committee has reviewed the framework and the Committee is satisfied that the internal control systems in place are currently operating effectively. During 2019, additional focus is being given to internal controls relating to banking arrangements.

Ralph Elman
Audit Committee Chairman
18 March 2019

Remuneration Report

For the year ended 31 December 2018

On behalf of the Board, I am pleased to present the 2018 Directors' Remuneration Report, which sets out the remuneration policy and the Directors' remuneration for the year.

Composition of the Committee

The Committee consists of myself (as Chairman), Alex Hambro and Ralph Elman. Alex Hambro stepped down as Chairman of this Committee after my appointment during 2018. The Chief Executive and Group Finance Director may be invited to attend Committee meetings if required. The Committee met twice during the year.

Executive Director remuneration policy

Our remuneration arrangements are designed simply to align the interests of the Executive Directors with shareholders over the short and longer term. The Committee is aware of recent developments in corporate governance and good practice in Executive remuneration and ensures that it is able to benchmark Executive remuneration against similar AIM quoted businesses, in order to attract, motivate and retain high quality individuals who will, over time, contribute to the ongoing success of the Group. No external remuneration consultants are currently utilised to support the Committee's deliberations.

To achieve our goal of alignment between shareholders and the Executive Directors, the Group provides competitive pay, split between fixed and performance-related elements. Overall remuneration is reviewed annually and the key elements are explained below:

Base salary

This is set to reflect the market value of the role and the individual's performance and contribution to the Group. Base salary is reviewed annually with any changes applied from 1 January.

Pension and other benefits

The Group provides matching contribution of up to 5% of base salary. Additionally, the Group may provide additional benefits such as private healthcare, car allowance and life assurance.

Annual bonus

The annual bonus for the Executive Directors is set at 25% of base salary upon achieving annual earnings per share targets set within the budget. Additionally, no bonus can be achieved if earnings per share is below a historical high watermark.

Share options

Share options are issued to incoming Executive Directors and/or in the course of their employment in order to drive sustained long-term performance supporting the creation of shareholder value. Share options are issued at market value and vest over a period of three years, and, presently, do not have any further performance criteria, although this is under review for future awards.

Non-Executive Director fee policy

Non-Executive Director fees are set such that the Chairman and Non-Executive Directors receive a base fee for their respective roles designed to be comparable to similar AIM quoted companies. Further fees are payable for additional services such as chairing any of the Board's Committees.

Fees payable to the Chairman and Non-Executive Directors are fixed and determined by the Board and are reviewed at least every three years.

Key Committee activities in 2018

The Remuneration Committee operates under the Group's agreed Terms of Reference and determines the Group's remuneration policy in respect of the terms of employment of Executive Directors and their remuneration packages.

During the year the Committee met twice and its main activities were:

- approval of Executive Directors' bonuses relating to 2017;
- benchmarking of and review of Executive Director remuneration arrangements for 2019;
- determining the performance target for the 2019 Executive Director annual bonus arrangements; and
- review of developments in corporate governance and best practice.

Service contracts

Executive Directors

The Executive Directors are all employed on service contracts. These are not of a fixed duration and are terminable by either party giving 12 months' written notice.

Executive Director	Date of Service Contract
DE Cicurel	24 December 2002
BL Ormsby	3 March 2015
MS Lavelle	15 November 2017

Non-Executive Directors

The Non-Executive Directors signed letters of appointment with the Company upon appointment for the provision of Non-Executive Directors' services, terminable by three months' written notice given by either party.

Non-Executive Director	Appointment Date
Hon. AR Hambro	24 December 2002
RJ Elman	25 October 2005
RL Cohen	1 May 2015
CJA Holroyd	1 June 2018

Directors' remuneration

The remuneration paid to or receivable by each person who served as a Director during the year was as follows:

	Salary/fees £000	Bonus £000	Pension £000	Benefits £000	2018 total £000	2017 total £000
Non-Executive Directors						
Hon. AR Hambro	39	—	—	—	39	40
CJA Holroyd (appointed 1 June 2018)	16	—	—	—	16	—
RL Cohen	26	—	—	—	26	26
RJ Elman	30	—	—	—	30	30
GC Reece (retired 1 June 2018)	20	—	—	—	20	48
Executive Directors						
DE Cicurel	170	43	—	5	218	213
BL Ormsby	150	37	8	2	197	183
MS Lavelle	168	42	8	18	236	23
D Barnbrook (retired 31 December 2017)	—	—	—	—	—	241
Total	619	122	16	25	782	804

The 2018 annual bonus of 25% of base salary was awarded to the Executive Directors as a result of exceeding the earnings per share target. In April 2018 BL Ormsby exercised 30,000 share options resulting in a gain on exercise of £256,000. No other Directors exercised options over the Ordinary shares of the Company (2017: no Directors).

Implementation of remuneration policy for 2019

Base salary

During the year, the Committee reviewed the base salary of the Executive Directors and considered individual performance, experience and comparable salary rates and approved the following salaries for 2019:

	2019 £000	2018 £000
DE Cicurel	190	170
BL Ormsby	166	150
MS Lavelle	172	168

Pension and other benefits

Mark Lavelle receives 5% of his base salary as cash in lieu of contributions into a pension scheme and also receives a car allowance. Brad Ormsby receives matched pension contributions of 5% of his salary.

Chairman and Non-Executive fees

The Chairman and Non-Executive Directors' fees were amended as of 1 January 2017 and fixed for three years as follows:

	£000
Chairman base fee	36
Non-Executive Director base fee	26
Fee for chairing Audit or Remuneration Committee	4

Remuneration Report continued

For the year ended 31 December 2018

Directors' interests

At 31 December 2018, the Directors had the following beneficial interests in the Company's Ordinary shares of 5p each and options to subscribe for shares:

Ordinary shares of the Company

	31 December 2018		1 January 2018	
	Shares	Options	Shares	Options
Non-Executive Directors				
Hon. AR Hambro	64,000	—	64,000	—
RL Cohen	64,341	1,775	64,341	1,775
RJ Elman	62,435	—	62,402	—
CJA Holroyd	2,016	—	—	—
Executive Directors				
DE Cicurel	759,339	9,275	759,242	9,275
BL Ormsby	2,584	30,000	392	60,000
MS Lavelle	175	60,000	—	60,000

Dividends paid in the year to Directors who hold shares amounted to £325,000 in aggregate (2017: £306,000).

In 2018, the Group continued to award a free "matching share" under the Judges Scientific Share Incentive Plan for every share purchased up to a maximum value of £600 per employee per tax year for all eligible employees who have completed 3 months' service within the Group. Shares acquired by Directors, including matching shares, were 97 shares acquired by DE Cicurel (2017: 136 shares), 96 shares by BL Ormsby (2017: 134 shares) and 175 shares by MS Lavelle (2017: nil shares).

Options over Ordinary shares in the Company

	Number of shares			
Date of option issue	DE Cicurel	MS Lavelle	BL Ormsby	RL Cohen
2005 Option Scheme				
28 April 2008 at 124p	—	—	—	—
23 July 2009 at 92p	—	—	—	—
9 May 2011 at 470p	—	—	—	—
25 October 2013 at 1690p	1,775	—	—	1,775
30 March 2015 at 1437.5p	—	—	30,000	—
2015 Option Scheme				
21 October 2015 at 1402.5p	7,500	—	—	—
23 November 2017 at 1935.0p	—	60,000	—	—
	9,275	60,000	30,000	1,775

Charles Holroyd
Remuneration Committee Chairman
18 March 2019

Directors' report

For the year ended 31 December 2018

The Directors present their report and audited consolidated financial statements for the year ended 31 December 2018. Comparative information is provided for the year ended 31 December 2017.

The Directors present their report and audited consolidated financial statements for the year ended 31 December 2018. Comparative information is provided for the year ended 31 December 2017.

Results and dividends

The results for the financial year to 31 December 2018 are set out in the Consolidated Statement of Comprehensive Income. The Company paid an interim dividend of 12.0p per Ordinary share on 2 November 2018. At the forthcoming Annual General Meeting, the Directors will recommend payment of a final dividend for the year of 28.0p per Ordinary share to be paid on Friday 5 July 2019 to shareholders on the register on Friday 7 June 2018. The shares will go ex-dividend on Thursday 6 June 2019. The total dividend proposed for the 2018 financial year will aggregate to 40.0p, an increase of 25% (2017: 32.0p).

Going concern

The consolidated financial statements have been prepared on a going concern basis. The Directors have taken note of guidance issued by the Financial Reporting Council on Going Concern Assessments in determining that this is the appropriate basis of preparation of the financial statements. The Group ended 2018 in an adjusted net cash position compared with adjusted net debt at 31 December 2017 equal to 32% of equity. This arose through satisfactory performance of the Group's principal operating companies generating healthy cashflows, only partially offset by the continued execution of the Group's buy and build strategy where £1.5 million was allocated to increasing the Group's shareholding in one of its majority-owned businesses. The Group has entered 2019 with a strong order book on the back of consistently positive trading throughout 2018. Whilst the global economic environment remains uncertain, the Directors consider that the Group is appropriately placed to manage its business risks successfully.

The Directors therefore have a reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future. Therefore, they continue to adopt the going concern basis in preparing the Annual Report and Accounts.

Payment policy

The Group's policy is to agree terms and conditions with suppliers in advance and to pay agreed invoices in accordance with the agreed terms of payment. Creditor days of the Company at the end of the year represented 16 days (2017: 16 days).

Financial risk management objectives and policies

The Group utilises financial instruments (see note 21), comprising borrowings, cash and cash equivalents and various other items such as trade receivables and payables that arise directly from its operations. The main purpose of these financial instruments is to raise finance for the Group's operations. The main risks arising from the Group's financial instruments relate to interest rates, liquidity, credit and foreign currency exposure. The Directors review and agree policies for managing each of these risks, which are described and evaluated in more detail in note 25 and which are summarised below. Except as stated, the policies have remained unchanged from previous years.

1. Interest rate risk

The Group finances its operations through a mixture of bank borrowings, equity and retained profits. With adjusted net cash of £0.9 million (31 December 2017: adjusted net debt of £8.0 million) (see note 20), exposure to interest rate fluctuations remains a low risk to the Group; however, the Group's loans are subject to interest rate hedges, as described in note 25.

2. Liquidity risk

The Group seeks to manage liquidity risk by ensuring that sufficient funds are available to meet foreseeable needs and to invest cash assets safely and profitably. Primarily this is achieved through loans arranged at Group level. Short-term flexibility is achieved through the significant cash balances that the Group currently holds. Additionally, where the Group has already repaid funds into the revolving credit facility, it is able to subsequently redraw these funds should the need arise.

3. Credit risk

The Group reviews the credit risk relating to its customers by ensuring, wherever possible, that it deals with long-established trading partners, agents and government/university-backed bodies, where the risk of default is considered low. Where considered appropriate, the Group insists on upfront payment or requires letters of credit to be provided.

4. Currency risk

With exports representing a significant proportion of its sales, the main risk area to which the Group is exposed is that of foreign currencies (principally US$ and Euros). The Group adopts a strategy to hedge against this risk by entering into currency options/forward exchange contracts and/or by maintaining a proportion of its bank loans in these currencies, although this strategy does not represent hedging under IFRS 9. The Directors review the value of this economic hedging on a regular basis. There remains, nevertheless, an ongoing threat to the Group's competitive position in international markets from any sustained period of Sterling strength. Forward and option contracts are entered into in both US$ and Euros maturing in the subsequent year, aimed at protecting the ensuing year's competitive position and margins from adverse currency movements.

5. Cashflow risk

The Group manages its cashflow through a mixture of working capital, bank borrowings, equity and retained profits. With adjusted net cash of £0.9 million (31 December 2017: adjusted net debt of £8.0 million) (see note 20) and cash and cash equivalents of £15.7 million, the Group's cash position is considered to be a key strength.

Directors' report continued

For the year ended 31 December 2018

Disabled employees

Applications for employment by disabled persons are given full and fair consideration for accordance with their particular aptitudes and abilities. In the event of employees becoming disabled, every effort is given to retrain them in order that their employment with the Group may continue. It is the policy of the Group that training, career development and promotion opportunities should be available to all employees.

Directors

The following Directors have held office during the year and until the date of signing this report:

Hon. AR Hambro – Non-Executive Chairman
DE Cicurel
BL Ormsby
MS Lavelle
CJA Holroyd – appointed 1 June 2018
RL Cohen – Non-Executive
RJ Elman – Non-Executive
GC Reece – Non-Executive – retired 1 June 2018

Statement of Directors' responsibilities

The Directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulations.

Company law requires the Directors to prepare financial statements for each financial year. Under that law the Directors have elected to prepare the Group consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the European Union (IFRSs) and the parent company financial statements in accordance with United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice). Under company law the Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs and of the profit or loss of the Group and the parent company for that period.

In preparing each of the Group and parent company financial statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and accounting estimates that are reasonable and prudent;
- state whether applicable IFRSs or UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group and the parent company will continue in business.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the parent company's transactions and disclose with reasonable accuracy at any time the financial position of the parent company and the Group and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Group and for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the Company's website. Information published on the website is accessible in many countries and legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Provision of information to the Auditor

The Directors confirm that:

- so far as each Director is aware, there is no relevant audit information of which the Company's Auditor is unaware; and
- the Directors have taken all the steps that they ought to have taken as Directors in order to make themselves aware of any relevant audit information and to establish that the Auditor is aware of that information.

Auditor

The Auditor, Grant Thornton UK LLP, has expressed willingness to continue in office. In accordance with section 489(4) of the Companies Act 2006, a resolution to re-appoint Grant Thornton UK LLP will be proposed at the Annual General Meeting.

Annual General Meeting

The Annual General Meeting of the Company will be held on Wednesday 22 May 2019 at 12.00 noon at the Lansdowne Club, 9 Fitzmaurice Place, London W1J 5JD.

On behalf of the Board

Brad Ormsby
Director
18 March 2019

Company registration number: 04597315 (England and Wales)

Independent auditor's report

To the members of Judges Scientific plc

Opinion

Our opinion on the financial statements is unmodified

We have audited the financial statements of Judges Scientific plc (the "parent company") and its subsidiaries (the "Group") for the year ended 31 December 2018, which comprise the Consolidated statement of comprehensive income, the Consolidated and parent company balance sheets, the Consolidated and parent company statements of changes in equity, the Consolidated cashflow statement and notes to the consolidated financial statements and notes to the parent company financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in the preparation of the group financial statements is applicable law and International Financial Reporting Standards (IFRSs) as adopted by the European Union. The financial reporting framework that has been applied in the preparation of the parent company financial statements is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 101 'Reduced Disclosures Framework' (United Kingdom Generally Accepted Accounting Practice).

In our opinion:

- the financial statements give a true and fair view of the state of the Group's and of the parent company's affairs as at 31 December 2018 and of the Group's profit for the year then ended;
- the group financial statements have been properly prepared in accordance with IFRSs as adopted by the European Union;
- the parent company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements' section of our report. We are independent of the Group and the parent company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the Directors' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the Directors have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the Group's or the parent company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

Overview of our audit approach

- Overall materiality: £500,000, which represents 3.5% of the Group's adjusted profit before tax;
- Key audit matter was identified as goodwill impairment; and
- We performed full-scope audit procedures on the financial statements of Judges Scientific plc and on the financial information of all material trading components. For Armfield Inc., Scientifica LLC and Dia-Stron Inc. we performed targeted procedures.

Independent auditor's report continued

To the members of Judges Scientific plc

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those that had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key Audit Matter – Group	How the matter was addressed in the audit – Group
Goodwill impairment There is a risk that goodwill recognised on historical acquisitions may be impaired. An annual impairment review is required in order to assess the carrying value of the acquired goodwill. Management's assessment of the potential impairment of the Group's intangible assets incorporated significant judgement regarding relevant assumptions. This included the timing and extent of future profits and cashflows of relevant income-generating units and an estimate of their values in use based on applying an appropriate discount rate. We therefore identified the impairment of goodwill as a significant risk, which was one of the most significant assessed risks of material misstatement.	Our audit work included, but was not restricted to: • In the context of IAS 36 'Impairment of assets', considering the appropriateness of the methodology applied by management in their assessment of impairment and the judgements applied; • Assessing the accounting policy to check it is in accordance with the financial reporting framework; • Checking of the mathematical accuracy of the impairment models; • Checking appropriateness of the forecast growth rates and cashflows by reference to historical performance and actual results; • Assessing the weighted average cost of capital calculation which is used as the discount rate applied to future cashflows; • Performing sensitivity analysis on key assumptions made in the calculations, including the weighted average cost of capital and growth rate applied; and • Evaluating the information included in the impairment models for consistency with our knowledge of the business, discussions with management and corroborating evidence. The Group's accounting policies on goodwill and its impairment are shown in note 2 to the consolidated financial statements and related disclosures are included in note 13 to the consolidated financial statements. **Key observations** Our testing did not identify any impairment of goodwill to be recognised within the financial statements or additional factors to consider that would affect the carrying value of goodwill. We found no material errors in the calculations.

Our application of materiality

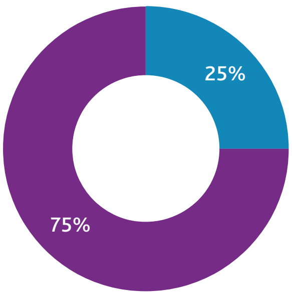
We define materiality as the magnitude of misstatement in the financial statements that makes it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced. We use materiality in determining the nature, timing and extent of our audit work and in evaluating the results of that work.

Materiality was determined as follows:

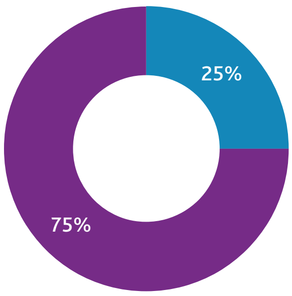
Materiality measure	Group	Parent
Financial statements as a whole	Financial statement materiality is £500,000, which was determined based on the Group's adjusted profit before tax. This benchmark is considered the most appropriate because maximisation of shareholder return is a key measure used by management in assessing performance of the business. This benchmark is unchanged from the prior year. Materiality for the current year is higher than the level that we determined for the year ended 31 December 2017, which reflects the increase in the Group's adjusted profit before tax from the prior year.	Financial statement materiality is £375,000, which is less than 1% of the parent company's total assets, being restricted to 75% of Group materiality as it is a component of the Group. This benchmark is considered the most appropriate because the parent company is primarily a holding company of investments. This benchmark is unchanged from the prior year. Materiality for the current year is higher than the level that we determined for the year ended 31 December 2017, which reflects the increase in the Group's adjusted profit before tax from the prior year.
Performance materiality used to drive the extent of our testing	75% of financial statement materiality.	75% of financial statement materiality.
Specific materiality	We also determine a lower level of specific materiality for certain areas such as Directors' remuneration and related party transactions.	We also determine a lower level of specific materiality for certain areas such as Directors' remuneration and related party transactions.
Communication of misstatements to the Audit Committee	£25,000 and misstatements below that threshold that, in our view, warrant reporting on qualitative grounds.	£18,750 and misstatements below that threshold that, in our view, warrant reporting on qualitative grounds.

The graph below illustrates how performance materiality interacts with our overall materiality and the tolerance for potential uncorrected misstatements.

Overall materiality – Group



Overall materiality – parent



Tolerance for potential uncorrected misstatements

Performance materiality

Independent auditor's report continued

To the members of Judges Scientific plc

An overview of the scope of our audit

Our audit approach was based on a thorough understanding of the Group's business and is risk based. We take into account the size and risk profile of each Group component, any changes in the business and other factors when determining the level of work to be performed at each entity, which in particular included the following considerations:

- Judges Scientific plc has centralised processes and controls over the key areas of our audit focus. Whilst Group management are responsible for all judgemental processes and significant risk areas in respect of the consolidated accounts, each trading subsidiary has a decentralised local accounting function which reports to the local subsidiary management who are responsible for the operations and financial management of the subsidiary companies. We have tailored our audit response accordingly with all Group audit work undertaken by the Group audit team. In assessing the risk of material misstatement to the group financial statements we considered the transactions undertaken by each entity and therefore where the focus of our work was required;
- We performed full scope audit procedures on the financial statements of Judges Scientific plc, and on the financial information of all material trading components. For Armfield Inc., Scientifica LLC and Dia-Stron Inc., we performed targeted procedures to audit material transactions and balances affecting the group financial statements; and
- Our audit approach in the current year is consistent with that for the prior year.

Other information

The Directors are responsible for the other information. The other information comprises the information included in the annual report and accounts, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Our opinion on other matters prescribed by the Companies Act 2006 is unmodified

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Strategic Report and the Directors' Report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic Report and the Directors' Report have been prepared in accordance with applicable legal requirements.

Matters on which we are required to report under the Companies Act 2006

In the light of the knowledge and understanding of the Group and the parent company and its environment obtained in the course of the audit, we have not identified material misstatements in the Strategic Report or the Directors' Report.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent company financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

Responsibilities of Directors for the financial statements

As explained more fully in the Statement of Directors' Responsibilities set out on page 26, the Directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing the Group's and the parent company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Group or the parent company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our Auditor's Report.

Use of our report

This report is made solely to the Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Alison Seekings
Senior Statutory Auditor
for and on behalf of Grant Thornton UK LLP
Statutory Auditor, Chartered Accountants
Leicester
18 March 2019

Consolidated statement of comprehensive income

For the year ended 31 December 2018

	Note	Adjusted £000	Adjusting items £000	2018 Total £000	Adjusted £000	Adjusting items £000	2017 Total £000
Revenue	3	**77,868**	**—**	**77,868**	71,360	—	71,360
Operating costs	3	**(63,137)**	**—**	**(63,137)**	(60,481)	—	(60,481)
Adjusted operating profit	3	**14,731**	**—**	**14,731**	10,879	—	10,879
Adjusting items	4	**—**	**(4,045)**	**(4,045)**	—	(5,217)	(5,217)
Operating profit/(loss)		**14,731**	**(4,045)**	**10,686**	10,879	(5,217)	5,662
Interest income	9	**41**	**—**	**41**	34	—	34
Interest expense	9	**(485)**	**(54)**	**(539)**	(515)	(60)	(575)
Profit/(loss) before tax		**14,287**	**(4,099)**	**10,188**	10,398	(5,277)	5,121
Taxation (charge)/credit	10	**(2,138)**	**1,085**	**(1,053)**	(1,474)	1,092	(382)
Profit/(loss) for the year		**12,149**	**(3,014)**	**9,135**	8,924	(4,185)	4,739
Attributable to:							
Owners of the parent		**11,329**	**(2,834)**	**8,495**	8,074	(4,061)	4,013
Non-controlling interests		**820**	**(180)**	**640**	850	(124)	726
Profit/(loss) for the year		**12,149**	**(3,014)**	**9,135**	8,924	(4,185)	4,739
Other comprehensive income							
Items that will not be reclassified subsequently to profit or loss							
Retirement benefits actuarial gain/(loss)				**168**			(195)
Items that may be reclassified subsequently to profit or loss							
Exchange differences on translation of foreign subsidiaries				**66**			(75)
Other comprehensive income for the year, net of tax				**234**			(270)
Total comprehensive income for the year				**9,369**			4,469
Attributable to:							
Owners of the parent				**8,729**			3,743
Non-controlling interests				**640**			726

		2018 Pence	2018 Pence	2017 Pence	2017 Pence
Earnings per share – adjusted					
Basic	12	**183.4**		131.9	
Diluted	12	**180.6**		130.3	
Earnings per share – total					
Basic	12		**137.5**		65.6
Diluted	12		**135.4**		64.8

The accompanying notes form an integral part of these consolidated financial statements.

Consolidated balance sheet

As at 31 December 2018

	Note	2018 £000	2017 £000
ASSETS			
Non-current assets			
Goodwill	13	14,650	14,650
Other intangible assets	14	5,373	9,006
Property, plant and equipment	15	5,524	5,344
Deferred tax assets	16	719	730
		26,266	29,730
Current assets			
Inventories	17	10,502	10,380
Trade and other receivables	18	13,231	11,827
Cash and cash equivalents		15,727	10,681
		39,460	32,888
Total assets		65,726	62,618
LIABILITIES			
Current liabilities			
Trade and other payables	19	(13,977)	(11,972)
Trade and other payables relating to acquisitions		—	(599)
Borrowings	20	(3,058)	(3,566)
Current tax liabilities		(2,204)	(2,821)
		(19,239)	(18,958)
Non-current liabilities			
Borrowings	20	(11,968)	(14,696)
Deferred tax liabilities	16	(1,477)	(2,087)
Retirement benefit obligations	28	(1,836)	(2,221)
		(15,281)	(19,004)
Total liabilities		(34,520)	(37,962)
Net assets		31,206	24,656
EQUITY			
Share capital	22	310	307
Share premium account		15,164	14,529
Other reserves	24	2,121	2,055
Retained earnings		13,049	6,688
Equity attributable to owners of the parent company		30,644	23,579
Non-controlling interests		562	1,077
Total equity		31,206	24,656

The accompanying notes form an integral part of these consolidated financial statements.

The financial statements were approved by the Board on 18 March 2019.

David Cicurel
Director

Brad Ormsby
Director

Consolidated statement of changes in equity

For the year ended 31 December 2018

	Share capital £000	Share premium £000	Other reserves £000	Retained earnings £000	Total attributable to owners of the parent £000	Non-controlling interests £000	Total equity £000
At 1 January 2018	307	14,529	2,055	6,688	23,579	1,077	24,656
Dividends	—	—	—	(2,103)	(2,103)	(162)	(2,265)
Adjustment arising from change in non-controlling interest	—	—	—	(518)	(518)	(993)	(1,511)
Issue of share capital	3	635	—	—	638	—	638
Share-based payments	—	—	—	319	319	—	319
Transactions with owners	3	635	—	(2,302)	(1,664)	(1,155)	(2,819)
Profit for the year	—	—	—	8,495	8,495	640	9,135
Retirement benefit actuarial gains	—	—	—	168	168	—	168
Foreign exchange differences	—	—	66	—	66	—	66
Total comprehensive income for the year	—	—	66	8,663	8,729	640	9,369
At 31 December 2018	**310**	**15,164**	**2,121**	**13,049**	**30,644**	**562**	**31,206**
At 1 January 2017	305	14,472	2,130	4,425	21,332	1,413	22,745
Dividends	—	—	—	(1,743)	(1,743)	—	(1,743)
Adjustment arising from change in non-controlling interest	—	—	—	(96)	(96)	(1,062)	(1,158)
Issue of share capital	2	57	—	—	59	—	59
Share-based payments	—	—	—	284	284	—	284
Transactions with owners	2	57	—	(1,555)	(1,496)	(1,062)	(2,558)
Profit for the year	—	—	—	4,013	4,013	726	4,739
Retirement benefit actuarial losses	—	—	—	(195)	(195)	—	(195)
Foreign exchange differences	—	—	(75)	—	(75)	—	(75)
Total comprehensive income for the year	—	—	(75)	3,818	3,743	726	4,469
At 31 December 2017	307	14,529	2,055	6,688	23,579	1,077	24,656

The accompanying notes form an integral part of these consolidated financial statements.

Consolidated cashflow statement

For the year ended 31 December 2018

	2018 £000	2017 £000
Cashflows from operating activities		
Profit after tax	9,135	4,739
Adjustments for:		
Financial instruments measured at fair value:		
Hedging contracts	56	22
Share-based payments	319	284
Depreciation	746	675
Amortisation of intangible assets	3,633	4,589
Loss on disposal of property, plant and equipment	18	54
Foreign exchange (gain)/loss on foreign currency loans	(18)	48
Interest income	(41)	(34)
Interest expense	485	515
Retirement benefit obligation net finance cost	54	60
Contributions to defined benefit plans	(236)	(236)
Tax expense recognised in income statement	1,053	382
Increase in inventories	(122)	(25)
(Increase)/decrease in trade and other receivables	(1,404)	111
Increase/(decrease) in trade and other payables	2,000	(263)
Cash generated from operations	15,678	10,921
Finance costs paid	(525)	(482)
Tax (paid)/recovered	(2,351)	68
Net cash from operating activities	12,802	10,507
Cashflows from investing activities		
Paid on acquisition of subsidiaries	(599)	(8,769)
Gross cash inherited on acquisition	—	1,655
Acquisition of subsidiaries, net of cash acquired	(599)	(7,114)
Paid on the acquisition of trade and certain assets	—	(11)
Purchase of property, plant and equipment	(955)	(728)
Proceeds on disposal of property, plant and equipment	18	—
Interest received	41	34
Net cash used in investing activities	(1,495)	(7,819)
Cashflows from financing activities		
Proceeds from issue of share capital	638	59
Repayments of borrowings*	(3,183)	(2,668)
Proceeds from bank loans*	—	4,500
Equity dividends paid	(2,103)	(1,743)
Share repurchase – non-controlling interest in subsidiary	(1,511)	—
Dividends paid – non-controlling interest in subsidiary	(162)	—
Net cash (used in)/from financing activities	(6,321)	148
Net change in cash and cash equivalents	4,986	2,836
Cash and cash equivalents at the start of the year	10,681	7,909
Exchange movements	60	(64)
Cash and cash equivalents at the end of the year	15,727	10,681

* On 27 April 2018, £12,896,000 of outstanding loans were repaid and simultaneously reborrowed as the Group renewed its banking facilities (see note 20).

The accompanying notes form an integral part of these consolidated financial statements.

Notes to the consolidated financial statements

For the year ended 31 December 2018

1. General information

Judges Scientific plc is the ultimate parent company of the Group, whose principal activities comprise the design, manufacture and sale of scientific instruments.

Judges Scientific plc is incorporated and domiciled in the UK and its registered office is 52c Borough High Street, London SE1 1XN.

2. Summary of significant accounting policies

Basis of preparation

The consolidated financial statements have been prepared under the historical cost convention except for certain financial instruments which are carried at fair value.

Being quoted on the Alternative Investment Market of the London Stock Exchange, the Company is required to present its consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union. Accordingly, these financial statements have been prepared in accordance with the accounting policies set out below which are based on the IFRS in issue as adopted by the European Union (EU) and in effect at 31 December 2018.

The preparation of financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Group's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements, are disclosed under "Use of key accounting estimates and judgements".

Changes in accounting policies

Standards adopted for the first time

IFRS 9 'Financial Instruments' (2014) (effective date 1 January 2018) – the new standard introduces extensive changes to IAS 39's guidance on the classification and measurement of financial assets and introduces a new "expected credit loss" model for the impairment of financial assets. IFRS 9 also provides new guidance on the application of hedge accounting. The Group has adopted the new standard from 1 January 2018; the application of this new standard has not caused a material change to the Group's results.

IFRS 15 'Revenues from Contracts with Customers' (effective date 1 January 2018) – this new standard presents new requirements for the recognition of revenue, replacing IAS 18 'Revenue', IAS 11 'Construction Contracts' and several revenue-related Interpretations. The new standard establishes a control-based revenue recognition model and provides additional guidance in many areas not covered in detail under previous IFRSs, including how to account for arrangements with multiple performance obligations, variable pricing, customer refund rights, supplier repurchase options and other common complexities.

The Group has adopted the new standard from 1 January 2018 and the only changes to recognition are for large, complex instruments which require highly specialised installation. Under the previous revenue standard, these were recognised as revenue upon shipment; however, under the new standard, recognition is deferred until installation is completed. There is no material impact on the Statement of Comprehensive Income for the year ended 31 December 2018 and there has been no restatement of the comparative period.

Standards, amendments and interpretations to existing standards that are not yet effective

At the date of approval of these consolidated financial statements, certain new standards, amendments to and interpretations of existing standards have been published but are not yet effective, and have not been adopted early by the Group including the following:

IFRS 16 'Leases' (effective date 1 January 2019) – this new standard will require the capitalisation of operating leases, such as the Group's building and vehicle leases, as right of use assets with an offsetting financial liability. The current rental charge will be replaced with a combination of depreciation from the asset and an interest charge from the liability. This is expected to cause a material change to the Consolidated Balance Sheet and a material change to the presentation of amounts within the Consolidated Statement of Comprehensive Income. The Group has reviewed the transition options in relation to adopting IFRS 16, and intends to adopt the modified retrospective approach, and will recognise an initial right of use asset amount equal to the lease liability. The Group has performed a detailed review of its leases and concluded that, at 31 December 2018, the right of use asset and offsetting lease liability that would have been recognised in the Consolidated Balance Sheet is £3.7 million. In the Consolidated Statement of Comprehensive Income for the year ended 31 December 2018, under the new standard the net impact on operating costs of the reduction in rental charge offset by depreciation on the right-of-use asset would have been a decrease of £70,000, increasing operating profit by £70,000. After taking into account the additional interest charge on the lease liability, the cumulative impact on the Consolidated Statement of Comprehensive Income for the year ended 31 December 2018 would have been a reduction of £65,000. Therefore in the year of adoption shareholders will see operating profit increase, but profit after tax will decrease by a similar amount, and therefore earnings per share will also be impacted by this amount. Assuming no further changes to the Group's leases, the increase in operating profit will endure however in future years the interest charge will reduce as the discount unwinds.

Management currently anticipates that IFRS 16 will be adopted in the Group's accounting policies in accordance with the standard's effective date.

2. Summary of significant accounting policies continued

Consolidation

The consolidated financial statements include those of the parent company and its subsidiaries. Subsidiaries are entities where the Group is exposed, or has rights, to variable returns from its involvement with the subsidiary and has the ability to affect those returns through its power over the subsidiary. The Group obtains and exercises control through voting rights. Income, expenditure, unrealised gains and intra-Group balances arising from transactions within the Group are eliminated. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transferred.

The Group uses the purchase method of accounting for the acquisition of a subsidiary. Acquisition consideration is measured at the fair value of the consideration given, equity instruments issued and liabilities incurred or assumed at the date of exchange.

Business combination costs directly attributable to the acquisition are immediately written off through the Consolidated Statement of Comprehensive Income. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date irrespective of the extent of any non-controlling interest. The excess of the cost of acquisition over the fair value of the Group's share of the identifiable net assets acquired is recorded as goodwill. If the cost of the acquisition is less than the fair value of the net assets of the subsidiary acquired, the difference is recognised directly in the Consolidated Statement of Comprehensive Income.

The parent company has taken the merger relief that is required by section 612 of the Companies Act 2006 in respect of the fair value of the consideration received in excess of the nominal value of the equity shares issued in connection with the acquisition of Fire Testing Technology Limited, UHV Design Limited, Scientifica Limited and Armfield Limited.

Goodwill

Goodwill is the difference between the fair value of the consideration paid and the fair value of the net identifiable assets and liabilities acquired in a business combination. Following recognition, it is not amortised; however, it is subject to impairment testing on an annual basis or more frequently if circumstances indicate that the asset may have become impaired and is carried at cost less accumulated impairment losses. Goodwill is allocated to cash-generating units for the purpose of impairment testing.

Revenue recognition

In accordance with IFRS 15 'Revenues from Contracts with Customers', revenue is measured by reference to the fair value of consideration received or receivable by the Group, excluding value added tax (or similar local sales tax), in exchange for transferring the promised goods or services to the customer. The consideration is allocated to each separate performance obligation that is identified in a sales contract, based on stand-alone selling prices. Sales of instruments and spares, and sales of services, such as non-specialised installation, support, training or consultancy, are assessed to be separate performance obligations.

Revenue is recognised when (or as) the Group satisfies the identified performance obligation. For sales of instruments and spares, the performance obligation is satisfied at a point in time; for revenue from services, the performance obligation is satisfied over time. As the period of time between payment and performance is less than one year, the Group does not adjust revenue for the effects of financing.

Revenue from sales of instruments and spares is recognised at the point at which the customer obtains control of the asset. This is usually on despatch of the instrument; however, for sales from overseas subsidiaries, it is when the customer receives the goods. For large, complex instruments which require highly specialised installation, revenue is recognised at the point at which installation is completed.

Revenue from services is recognised when the service is performed.

Interest income is recognised using the effective interest method which calculates the amortised cost of a financial asset and allocates the interest income over the relevant period. Dividend income is recognised when the shareholder's right to receive payment is established.

Segment reporting

The Group's activities are predominantly in or in support of the design and manufacture of scientific instruments. The Group operates two main operating segments: Materials Sciences and Vacuum. No operating segments have been aggregated.

Operating segments are reported in a manner consistent with internal reporting provided to the Board of Directors, which is responsible for allocating and assessing performance of operating segments, and which is considered to be the Chief Operating Decision Maker. Each segment's range of instruments has its individual requirements in terms of design, manufacture and marketing.

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

2. Summary of significant accounting policies continued

Intangible assets acquired as part of a business combination

In accordance with IFRS 3 'Business Combinations', an intangible asset acquired in a business combination is deemed to have a cost to the Group of its fair value at the acquisition date. The fair value of the intangible asset reflects market expectations about the probability that the future economic benefits embodied in the asset will flow to the Group.

Amortisation charges are included as adjusting items in operating costs in the Consolidated Statement of Comprehensive Income. Amortisation is provided at rates calculated to write off the cost of each intangible asset over its expected useful life, as follows:

Customer relationships	3 years
Non-competition agreements	2 years
Distribution agreements	Between 2 and 5 years
Research and development	5 years
Sales order backlog	On shipment (this is usually consumed within six months of initial recognition)
Brand and domain names	Between 1 and 5 years

Subsequent to initial recognition, intangible assets are stated at deemed cost less accumulated amortisation.

Research and development

Research and development expenditure is recognised in the Consolidated Statement of Comprehensive Income as an expense until it can be demonstrated that the conditions for capitalisation under IAS 38 'Intangible Assets' apply.

The criteria for capitalisation include demonstration that the project is technically and commercially feasible, the Group has sufficient resources to complete development and the asset will generate probable future economic benefit.

Property, plant and equipment

Property, plant and equipment is stated at historical cost, less accumulated depreciation.

Disposal of assets: the gain or loss arising on the disposal of an asset is determined as the difference between the disposal proceeds and the carrying amount of the asset and is recognised in the Consolidated Statement of Comprehensive Income.

Depreciation: provided at annual rates calculated to write off the cost less residual value of each asset over its expected useful life, within the following ranges:

Property	50 years (excluding the estimated cost of land)
Plant and machinery	7 years
Fixtures, fittings and equipment	Between 3 and 7 years
Motor vehicles	4 years
Building improvements	Over the minimum term of the lease

Material residual value estimates and expected useful lives are updated as required but at least annually.

Impairment testing of goodwill, other intangible assets and property, plant and equipment

For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are largely independent cash inflows (cash-generating units). As a result, some assets are tested individually for impairment and some are tested at cash-generating unit level. Goodwill is allocated to those cash-generating units that are expected to benefit from synergies of the related business combination and represent the lowest level within the Group at which management monitors goodwill.

Cash-generating units to which goodwill has been allocated are tested for impairment at least annually. All other individual assets or cash-generating units are tested whenever events or changes in circumstances indicate that the carrying amount may not be recoverable.

An impairment loss is recognised for the amount by which the asset's or cash-generating unit's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of fair value, reflecting market conditions less costs to sell, and value in use. Value in use is based on estimated future cashflows from each cash-generating unit, discounted at a suitable rate in order to calculate the present value of those cashflows. The data used for impairment testing procedures is directly linked to the Group's latest approved budgets, adjusted as necessary to exclude any future restructuring to which the Group is not yet committed. Discount rates are determined individually for each cash-generating unit and reflect their respective risk profiles as assessed by the Directors.

Impairment losses for cash-generating units reduce first the carrying amount of any goodwill allocated to that cash-generating unit. Any remaining impairment loss is charged pro rata to the other assets in the cash-generating unit. With the exception of goodwill, all assets are subsequently reassessed for indications that an impairment loss previously recognised may no longer exist. Impairment charges are included in operating costs in the Statement of Comprehensive Income. An impairment charge that has been recognised is reversed if the cash-generating unit's recoverable amount exceeds its carrying amount.

2. Summary of significant accounting policies continued

Leases

For finance leases, where the Group bears substantially all the risks and rewards related to ownership of the leased asset, the related asset is capitalised at the inception of the lease at the fair value of the leased asset or, if lower, the present value of the minimum lease payments. The interest element of leasing payments represents a constant proportion of the capital balance outstanding and is charged to the Statement of Comprehensive Income over the period of the lease. Finance lease obligations are included in financial liabilities net of interest costs.

Operating leases where the lessor retains substantially all of the risks and rewards of ownership are charged to the Statement of Comprehensive Income on a straight-line basis over the lease term. Lease incentives are spread over the term of the lease.

Inventories

Inventories are recorded at the lower of cost and net realisable value. Costs of ordinarily interchangeable items are assigned using the first-in, first-out cost formula. Cost includes materials, direct labour and an attributable proportion of manufacturing overheads based on normal levels of activity.

Taxation

Current tax is the tax currently payable based on taxable profit for the year.

Deferred taxes are calculated using the liability method on temporary differences. Deferred tax is generally provided on the difference between the carrying amounts of assets and liabilities and their tax bases. However, deferred tax is not provided on the initial recognition of goodwill, nor on the initial recognition of an asset or liability unless the related transaction is a business combination or affects tax or accounting profit. Deferred tax on temporary differences associated with shares in subsidiaries is not provided if reversal of those temporary differences can be controlled by the Group and it is probable that reversal will not occur in the foreseeable future. In addition, tax losses available to be carried forward as well as other income tax credits to the Group are assessed for recognition as deferred tax assets.

Deferred tax liabilities are provided in full, with no discounting. Deferred tax assets are recognised to the extent that it is probable that the underlying deductible temporary differences will be able to be offset against future taxable income. Current and deferred tax assets and liabilities are calculated at tax rates that are expected to apply to their respective period of realisation, provided they are enacted or substantively enacted at the balance sheet date.

Changes in deferred tax assets or liabilities are recognised as a component of tax expense in the Statement of Comprehensive Income, except:

- where they relate to items that are charged or credited directly to equity in which case the related deferred tax is also charged or credited directly to equity; or
- where items are recognised in other comprehensive income, in which case the related deferred tax is recognised in other comprehensive income.

Share-based employee compensation

The Group operates equity-settled share-based compensation plans for remuneration of its Directors and employees.

All employee services received in exchange for the grant of any share-based compensation are measured at their fair values. The fair value is appraised at the grant date and excludes the impact of any non-market vesting conditions (e.g. profitability or sales growth targets).

Share-based compensation is recognised as an expense in the Statement of Comprehensive Income with a corresponding credit to other reserves. If vesting periods or other vesting conditions apply, the expense is allocated over the vesting period, based on the best available estimate of the number of share options expected to vest. Non-market vesting conditions are included in assumptions about the number of options that are expected to become exercisable. Estimates are subsequently revised if there is any indication that the number of share options expected to vest differs from previous estimates.

The proceeds received net of any directly attributable transaction costs are credited to share capital and share premium when the options are exercised.

Financial assets

Financial assets consist of loans, receivables, derivatives and investments in subsidiaries.

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand and short-term deposits which are subject to an insignificant risk of changes in value.

Trade receivables

Trade receivables are recognised and carried at the original invoice amount less a provision for uncollectable amounts. An estimate of uncollectable amounts is made when collection of the amount is no longer probable. The Group uses historical experience and external information to determine the need for, and quantum of, any such provision. Uncollectable amounts are written off to the Statement of Comprehensive Income when identified.

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

2. Summary of significant accounting policies continued

Financial liabilities

Financial liabilities are obligations to pay cash or other financial assets and are recognised when the Group becomes a party to the contractual provisions of the instrument. Financial liabilities are recorded initially at fair value net of direct issue costs if they are not held at fair value through profit and loss. Derivatives are recorded at fair value through profit or loss. The fair value of derivative financial instruments is determined by reference to active market transactions or using a valuation technique where no active market exists.

All financial liabilities with the exception of interest rate swaps and foreign currency options are recorded at amortised cost using the effective interest method, with interest-related charges recognised as an expense in finance cost in the Statement of Comprehensive Income.

These financial liabilities include trade and other payables and borrowings, including bank loans, subordinated loans and hire purchase commitments. Finance charges, including premiums payable on settlement or redemption and direct issue costs, are charged to the Statement of Comprehensive Income on an accruals basis using the effective interest method and are added to the carrying amount of the instrument to the extent that they are not settled in the period in which they arise.

Interest rate swaps and foreign currency options are treated as derivative financial instruments and are accounted for at fair value through profit and loss.

A financial liability is derecognised only when the obligation is extinguished, that is, when the obligation is discharged or cancelled or expires.

Employee benefits – Defined contribution plans

The Group operates defined contribution pension schemes for employees and Directors. The assets of the schemes are held by investment managers separately from those of the Group. The contributions payable to these schemes are recorded in the Statement of Comprehensive Income in the accounting period to which they relate.

Employee benefits – Defined benefit plans

The Group operates a funded defined benefit scheme, where payments are made to trustee administered funds. The asset or liability recognised in the Consolidated Balance Sheet is calculated as the present value of the defined benefit obligation less the fair value of the plan assets, as at the balance sheet date.

The defined benefit obligation is calculated at least triennially by independent actuaries using the projected unit credit method and is determined by discounting the estimated future cash outflows using interest rates of high quality corporate bonds, matched to the currency in which the benefits will be paid, and that have terms to maturity approximating to the terms of the related pension obligation. The plan administration expenses and past service costs or credits are recognised as an operating expense in the Consolidated Statement of Comprehensive Income. There is no current service cost. The retirement benefits obligation net finance cost is the change during the year in the net defined benefit liability due to the passage of time and is recognised as an interest expense in the Consolidated Statement of Comprehensive Income. The interest rate is based on the yield on high quality corporate bonds. Actuarial gains and losses arising from changes in actuarial assumptions and experience adjustments are recognised in the Consolidated Statement of Comprehensive Income in the year which they arise.

Foreign currencies

Transactions in foreign currencies are translated at the exchange rate ruling at the date of the transaction. Monetary assets and liabilities in foreign currencies are translated at the rates of exchange ruling at the balance sheet date. Exchange differences arising on the settlement of monetary items or on translating monetary items at rates different from those at which they were initially recorded are recognised in the Statement of Comprehensive Income in the period in which they arise. In respect of overseas subsidiaries on consolidation, assets and liabilities have been translated at the closing rate and income and expenses have been translated at the average rate over the reporting period. Exchange differences are recorded in other comprehensive income.

Dividends

Final dividend distributions payable to equity shareholders are included in trade and other payables when the dividends are approved in general meeting but not paid prior to the balance sheet date. Interim dividends are recognised in the period in which they are paid.

2. Summary of significant accounting policies continued

Equity

Equity comprises the following:

Share capital

Share capital represents the nominal value of equity shares.

Share premium

Share premium represents the excess over nominal value of the fair value of consideration received for equity shares, net of expenses of the share issue.

Capital redemption reserve

Capital redemption reserve represents amounts set aside from retained earnings on conversion of convertible redeemable shares equal to the reduction then arising in the overall nominal value of share capital of all classes.

Merger reserve

Merger reserve represents the fair value of the consideration received in excess of the nominal value of equity shares issued in connection with acquisitions where the Company has taken the merger relief that is required by section 612 of the Companies Act 2006.

Retained earnings

Retained earnings represents retained profits and losses.

Revaluation reserve

Revaluation reserve represents gains and losses due to the revaluation of certain financial assets.

Non-controlling interests

Non-controlling interests represent retained profits and losses attributable to minority shareholders in subsidiary companies.

Adjusting items

Adjusting items (and their related tax impact) are those which by their size or nature the Directors consider should be disclosed separately for the purposes of presenting results and earnings per share figures so as to enable users of the financial statements to evaluate more effectively the underlying operating performance of the Group.

Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of a past event, it is likely that an outflow of resource will be required to settle the obligation and that the amount of the probable outflow can be reasonably estimated. Where the Group expects all or some of the obligation to be reimbursed, the reimbursement is recognised as a separate asset to the extent that it is virtually certain to be reimbursed. The expense relating to any provision is presented in the Statement of Comprehensive Income net of any reimbursement.

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the year-end date. If material, provisions are determined by discounting the expected future cashflows using rates that reflect current market assessments of the time value of money.

Use of key accounting estimates and judgements

Many of the amounts included in the consolidated financial statements involve the use of judgement and/or estimation. These judgements and estimates are based on management's best knowledge of the relevant facts and circumstances, having regard to prior experience, but actual results may differ from the amounts included in the consolidated financial statements. Information about such judgements and estimation is contained in the accounting policies and/or the notes to the consolidated financial statements and the key areas are summarised below.

Judgements in applying accounting policies

- ***Revenue recognition:*** The Group makes a judgement whether all of the conditions required for revenues to be recognised in the Statement of Comprehensive Income have been met.
- ***Fair value assessment of a business combination:*** Following an acquisition the Group makes an assessment of all assets and liabilities, inclusive of identification of intangible assets and acquired and/or related goodwill. The valuation process for the intangible assets requires a number of judgements to be made regarding future performance of an acquisition, together with other asset-specific factors.
- ***Research and development:*** The Group makes judgement as to whether all of the conditions required for assets to be recognised have been met.

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

2. Summary of significant accounting policies continued

Use of key accounting estimates and judgements continued

Sources of estimation uncertainty

- ***Retirement benefits:*** The costs and present value of any related pension assets and liabilities depend on factors such as life expectancy of the members, the salary progression of current employees, the returns that plan assets generate and the discount rate used to calculate the present value of the liabilities. The Group uses estimates based on the previous experience and independent external actuarial advice in determining these future cashflows and the discount rate. See note 28 for additional information.
- ***Inventory:*** Inventory is carried at the lower of cost and net realisable value which requires an estimation of products' future selling prices. A provision is also recorded to reduce any slow-moving, obsolete or demonstration inventory to net realisable value. See note 17 for additional information.
- ***Carrying value of intangible assets and goodwill:*** Estimates are required as to intangible asset carrying values, their useful lives and goodwill carrying value. These are assessed by reference to budgeted profits and cashflows for future periods for the relevant income-generating units and an estimate of their values in use.

3. Segmental analysis

For the year ended 31 December 2018	Note	Materials Sciences £000	Vacuum £000	Unallocated items £000	Total £000
Revenue		**35,058**	**42,810**	**—**	**77,868**
Operating costs		**(27,018)**	**(33,445)**	**(2,674)**	**(63,137)**
Adjusted operating profit		**8,040**	**9,365**	**(2,674)**	**14,731**
Adjusting items	4				**(4,045)**
Operating profit					**10,686**
Net interest expense					**(498)**
Profit before tax					**10,188**
Income tax charge					**(1,053)**
Profit for the year					**9,135**

For the year ended 31 December 2017	Note	Materials Sciences £000	Vacuum £000	Unallocated items £000	Total £000
Revenue		34,088	37,272	—	71,360
Operating costs		(26,699)	(31,225)	(2,557)	(60,481)
Adjusted operating profit		7,389	6,047	(2,557)	10,879
Adjusting items	4				(5,217)
Operating profit					5,662
Net interest expense					(541)
Profit before tax					5,121
Income tax charge					(382)
Profit for the year					4,739

Unallocated items relate to the Group's head office costs.

3. Segmental analysis continued

Segment assets and liabilities

At 31 December 2018	Materials Sciences £000	Vacuum £000	Unallocated items £000	Total £000
Assets	**17,275**	**24,410**	**24,041**	**65,726**
Liabilities	**(7,888)**	**(11,838)**	**(14,794)**	**(34,520)**
Net assets	**9,387**	**12,572**	**9,247**	**31,206**
Capital expenditure	**185**	**770**	**—**	**955**
Depreciation	**231**	**481**	**34**	**746**
Amortisation	**1,519**	**2,114**	**—**	**3,633**

At 31 December 2017	Materials Sciences £000	Vacuum £000	Unallocated items £000	Total £000
Assets	16,741	22,774	23,103	62,618
Liabilities	(7,274)	(11,677)	(19,011)	(37,962)
Net assets	9,467	11,097	4,092	24,656
Capital expenditure	288	440	—	728
Depreciation	221	419	35	675
Amortisation	2,045	2,544	—	4,589

Unallocated items are borrowings, intangible assets and goodwill arising on acquisition, deferred tax, defined benefit obligations and parent company net assets.

Geographic analysis	Year to 31 December 2018 £000	Year to 31 December 2017 £000
UK (domicile)	**10,729**	9,005
Rest of Europe	**23,156**	17,784
North America	**20,884**	18,380
China/Hong Kong	**7,716**	8,267
Rest of the world	**15,383**	17,924
	77,868	71,360

Segmental revenue is presented on the basis of the destination of the goods where known, otherwise the geographical location of customers is utilised.

No customer makes up more than 10% of the Group's revenues.

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

4. Adjusting items

	2018 £000	2017 £000
Amortisation of intangible assets	3,633	4,589
Financial instruments measured at fair value:		
Hedging contracts	56	22
Share-based payments	319	284
Acquisition costs	37	322
Total adjusting items in operating profit	4,045	5,217
Retirement benefits obligation net interest cost	54	60
Total adjusting items	4,099	5,277
Taxation	(1,085)	(1,092)
Total adjusting items net of tax	3,014	4,185
Attributable to:		
Owners of the parent	2,834	4,061
Non-controlling interest	180	124
	3,014	4,185

5. Operating costs

	2018 £000	2017 £000
Raw materials and consumables	30,774	29,824
Other external charges	9,460	9,729
Staff costs	22,157	20,253
Depreciation	746	675
Other operating costs, excluding adjusting items	63,137	60,481
Amortisation of intangible assets	3,633	4,589
Hedging contracts	56	22
Share-based payments	319	284
Acquisition costs	37	322
Total operating costs	67,182	65,698

Research and development expensed in the year totalled £4,567,000 (2017: £3,534,000). This does not include amortisation of research and development intangibles arising on acquisition.

6. Remuneration of key senior management

	2018 £000	2017 £000
Short-term employee benefits:		
Salaries including bonuses and social security costs	2,199	2,162
Company car allowance and other benefits	86	73
Total short-term employee benefits	2,285	2,235
Post-employment benefits:		
Defined contribution pension plans	80	131
Total post-employment benefits	80	131
	2,365	2,366

Key management personnel comprise Directors of the parent company and the managing directors of the principal operating companies and totalled 20 (2017: 20).

Remuneration of Directors is disclosed in the Remuneration Report on pages 22 to 24.

7. Employees

Employment costs

	2018 £000	2017 £000
Wages and salaries	19,396	17,633
Social security costs	1,871	1,725
Pension costs	890	895
	22,157	20,253
Share-based payments	319	284
	22,476	20,537

Average number of employees

	2018 No.	2017 No.
By function:		
Manufacturing	188	168
Sales and administration	279	271
	467	439
By operating segment:		
Materials Sciences group	202	186
Vacuum group	254	243
Head office (includes Non-Executive Directors in both years)	11	10
	467	439

8. Operating profit

	2018 £000	2017 £000
Operating profit is stated after charging:		
Fees payable to the Company's auditor:		
for the audit of the Company's annual accounts	31	33
Fees payable to the Company's auditor for other services:		
for the audit of the Company's subsidiaries, pursuant to legislation	118	118
for all other assurance services	5	41
Depreciation	746	675
Amortisation of intangible assets	3,633	4,589
Operating lease rentals – land and property	766	744
Operating lease rentals – vehicles	42	52
Operating lease rentals – other	59	65

9. Interest income and expense

	2018 £000	2017 £000
Interest income – short-term bank deposits	41	34
Interest expense – bank loans	(485)	(515)
Retirement benefits obligation net finance cost	(54)	(60)
	(539)	(575)
Net interest expense	(498)	(541)

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

10. Taxation charge/(credit)

	2018 £000	2017 £000
UK corporation tax at 19% (2017: 19.25%)		
Current year	**2,509**	1,728
Prior years	**(925)**	(767)
Foreign tax suffered	**102**	185
	1,686	1,146

The prior year's current tax adjustments reflect claims for UK Research and Development tax credits.

	2018 £000	2017 £000
Deferred tax – origination and reversal of temporary differences:		
Current year	**(741)**	(765)
Prior years	**30**	(10)
Effect of changes in tax rates	**78**	11
	(633)	(764)
Tax on profit for the year – current year	**1,948**	1,159
Tax on profit for the year – prior years	**(895)**	(777)
	1,053	382
Factors affecting the tax charge for the year:		
Profit before tax	**10,188**	5,121
Profit before tax multiplied by standard rate of UK corporation tax of 19% (2017: 19.25%)	**1,936**	986
Share options	**(128)**	(148)
Provisions and expenditure not deductible for tax purposes	**52**	152
Changes in tax rates	**78**	11
Overseas tax	**10**	81
Deferred tax asset not recognised	**—**	77
Tax on profit for the year – current year	**1,948**	1,159
Tax on profit for the year – prior years	**(895)**	(777)
Total net taxation charge	**1,053**	382

11. Dividends

	2018		2017	
	Pence per share	£000	Pence per share	£000
Final dividend for the previous year	**22.0**	**1,361**	18.5	1,130
First interim dividend for the current year	**12.0**	**742**	10.0	613
	34.0	**2,103**	28.5	1,743

The Directors will propose a final dividend of 28.0p per share, amounting to £1,735,000, for payment on 5 July 2019. As the final dividend remains conditional on shareholders' approval at the Annual General Meeting, provision has not been made for this dividend in these consolidated financial statements.

Dividends declared by subsidiaries that are not wholly owned are paid to the non-controlling interest in the period in which they are declared and amounted to £162,000 in the year (2017: £nil).

12. Earnings per share

	Note	2018 £000	2017 £000
Profit attributable to owners of the parent			
Adjusted profit		11,329	8,074
Adjusting items	4	(2,834)	(4,061)
Profit for the year		8,495	4,013

	Pence	Pence
Earnings per share – adjusted		
Basic	183.4	131.9
Diluted	180.6	130.3
Earnings per share – total		
Basic	137.5	65.6
Diluted	135.4	64.8

	Note	Number	Number
Issued Ordinary shares at the start of the year		6,141,128	6,107,628
Movement in Ordinary shares during the year	22	55,550	33,500
Issued Ordinary shares at the end of the year		6,196,678	6,141,128
Weighted average number of shares in issue		6,176,315	6,121,643
Dilutive effect of share options		96,800	72,786
Weighted average shares in issue on a diluted basis		6,273,115	6,194,429

Adjusted basic earnings per share is calculated on the adjusted profit, which excludes any adjusting items, attributable to the Company's shareholders divided by the weighted average number of shares in issue during the year.

Adjusted diluted earnings per share is calculated on the adjusted basic earnings per share, adjusted to allow for the issue of Ordinary shares on the assumed conversion of all dilutive options and any other dilutive potential Ordinary shares. The calculation is based on the treasury method prescribed in IAS 33. This calculates the theoretical number of shares that could be purchased at the average middle market price in the period out of the proceeds of the notional exercise of outstanding options. The difference between this theoretical number and the actual number of shares under option is deemed liable to be issued at nil value and represents the dilution.

Total earnings per share are calculated as above whilst substituting total profit for adjusted profit.

13. Goodwill

	2018 £000	2017 £000
Cost		
1 January	14,650	13,337
Additions	—	1,313
31 December	14,650	14,650

Goodwill is tested annually for impairment by reference to the value in use of the relevant cash-generating units, which are the Group's operating segments. This is calculated on the basis of projected cashflows for five years. These are derived from detailed budgets for the coming year, with subsequent years including revenue and cost growth of 3% per annum and maintained gross margins. The 3% long-term growth rate takes into account both UK and overseas markets. These cashflows are discounted using a weighted average cost of capital of 11.6% (2017: 11.1%) per annum, calculated by reference to year-end data on equity values and interest, dividend and tax rates. The long-term growth rate and discount rate are consistent for all segments on the basis that the businesses operate in similar markets and are exposed to similar risks. The residual value at the end of the five years, computed by reference to projected year six cashflows and discounted, is also included. There was no requirement for any impairment provision at 31 December 2018 (2017: £nil).

The Directors have considered the sensitivity of the key assumptions, including the weighted average cost of capital and long-term growth rates, and have concluded that any possible changes that may be reasonably contemplated in these key assumptions would not result in the value in use falling below the carrying value of goodwill, given the amount of headroom available.

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

14. Other intangible assets

	Distribution agreements £000	Research and development £000	Sales order backlog £000	Brand and domain names £000	Customer relationships £000	Total £000
Gross carrying amount						
1 January 2017	2,928	8,475	4,523	11,035	8,440	35,401
Acquisitions	555	1,481	225	1,437	192	3,890
Disposal	—	—	—	—	(31)	(31)
31 December 2017	3,483	9,956	4,748	12,472	8,601	39,260
31 December 2018	**3,483**	**9,956**	**4,748**	**12,472**	**8,601**	**39,260**
Amortisation						
1 January 2017	2,447	4,928	4,433	6,942	6,915	25,665
Charge for the year	430	1,316	315	1,825	703	4,589
31 December 2017	2,877	6,244	4,748	8,767	7,618	30,254
Charge for the year	296	1,254	—	1,470	613	3,633
31 December 2018	**3,173**	**7,498**	**4,748**	**10,237**	**8,231**	**33,887**
Carrying amount 31 December 2018	**310**	**2,458**	**—**	**2,235**	**370**	**5,373**
Carrying amount 31 December 2017	606	3,712	—	3,705	983	9,006
Carrying amount 31 December 2016	481	3,547	90	4,093	1,525	9,736

15. Property, plant and equipment

	Plant and machinery £000	Fixtures, fittings and equipment £000	Motor vehicles £000	Property and building improvements £000	Total £000
Cost					
1 January 2017	948	1,509	463	4,628	7,548
Additions	222	389	75	42	728
Acquisitions	57	12	—	—	69
Disposals	(50)	(8)	(82)	—	(140)
Exchange differences	(10)	(6)	(15)	—	(31)
31 December 2017	1,167	1,896	441	4,670	8,174
Additions	369	457	67	62	955
Disposals	(43)	(20)	(37)	—	(100)
Exchange differences	7	4	13	—	24
31 December 2018	**1,500**	**2,337**	**484**	**4,732**	**9,053**
Accumulated depreciation					
1 January 2017	642	906	225	487	2,260
Charge	129	299	115	132	675
Disposals	(49)	(8)	(29)	—	(86)
Exchange differences	(8)	(3)	(8)	—	(19)
31 December 2017	714	1,194	303	619	2,830
Charge	162	358	97	129	746
Disposals	(36)	(15)	(13)	—	(64)
Exchange differences	6	2	9	—	17
31 December 2018	**846**	**1,539**	**396**	**748**	**3,529**
Net book value – 31 December 2018	**654**	**798**	**88**	**3,984**	**5,524**
Net book value – 31 December 2017	453	702	138	4,051	5,344
Net book value – 31 December 2016	306	603	238	4,141	5,288

16. Deferred tax

	2018 £000	2017 £000
Assets		
1 January	730	776
Adjustments in respect of prior years	(30)	10
Movement in other comprehensive income – retirement benefits actuarial (gain)/loss	(35)	34
Credit/(charge) to income statement in the year	55	(194)
(Charge)/credit to equity in the year	(1)	104
31 December	719	730
Deferred tax balances relate to temporary differences as follows:		
Provisions allowable for tax in subsequent periods	62	22
Share options	344	289
Losses	—	41
Defined benefit obligation	313	378
	719	730
Liabilities		
1 January	2,087	2,310
Acquisitions in the year (note 27)	—	716
Credit to income statement in the year	(610)	(939)
31 December	1,477	2,087
Deferred tax balances relate to temporary differences as follows:		
Accelerated capital allowances	459	431
Intangible assets	1,018	1,656
	1,477	2,087

Deferred tax is recognised at 17% (2017: 17%) being the UK tax rate effective from 1 April 2020.

17. Inventories

	2018 £000	2017 £000
Raw materials	7,633	7,248
Work in progress	1,469	1,668
Finished goods	1,400	1,464
	10,502	10,380

In 2018, a total of £30,774,000 of inventories was included in the Statement of Comprehensive Income as an expense (2017: £29,824,000). This includes an amount of £580,000 (2017: £413,000) resulting from write-downs of inventories and an amount of £76,000 (2017: £128,000) which is the reversal of previous write-downs. The carrying amount of inventories held at fair value less costs to sell is £441,000 (2017: £497,000). All Group inventories form part of the assets pledged as security in respect of bank loans.

18. Trade and other receivables – current

	2018 £000	2017 £000
Trade receivables	10,944	9,904
Other receivables	1,022	994
Prepayments and accrued income	1,265	929
	13,231	11,827

The fair value of receivables approximates to their carrying value. All trade and other receivables have been reviewed for impairment with no material provision being required.

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

18. Trade and other receivables – current continued

Some of the unimpaired trade receivables were past due at the balance sheet date as follows:

	2018 £000	2017 £000
Not more than three months	**2,055**	1,714
More than three months but not more than six months	**353**	330
More than six months but not more than twelve months	**81**	57
Greater than one year	**28**	116
	2,517	2,217

Trade and other receivables are denominated in the following currencies:

	2018 £000	2017 £000
Sterling	**9,800**	8,766
US Dollars	**2,595**	2,389
Euros	**836**	672
	13,231	11,827

19. Trade and other payables – current

	2018 £000	2017 £000
Trade payables	**5,379**	4,398
Social security and other taxes	**821**	954
Other payables	**1,617**	1,124
Accruals and deferred income	**6,160**	5,496
	13,977	11,972

The fair value of trade and other payables approximates to their carrying value.

20. Borrowings

	2018 £000	2017 £000
Current		
Bank loans	**2,868**	3,376
Subordinated loans	**190**	190
	3,058	3,566
Non-current		
Bank loans	**11,968**	14,696
	11,968	14,696

In April 2018, the Group entered into new banking facilities (the “Facility”) replacing its existing banking arrangements with Lloyds Banking Group. The Facility is for an aggregate £35.0 million consisting of a £10.0 million term loan, a committed £20.0 million revolving credit facility (“RCF”) plus a £5.0 million accordion facility, which can be drawn at the bank’s discretion. The Facility replaces the previous facilities for which the Group had a total of £12.9 million outstanding. The £12.9 million outstanding loans were repaid and simultaneously reborrowed under the Facility. The Facility has a five-year term (“Borrowing Term”) with covenants and interest consistent with the previous bank facilities. The term loan amortises over the Borrowing Term by quarterly instalments. The RCF is repayable in a bullet at the end of the Borrowing Term. The existing facilities via Bordeaux Acquisition Limited, the Group’s 75.5% owned facility, remain unchanged.

20. Borrowings continued

At the year end, the Group's four bank loans are summarised as follows:

- The first loan of £8,500,000 (2017: £4,482,000) is repayable in quarterly instalments over the period ending 31 March 2023 and bears interest at 1.6% to 2.75% (depending upon gearing) above LIBOR-related rates.
- The second loan of £2,896,000 (2017: £9,001,000) is repayable by 31 March 2023 and bears interest at 1.75% to 2.75% (depending upon gearing) above LIBOR-related rates.
- The third loan of £11,000 (2017: £57,000) is repayable in quarterly instalments over the period ending 31 March 2019 and bears interest at 3.75% above LIBOR-related rates.
- The fourth loan of £3,429,000 (2017: £4,532,000) is repayable in quarterly instalments over the period ending 31 December 2022 and bears interest at 1.75% to 2.75% (depending upon gearing) above LIBOR-related rates.

The subordinated loans were advanced by non-controlling shareholders in Bordeaux Acquisition Limited. They are unsecured, interest free and repayable at the discretion of that company.

Borrowings mature as follows:

31 December 2018	Bank loans £000	Subordinated loan £000	Total £000
Repayable in less than six months	1,639	190	1,829
Repayable in months seven to twelve	1,611	—	1,611
Current portion of long-term borrowings	3,250	190	3,440
Repayable in years one to five	12,653	—	12,653
Total borrowings	15,903	190	16,093
Less: interest included above	(1,067)	—	(1,067)
Less: cash and cash equivalents	(15,727)	—	(15,727)
Total net cash	(891)	190	(701)
Adjusting items			
Subordinated debt to non-controlling shareholders			(190)
Adjusted net cash			(891)

31 December 2017	Bank loans £000	Subordinated loan £000	Total £000
Repayable in less than six months	2,008	190	2,198
Repayable in months seven to twelve	1,764	—	1,764
Current portion of long-term borrowings	3,772	190	3,962
Repayable in years one to five	15,120	—	15,120
Total borrowings	18,892	190	19,082
Less: interest included above	(820)	—	(820)
Less: cash and cash equivalents	(10,681)	—	(10,681)
Total net debt	7,391	190	7,581
Adjusting items			
Subordinated debt to non-controlling shareholders			(190)
Accrued deferred consideration			599
Adjusted net debt			7,990

A proportion of the Group's bank loans were drawn in foreign currencies to provide a hedge against assets denominated in those currencies. The Sterling equivalent at 31 December 2018 of loans denominated in Euros was £nil (2017: £1,265,000). These amounts are included in the figures above for bank loans, repayable in years one to five.

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

21. Financial instruments

The Group's policies on treasury management, capital management objectives and financial instruments are given in the Directors' Report commencing on page 25.

Fair value of financial instruments

Financial instruments include the borrowings set out in note 20. The Group enters into derivative financial instruments in order to manage its interest rate and foreign currency exposure. The principal derivatives used include foreign currency options and interest rate swaps. Material changes in the carrying values of these instruments are recognised in the Statement of Comprehensive Income in the periods in which the changes arise. Such recognition is treated as an adjusting item in the Statement of Comprehensive Income where the foreign currency hedge was entered into in order to protect profits in later accounting periods. In such cases, the charge or credit will be reversed out of adjusting items in the accounting period for which the hedge was intended and will be shown in results before adjusting items. All financial instruments denominated in foreign currencies are translated at the rate of exchange ruling at the balance sheet date. The Directors believe that there is no material difference between the book value and fair value of all financial instruments.

Borrowing facilities

The Group has a revolving acquisition facility of £20 million. At 31 December 2018 the Group had drawn £2,896,000 (2017: £9,001,000).

Trade payables

All amounts are short term (all payable within six months) and their carrying values are considered reasonable approximations of fair value. The values are set out in note 19.

Fair value hierarchy

The fair value hierarchy has the following levels:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).

Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

21. Financial instruments continued

Fair value hierarchy continued

The interest rate swaps and foreign currency hedges are measured at fair value in accordance with the fair value hierarchy and are classed as level 2.

	2018 £000	2017 £000
Summary of financial assets and financial liabilities by category		
Financial assets		
Trade and other receivables	11,966	10,898
Cash and cash equivalents	15,727	10,681
Total financial assets	27,693	21,579
Financial liabilities – amortised cost		
Trade payables	5,379	4,398
Accruals and deferred income	6,160	5,496
Other payables	1,533	1,097
Trade and other payables relating to acquisitions	—	599
Current portion of long-term borrowings	3,058	3,566
Long-term borrowings	11,968	14,696
Financial liabilities – fair value		
Derivative financial instruments	84	27
Total financial liabilities	28,182	29,879
Net financial liabilities	489	8,300
Non-financial assets and liabilities not within the scope of IAS 39		
Goodwill	14,650	14,650
Other intangible assets	5,373	9,006
Property, plant and equipment	5,524	5,344
Inventories	10,502	10,380
Prepayments and accrued income	1,265	929
Social security and other taxes	(821)	(954)
Retirement benefit obligations	(1,836)	(2,221)
Current tax payable	(2,204)	(2,821)
Deferred tax assets	719	730
Deferred tax liabilities	(1,477)	(2,087)
	31,695	32,956
Total equity	31,206	24,656

Financial assets

The Group's financial assets (which are summarised above) comprise cash and cash equivalents and trade and other receivables.

The amounts derived from these assets and included as interest income in the Statement of Comprehensive Income are £41,000 (2017: £34,000) (see note 9).

Cash and cash equivalents are principally denominated in Sterling and earn interest at floating rates.

Financial liabilities

The Group's principal financial liabilities are bank loans, trade and other payables and derivative financial instruments. The Group also holds interest rate swaps and foreign currency forward contracts and options.

The costs attributable to these liabilities and included as interest expense in the Statement of Comprehensive Income amounted to £485,000 (2017: £515,000) (see note 9).

A proportion of the bank loans were previously denominated in foreign currencies to provide a hedge against currency risk on Group assets (see note 20). Foreign exchange losses attributable to bank loans and included as an operating charge in the Statement of Comprehensive Income amounted to £nil (2017: £48,000).

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

22. Share capital

	2018 £000	2017 £000
Allotted, called up and fully paid – Ordinary shares of 5p each		
1 January: 6,141,128 shares (2017: 6,107,628 shares)	307	305
Exercise of share options: 55,550 shares (2017: 33,500 shares)	3	2
31 December: 6,196,678 shares (2017: 6,141,128 shares)	310	307

Allotments of Ordinary shares in 2018 were made:

- to satisfy the exercise of 55,550 share options in aggregate on 11 occasions during the year when the share price was within the range of 2290p to 2550p (2017: exercise of 33,500 share options when the share price was within the range 1502.5p to 2102.5p).

Throughout 2018, the Group continued to award a free "matching share" under the Judges Scientific plc Share Incentive Plan for every share purchased up to a maximum value of £600 per employee per tax year. During 2018, an average of 136 employees participated in the scheme each month (2017: 97 employees), purchasing 8,690 shares in total, including matching shares (2017: 9,690 shares).

The market price of the Company's Ordinary shares at 31 December 2018 was 2400p. The share price range during the year was 1980p to 2920p.

23. Share-based payments

Equity share options

At 31 December 2018, options had been granted and remained outstanding in respect of 249,675 Ordinary shares in the Company, all priced by reference to the mid-market price of the shares on the date of grant and all exercisable, following a three-year vesting period, between the third and tenth anniversaries of grant, as below:

	At 1 January 2018 Number	Granted Number	Lapsed Number	Exercised Number	At 31 December 2018 Number	Of which exercisable Number	Weighted average exercise price (p)
2005 Approved Option Scheme	45,697	—	(2,086)	(13,686)	29,925	29,925	912.9
2005 Unapproved Option Scheme	87,664	—	—	(34,464)	53,200	53,200	1187.9
2015 Approved Option Scheme	55,841	817	(2,892)	(7,400)	46,366	21,337	1402.5
2015 Unapproved Option Scheme	117,001	3,183	—	—	120,184	29,813	—
	306,203	4,000	(4,978)	(55,550)	249,675	134,275	

2005 Option Scheme

Exercise prices for the year ended 31 December 2018 ranged between 92.0p and 2180.0p per share (2017: between 92.0p and 1377.5p per share), with a weighted average remaining contractual life of 4.20 years (2017: 5.37 years).

2015 Option Scheme

Exercise price for the year ended 31 December 2018 was 1402.5p per share (2017: no exercises), with a weighted average remaining contractual life of 7.93 years (2017: 8.86 years).

In accordance with IFRS 2, a Black Scholes valuation model has been used. The key assumptions used in the model are as follows:

- interest rate – 1.0%;
- volatility – 29.7%;
- dividend yield – 1.6%; and
- expected life of option – 5.0 years.

The charge for the year ended 31 December 2018 was £319,000 (2017: £284,000).

24. Other reserves

	Capital redemption reserve £000	Merger reserve £000	Translation reserve £000	Total £000
Balance at 1 January 2018	**23**	**1,968**	**64**	**2,055**
Issue of share capital	—	—	—	—
Transactions with owners	—	—	—	—
Exchange differences on translation of foreign subsidiaries	—	—	**66**	**66**
Total comprehensive income	—	—	**66**	**66**
Balance at 31 December 2018	**23**	**1,968**	**130**	**2,121**

	Capital redemption reserve £000	Merger reserve £000	Translation reserve £000	Total £000
Balance at 1 January 2017	23	1,968	139	2,130
Issue of share capital	—	—	—	—
Transactions with owners	—	—	—	—
Exchange differences on translation of foreign subsidiaries	—	—	(75)	(75)
Total comprehensive income	—	—	(75)	(75)
Balance at 31 December 2017	23	1,968	64	2,055

25. Risk management objectives and policies

The Group is exposed to market risks, arising predominantly from currency exposure resulting from its export activities, interest rate fluctuation on its loans and deposits and credit and liquidity risks. Risk management strategies are co-ordinated by the Directors.

Foreign currency sensitivity

The Group exports a substantial proportion of its sales, frequently denominated in foreign currencies (principally in US$ and Euros). Exposure to currency rate fluctuations exists from the moment a sales order is confirmed through to the time when the related remittance is converted into Sterling. This exposure is computed monthly (along with offsetting exposure on purchases, generally of minimal amounts) and economically hedged, predominantly through the use of currency forward contracts and options. The net exposure to risk is therefore substantially reduced. This does not, however, represent a hedge under IFRS 9. Residual exposure is the difference between the net exposure and the amounts of currency hedges, both translated into Sterling at each measurement date.

31 December 2018	**Sterling equivalent of US$ £000**	**Sterling equivalent of € £000**
Amount of foreign currency hedged at year end	**3,250**	**1,500**
Residual exposure at year end – long/(short)	**1,063**	**(37)**
Impact on pre-tax profits of a 5% variation in exchange rate on year-end residual exposure	**53**	**(2)**
Impact on equity of a 5% variation in exchange rate on year-end residual exposure	**43**	**(2)**

31 December 2017	Sterling equivalent of US$ £000	Sterling equivalent of € £000
Amount of foreign currency hedged at year end	3,250	2,765
Residual exposure at year end – long/(short)	4,070	947
Impact on pre-tax profits of a 5% variation in exchange rate on year-end residual exposure	203	47
Impact on equity of a 5% variation in exchange rate on year-end residual exposure	164	38

In addition to the hedging of existing measured foreign currency exposure, the Group seeks to mitigate the impact of currency fluctuations on future trading performance. This was achieved at 31 December 2018 by entering into currency options to sell €2.7 million and $7.0 million during 2018, at predetermined exchange rates.

The fair value of the hedging financial instruments is a liability of £105,000 (2017: £11,000), and the fair value of interest rate swaps is an asset of £21,000 (2017: liability of £16,000).

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

25. Risk management objectives and policies continued

Interest rate sensitivity

The Group's interest rate exposure arises in respect of its bank loans, which are LIBOR linked for interest rate purposes, and its cash, which are bank base rate linked. To hedge this risk the Group is party to interest rate swaps at predetermined rates. The fair value of these financial instruments has been recognised in these accounts. The Group's sensitivity to interest rate changes is as follows:

	2018 £000	2017 £000
Unhedged bank loans outstanding at year end	6,407	8,787
Impact on pre-tax profits of a 1% change in LIBOR	64	88
Impact on equity of a 1% change in LIBOR	52	71
Cash at year end	15,727	10,681
Impact on pre-tax profits of a 1% change in bank base rates	157	107
Impact on equity of a 1% change in bank base rates	127	86

Credit risk

The Group's exposure to credit risk is limited to the carrying amounts of financial assets recognised at the balance sheet date, as follows:

	2018 £000	2017 £000
Cash and cash equivalents	15,727	10,681
Trade and other receivables	11,966	10,898
	27,693	21,579

The Group reviews the credit risk relating to its customers by ensuring wherever possible that it deals with long-established trading partners, and agents and government/university-backed bodies, where the risk of default is considered low. Where considered appropriate, the Group insists on upfront payment and requires letters of credit to be provided. The Directors consider that all the Group's financial assets that are not impaired at each of the reporting dates under review are of good credit quality, including those that are past due (see note 18). None of the financial assets are secured by collateral or other credit enhancements.

Group companies generally trade through overseas agents and distributors, and credit exposure to an individual agent or distributor can be significant at times. At 31 December 2018, no counterparty owed more than 10% of the Group's total trade and other receivables (2017: none).

The credit risk for liquid funds and other short-term financial assets is considered small. The substantial majority of these assets are deposited with Lloyds Banking Group.

Liquidity risk

Longer-term finance is required to enable the Group to pursue it strategic goal of growing through acquisitions as well as through organic development. This requirement for financing is satisfied for the foreseeable future by a £20 million revolving acquisition facility together with a £5 million uncommitted accordion facility provided by Lloyds Banking Group. The Group's strategy envisages the servicing of this debt to be achieved from the cashflow arising from the businesses acquired. For short and medium-term financial needs, the Group regularly compares its projected requirements with available cash and borrowing facilities.

The periods of maturity of the Group's borrowings are set out in note 20. The maturity of all trade and other payables is within the period of less than six months.

26. Operating lease commitments

	2018 £000	2017 £000
Minimum operating lease commitments falling due:		
Within one year – land and property	723	664
Within one year – vehicles	21	38
Within one year – other	65	20
	809	722
Between one and five years – land and property	1,767	1,107
Between one and five years – vehicles	30	18
Between one and five years – other	161	40
	1,958	1,165
Greater than five years – land and property	596	107
Total commitment	3,363	1,994

27. Acquisitions

Increased shareholding in PE.fiberoptics Limited

On 8 August 2018 the Company's interest in its majority owned subsidiary PE.fiberoptics Limited ("PFO") increased from 51% to 67.5%. In 2005, Judges financed the management buy-out of a business manufacturing instruments to test fibre optics. The buy-out vehicle, PFO, was owned by Judges (51%), the seller (14%) with the management of PFO owning the balance of the equity (35%).

PFO purchased half of the shares owned by all shareholders other than Judges, totalling 24.5% of its issued share capital, satisfied by a portion of its surplus cash balances and subsequently cancelled those shares acquired. The total value of the repurchase was £1.5 million, based on an enterprise value of £3.8 million for 100% of PFO. In 2017, PFO generated £1.1 million profit before tax.

2017 acquisition

There have been no amendments to the fair values presented in the 2017 consolidated financial statements. As part of the acquisition of Crystallon Limited ("Crystallon"), an earn-out was payable if Crystallon's adjusted EBITA in the financial year ended 30 November 2017 exceeded £0.899 million, payable at five times such excess, capped at £1.576 million. Crystallon achieved an earn-out of £599,000, which was paid in March 2018. This had already been accrued in the 2017 financial statements.

28. Retirement benefit obligations

Defined benefit obligations

The Group's subsidiary, Armfield Limited, operates a defined benefit scheme for certain of its employees. A full actuarial valuation was carried out as at 31 March 2017 and the retirement benefit liability was independently revalued as at 31 December 2018.

The scheme has been closed to new members from 2001 and closed to new accrual in 2006. The average duration of the plan's liabilities has been calculated to be approximately 16 years. The trustees are drawn partly from Armfield's employees and also from nominees of the Judges Group.

The full actuarial valuation carried out as at 31 March 2017 was in accordance with the scheme funding requirements of the Pensions Act 2004 and the funding of the plan is agreed between Armfield and the pension trustees in line with those requirements. These in particular require the surplus/deficit to be calculated using prudent, as opposed to best estimate, actuarial assumptions. It was agreed with the trustees that contributions be increased to £236,000 per annum to eliminate the deficit over a period of nine years. The next full actuarial valuation will be carried out no later than 31 March 2020. The asset investment strategy is the responsibility of the trustees.

Summary	**31 December 2018 £000**	31 December 2017 £000	31 December 2016 £000
Fair value of plan assets	**5,612**	5,983	5,759
Present value of defined benefit obligation	**(7,448)**	(8,204)	(7,957)
Deficit in scheme	**(1,836)**	(2,221)	(2,198)
Deferred tax	**312**	378	374
Net retirement benefit obligation	**(1,524)**	(1,843)	(1,824)

Changes in the fair value of plan assets	**31 December 2018 £000**	31 December 2017 £000
1 January	**5,983**	5,759
Interest income	**146**	156
Return on plan assets (excluding amounts in interest income)	**(301)**	326
Contributions by the Company	**236**	236
Benefits paid	**(452)**	(494)
31 December	**5,612**	5,983

Notes to the consolidated financial statements continued

For the year ended 31 December 2018

28. Retirement benefit obligations continued

Defined benefit obligations continued

The actual return on plan assets for the year ended 31 December 2018 was £155,000 (2017: £482,000).

Changes in the fair value of defined benefit pension obligations	31 December 2018 £000	31 December 2017 £000
1 January	8,204	7,957
Current service cost	—	—
Expenses	—	—
Interest expense	200	216
Actuarial losses due to scheme experience	—	187
Actuarial gains due to changes in demographic assumptions	(50)	(89)
Actuarial (gains)/losses due to financial assumptions	(454)	427
Benefits paid	(452)	(494)
31 December	7,448	8,204

There were no plan amendments, curtailments or settlements in the above years. Following an independent assessment, the estimated Guaranteed Minimum Pension ("GMP") equalisation impact, that which would equalise for the different effects of GMPs between men and women, is expected to have no impact on the defined benefit obligation above.

Major categories of plan assets	31 December 2018 £000	31 December 2017 £000	31 December 2016 £000
Quoted equities	2,801	3,111	2,114
Bonds	2,276	2,359	3,197
Property	494	473	432
Cash and other assets	41	40	16
	5,612	5,983	5,759

Principal actuarial assumptions	31 December 2018 %	31 December 2017 %
Discount rate	2.80	2.50
Inflation rate	3.30	3.20
In payment pension increases	3.40	3.40
In deferment pension increases	5.00	5.00

The mortality assumptions used in valuing the liabilities of the plan are based 100% on the standard tables S2PxA, projected using the CMI 2017 model with a 1.00% per annum long-term rate of improvement.

The life expectancies assumed are as follows:

	Life expectancy at age 65 (years)
Male retiring in 2018	21.8
Female retiring in 2018	23.7
Male retiring in 2038	22.8
Female retiring in 2038	24.9

28. Retirement benefit obligations continued

Sensitivity

The significant actuarial assumptions in determining the defined benefit obligation are the discount rate, the rate of mortality and the rate of inflation. Changes to these actuarial assumptions may impact this obligation as follows:

	Change in liabilities £000
Discount rate – decrease by 0.25% per annum	372
Mortality rate – increase of one year in life expectancy	283

The above shows the impact on the defined benefit obligation if the assumptions were changed as shown (assuming all other assumptions remain constant). There is zero sensitivity to inflation due to the nature of the scheme. The sensitivity analysis may not be representative of the actual change in the obligation as it is unlikely that any change in assumption would happen in isolation.

Risk management

There is a risk that changes in discount rates, price inflation, asset returns and/or mortality assumptions could lead to a materially greater deficit. Given the long-term time horizon of the pension plan cashflows, the assumptions used are uncertain. The assumptions can also be volatile from year to year due to changes in investment market conditions. A higher pension deficit could directly impact the Group's equity valuation and credit rating and may lead to additional funding requirements in future years. Any deficit relative to the actuarial liability for funding purposes, which may differ from the funding position on an accounting basis, will generally be financed over a period that ensures the contributions are reasonably affordable to the Group and in line with local regulations.

29. Non-controlling interests

Summarised financial information of the Group's non-controlling interests is set out below:

	2018 £000	2017 £000
Non-current assets	1,554	2,170
Current assets	6,243	7,749
Total assets	7,797	9,919
Current liabilities	(1,718)	(2,618)
Non-current liabilities	(4,220)	(5,370)
Total liabilities	(5,938)	(7,988)
Total equity	1,859	1,931
Attributable to:		
Owners of the parent	1,297	854
Non-controlling interest	562	1,077

	2018 £000	2017 £000
Revenue	11,377	8,474
Profit for the year	1,937	1,595
Attributable to:		
Owners of the parent	1,297	869
Non-controlling interest	640	726

	2018 £000	2017 £000
Net cash from operating activities	2,935	1,574
Net cash used in investing activities	(129)	(55)
Net cash used in financing activities	(3,893)	(1,412)
Net cash (outflow)/inflow	(1,087)	107

Dividends totalling £162,000 were paid to a non-controlling interest during the year (2017: £nil).

Parent company balance sheet

As at 31 December 2018

	Note	2018 £000	2017 £000
Fixed assets			
Tangible assets	3	**645**	679
Investments in subsidiaries	4	**40,611**	40,611
		41,256	41,290
Current assets			
Debtors	5	**20,360**	20,925
Cash and cash equivalents		**3,400**	—
		23,760	20,925
Creditors: amounts falling due within one year	6	**(3,836)**	(6,146)
Net current assets		**19,924**	14,779
Total assets less current liabilities		**61,180**	56,069
Creditors: amounts falling due after more than one year	7	**(9,396)**	(11,223)
Total net assets		**51,784**	44,846
Capital and reserves			
Called up share capital	9	**310**	307
Share premium		**15,164**	14,529
Capital redemption reserve		**23**	23
Retained earnings		**36,287**	29,987
Shareholders' funds		**51,784**	44,846

The accompanying notes form an integral part of these financial statements.

In accordance with the exemptions permitted by section 408 of the Companies Act 2006, the Statement of Comprehensive Income of the parent company has not been presented. Profit for the year totalled £8,084,000 (2017: £7,105,000).

These parent company financial statements were approved by the Board on 18 March 2019.

David Cicurel
Director

Brad Ormsby
Director

Parent company statement of changes in equity
For the year ended 31 December 2018

	Share capital £000	Share premium £000	Capital redemption reserve £000	Retained earnings £000	Total equity £000
At 1 January 2018	**307**	**14,529**	**23**	**29,987**	**44,846**
Dividends	**—**	**—**	**—**	**(2,103)**	**(2,103)**
Issue of share capital	**3**	**635**	**—**	**—**	**638**
Share-based payments	**—**	**—**	**—**	**319**	**319**
Transactions with owners	**3**	**635**	**—**	**(1,784)**	**(1,146)**
Profit for the year	**—**	**—**	**—**	**8,084**	**8,084**
Total comprehensive income for the year	**—**	**—**	**—**	**8,084**	**8,084**
At 31 December 2018	**310**	**15,164**	**23**	**36,287**	**51,784**
At 1 January 2017	305	14,472	23	24,445	39,245
Dividends	—	—	—	(1,743)	(1,743)
Issue of share capital	2	57	—	—	59
Share-based payments	—	—	—	180	180
Transactions with owners	2	57	—	(1,563)	(1,504)
Profit for the year	—	—	—	7,105	7,105
Total comprehensive income for the year	—	—	—	7,105	7,105
At 31 December 2017	307	14,529	23	29,987	44,846

The accompanying notes form an integral part of these financial statements.

Notes to the parent company financial statements

For the year ended 31 December 2018

1. Statement of compliance

The financial statements were prepared in accordance with FRS 101 'Reduced Disclosure Framework'.

2. Summary of significant accounting policies

Basis of preparation

As permitted by FRS 101, for both periods presented, the Company has taken advantage of the disclosure exemptions available under that standard in relation to financial instruments, capital management, presentation of a cashflow statement, share-based payments, fair value measurements, comparative reconciliations for tangible and intangible assets, standards not yet effective, related party transactions with other wholly owned members of the Group, and key management personnel compensation. Equivalent disclosures are, where required, given in the Group accounts of Judges Scientific plc. The Group accounts of Judges Scientific plc are publicly available.

The financial statements have been prepared on the historical cost basis.

Use of key accounting estimates and judgements

Many of the amounts included in the financial statements involve the use of judgement and/or estimation. These judgements and estimates are based on management's best knowledge of the relevant facts and circumstances, having regard to prior experience, but actual results may differ from the amounts included in the financial statements. Information about such judgements and estimates is contained in the accounting policies and/or the notes to the financial statements, and the key areas are summarised below.

Sources of estimation uncertainty

The carrying value of investments is assessed based on the current trading performance, the expected future performance and net assets of the investment.

Tangible fixed assets

Tangible fixed assets are stated at historical cost, less accumulated depreciation.

Depreciation is provided at annual rates calculated to write off the cost less residual value of each asset over its expected useful life at the following rate:

Leasehold improvements	Over the minimum term of the lease
Fixtures, fittings and equipment	Between three and seven years

Taxation

Current tax is provided at amounts expected to be paid or recovered either directly or through Group relief arrangements.

Deferred tax assets and liabilities are calculated at rates that are expected to apply to their respective period of realisation, provided they are enacted or substantively enacted at the balance sheet date.

Employee benefits – defined contribution plans

The Company operates defined contribution pension schemes for employees and Directors. The assets of the schemes are held by investment managers separately from those of the Group. The contributions payable to these schemes are recorded in the Statement of Comprehensive Income in the accounting period to which they relate.

Share-based employee compensation

The Group operates equity-settled share-based compensation plans for remuneration of its Directors and employees.

All employee services received in exchange for the grant of any share-based compensation are measured at their fair values. The fair value is appraised at the grant date and excludes the impact of any non-market vesting conditions (e.g. profitability or sales growth targets).

Share-based compensation is recognised as an expense in the Statement of Comprehensive Income with a corresponding credit to other reserves. If vesting periods or other vesting conditions apply, the expense is allocated over the vesting period, based on the best available estimate of the number of share options expected to vest. Non-market vesting conditions are included in assumptions about the number of options that are expected to become exercisable. Estimates are subsequently revised if there is any indication that the number of share options expected to vest differs from previous estimates.

The proceeds received net of any directly attributable transaction costs are credited to share capital and share premium when the options are exercised.

Foreign currencies

Monetary assets and liabilities denominated in foreign currencies are translated into Sterling at the rates of exchange prevailing at the balance sheet date. Transactions in foreign currencies are recorded at the rate of exchange prevailing at the date of transaction. All differences are taken to the Statement of Comprehensive Income.

2. Summary of significant accounting policies continued

Financial assets

Financial assets consist of loans, debtors, derivatives and investments in subsidiaries.

Cash and cash equivalents

Cash and cash equivalents comprise cash at bank and in hand and short-term deposits which are subject to an insignificant risk of changes in value.

Debtors

Debtors are recognised and carried at the original invoice amount less an allowance for uncollectable amounts. An estimate of uncollectable amounts is made upon initial recognition of the debtor, and also when collection of the amount is no longer probable. Uncollectable amounts are written off to the Statement of Comprehensive Income when identified.

Investments

Fixed asset investments in subsidiaries are stated at cost less provision for impairment.

Financial liabilities

Financial liabilities are obligations to pay cash or other financial assets and are recognised when the Group becomes a party to the contractual provisions of the instrument. Financial liabilities are recorded initially at fair value net of direct issue costs if they are not held at fair value through profit and loss. Derivatives are recorded at fair value through profit or loss. The fair value of derivative financial instruments is determined by reference to active market transactions or using a valuation technique where no active market exists.

All financial liabilities with the exception of interest rate swaps and foreign currency options are recorded at amortised cost using the effective interest method, with interest-related charges recognised as an expense in finance cost in the Statement of Comprehensive Income.

These financial liabilities include creditors and borrowings, including bank loans, subordinated loans and hire purchase commitments. Finance charges, including premiums payable on settlement or redemption and direct issue costs, are charged to the Statement of Comprehensive Income on an accruals basis using the effective interest method and are added to the carrying amount of the instrument to the extent that they are not settled in the period in which they arise.

Interest rate swaps and foreign currency options are treated as derivative financial instruments and are accounted for at fair value through profit and loss.

A financial liability is derecognised only when the obligation is extinguished, that is, when the obligation is discharged or cancelled or expires.

Equity

Equity comprises the following:

Share capital

Share capital represents the nominal value of equity shares.

Share premium

Share premium represents the excess over nominal value of the fair value of consideration received for equity shares, net of expenses of the share issue.

Capital redemption reserve

Capital redemption reserve represents amounts set aside from retained earnings on conversion of convertible redeemable shares equal to the reduction then arising in the overall nominal value of share capital of all classes.

Retained earnings

Retained earnings represents retained profits and losses.

Revaluation reserve

Revaluation reserve represents gains and losses due to the revaluation of certain financial assets.

Dividends

Final dividend distributions payable to equity shareholders are included in trade and other payables when the dividends are approved in general meeting but not paid prior to the balance sheet date. Interim dividends are recognised in the period in which they are paid. Dividend income is recognised when the shareholder’s right to receive payment is established.

Notes to the parent company financial statements continued

For the year ended 31 December 2018

3. Tangible assets

	Property and leasehold improvements £000	Fixtures, fittings and equipment £000	Total £000
Cost			
1 January 2018 and 31 December 2018	797	20	817
Depreciation			
1 January 2018	123	15	138
Charge	29	5	34
31 December 2018	**152**	**20**	**172**
Net book value – 31 December 2018	**645**	**—**	**645**
Net book value – 31 December 2017	674	5	679

4. Investments in subsidiaries

	2018 £000	2017 £000
Cost		
1 January	**40,611**	39,264
Additions	**—**	1,347
31 December	**40,611**	40,611

The addition in the prior year relates to the acquisition of a further 24.5% of Bordeaux Acquisition Limited.

4. Investments in subsidiaries continued

The Company's subsidiaries at 31 December 2018, all of which are incorporated and domiciled in the United Kingdom (except as stated), are as follows:

Company	Principal activity	Class of shares	% held
Fire Testing Technology Limited	Design and assembly of fire testing instruments	Ordinary £1	100%
PE.fiberoptics Limited	Design and assembly of fibre-optic testing instruments	"A" Ordinary 1p	100% of "A" class, being 67.5% of total equity
UHV Design Limited	Design and manufacture of instruments used to manipulate objects in ultra-high vacuum chambers	Ordinary £1	100%
Aitchee Engineering Limited	Manufacture of engineering parts and finished products	Ordinary £1	100%
Quorum Technologies Limited	Design, manufacture and distribution of instruments that prepare samples for examination in electron microscopes	Ordinary £1	100%
Sircal Instruments (U.K.) Limited	Design, manufacture and distribution of rare gas purifiers for use in metals analysis	Ordinary £1	100%
Deben UK Limited*	Design and manufacture of devices used to enable or improve the observation of objects under a microscope	Ordinary £1	75.5%
Oxford Cryosystems Limited*	The design, manufacture and marketing of products for crystallography and other markets	Ordinary £1	75.5%
Global Digital Systems Limited	Design and manufacture of instruments used to test the physical properties of soil and rocks	"A" and "B" Ordinary £1	100%
Scientifica Limited*	Design and manufacture of instruments used in electrophysiology to enable or improve the observation of objects under a microscope	Ordinary £1	100%
Scientifica LLC (USA)*	Sale of instruments used in electrophysiology to enable or improve the observation of objects under a microscope		100%
Bordeaux Acquisition Limited	Holding company	Ordinary £1	75.5%
Crystallon Limited*	Holding company	Ordinary £1	75.5%
Armfield Limited	Design and supply of research and training equipment	Ordinary £1	100%
Armfield Technical Education Company Limited*	Dormant	Ordinary £1	100%
Armfield Inc. (USA)*	Supply of research and training equipment	Common Shares	100%
CoolLED Limited	Design and manufacture of illumination systems for fluorescence microscopy	Ordinary £1	100%
Dia-Stron Limited	Design and manufacture of systems to test the mechanical properties of fibres	Ordinary £1	100%
Dia-Stron Inc. (USA)*	Sale of systems to test the mechanical properties of fibres	Common Shares	100%
EWB Solutions Limited	Design and manufacture of edge-welded bellows	Ordinary £1	100%
Judges Capital Limited	Holding company	Ordinary £1	100%
EM Technologies Limited*	Dormant	Ordinary £1	100%
FTT Scientific Limited*	Dormant	Ordinary £100	100%
GDS Instruments Limited*	Dormant	Ordinary £1	100%
Polaron Instruments Limited*	Dormant	Ordinary £1	100%
Stanton Redcroft Limited*	Dormant	Ordinary £1	100%

* Indirectly held.

Notes to the parent company financial statements continued

For the year ended 31 December 2018

5. Debtors

	2018 £000	2017 £000
Amounts owed by Group companies	**19,536**	20,269
Prepayments and accrued income	**541**	432
Deferred tax asset (note 8)	**283**	224
	20,360	20,925

Included in amounts owed by Group companies are:

- the sum of £15,703,000 (2017: £15,098,000) which is repayable on demand at any time after 30 June 2019 provided that all liabilities to third parties falling due on or before that date have been met. This loan is unsecured and bears interest at the rate of 5% per annum;
- the sum of £1,000,000 (2017: £1,500,000) which is repayable on demand at any time after 30 June 2019 provided that all liabilities to third parties falling due on or before that date have been met. This loan is unsecured and bears interest at the rate of 5% per annum; and
- the sum of £1,601,000 (2017: £2,615,000) which is to be repaid by 2026. This loan is unsecured and bears interest at the rate of 5% per annum.

Except as stated, all amounts are recoverable in less than one year.

6. Creditors: amounts falling due within one year

	2018 £000	2017 £000
Bank overdraft	**—**	1,317
Current portion of bank loans	**2,000**	2,260
Trade and other payables	**122**	137
Amounts owed to Group companies	**503**	502
Corporation tax	**199**	1,053
Social security and other taxes	**156**	253
Other creditors	**311**	262
Accruals and deferred income	**545**	362
	3,836	6,146

7. Creditors: amounts falling due after more than one year

	2018 £000	2017 £000
Bank loans	**9,396**	11,223

The bank loan is secured on the assets of the Group. The loan is repayable in quarterly instalments over the period ending 31 March 2023 and bears interest at 1.6% to 2.75% above LIBOR-related rates, depending upon gearing. Refer to note 20 of the consolidated financial statements for details of the 2018 refinancing.

The repayment profile of borrowings is as follows:

	Bank loans £000
Repayable in less than one year	2,251
Repayable in years one to five	9,939
	12,190
Less: interest included above	(794)
	11,396

A proportion of the Company's bank loans were previously drawn in foreign currencies to provide a hedge against Group assets denominated in those currencies. The Sterling equivalent at 31 December 2018 of loans denominated in Euros was £nil (2017: £1,265,000). These amounts are included in the figures above for bank loans, repayable in years one to five.

7. Creditors: amounts falling due after more than one year continued

The Company enters into derivative financial instruments in order to manage its interest rate and foreign currency exposure. The principal derivatives used include interest rate swaps and foreign currency forward contracts and options. The fair value of these financial instruments is a liability of £105,000 (2017: £11,000), offset by a fair value asset of £21,000 (2017: liability of £16,000) on interest rate swaps. These transactions have been recognised in these accounts and are held within other creditors.

The parent company guarantees bank loans advanced to its 75.5% owned subsidiary, Bordeaux Acquisition Limited, amounting in aggregate at 31 December 2018 to £3,440,000 (2017: £4,589,000).

8. Deferred tax asset

	2018 £000
1 January	224
Adjustments in respect of prior years	(1)
Credit to income statement	59
Credited to equity	1
31 December	283

Deferred tax is recorded at a rate of 17% and relates to accelerated capital allowances and share options.

9. Share capital and share-based payments

Details relating to the parent company's share capital are set out in notes 22 and 23 to the consolidated financial statements.

10. Related party transactions

The Company is exempt under the terms of FRS 101.8 from disclosing transactions with its wholly owned subsidiaries.

Funds were advanced by the Company in 2011 to its 75.5% owned subsidiary, Bordeaux Acquisition Limited, to facilitate the purchase during that year of the entire issued share capital of Deben UK Limited. The amount of £395,000 was outstanding at 31 December 2018 (2017: £395,000). There are no interest or repayment terms to these advances.

Dividends paid in the year to Directors who hold shares amounted to £325,000 in aggregate (2017: £306,000).

11. Directors and employees

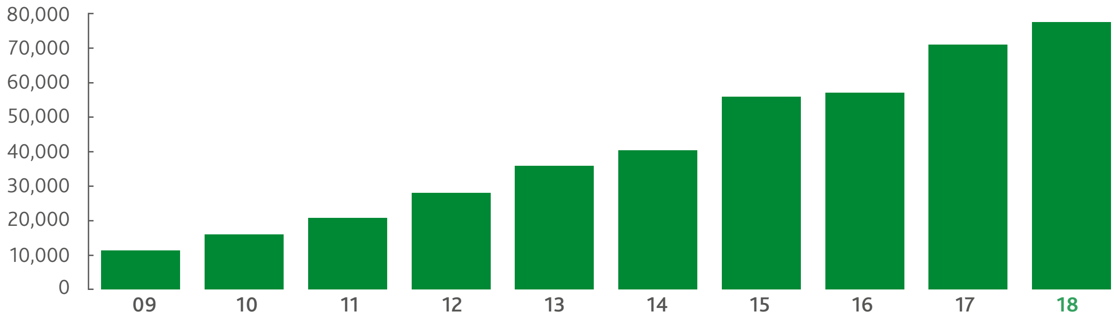
	2018 £000	2017 £000
Staff costs (including Directors)		
Wages and salaries	1,176	1,029
Social security costs	146	129
Other pension costs	19	23
	1,341	1,181
Total Directors' emoluments		
Emoluments	766	790
Defined contribution pension scheme contributions	16	14
	782	804
Emoluments of the highest paid Director		
Emoluments	236	241

During the year, one Director participated in a defined contribution pension scheme (2017: two).

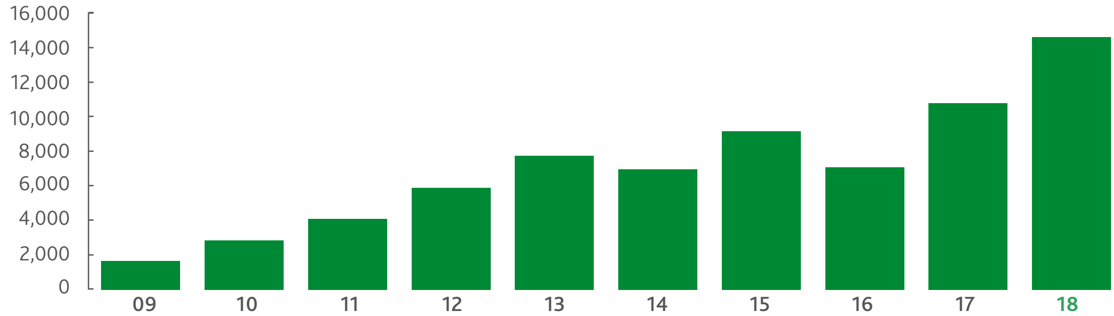
	2018 Number	2017 Number
Average number of persons employed		
Directors	7	7
Administrative staff	4	3
Total	11	10

Ten year financial history

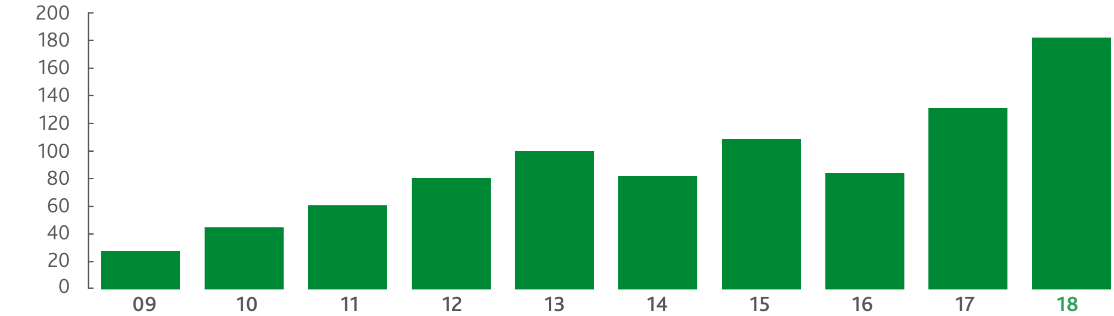
Revenue (£000)



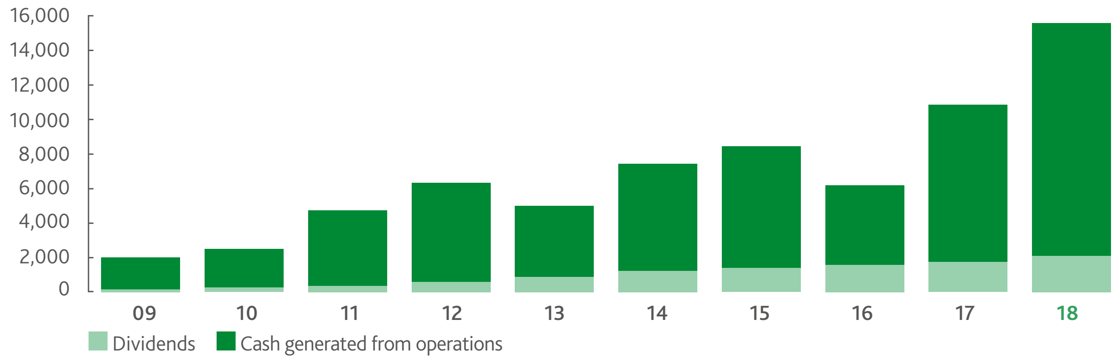
Adjusted operating profit (£000)



Adjusted undiluted basic earnings per share (pence)



Cash generated from operations and dividends (£000)



Company information

Directors

The Hon. Alexander Robert Hambro (Non-Executive Chairman)
David Elie Cicurel (Chief Executive)
Bradley Leonard Ormsby (Group Finance Director)
Mark Stephen Lavelle (Chief Operating Officer)
Ralph Leslie Cohen (Non-Executive Director)
Ralph Julian Elman (Non-Executive Director)
Charles John Arthur Holroyd (Non-Executive Director)

Company Secretary

Glynn Carl Reece

Registered Office

52c Borough High Street
London SE1 1XN

Registrar

Link Asset Services

The Registry
34 Beckenham Road
Beckenham
Kent BR3 4TU

Nominated Adviser

Shore Capital and Corporate Ltd

Bond Street House
14 Clifford Street
London W1S 4JU

Stockbroker

Shore Capital Stockbrokers Ltd

Bond Street House
14 Clifford Street
London W1S 4JU

Auditor

Grant Thornton UK LLP

Statutory Auditor
Chartered Accountants
Regent House
80 Regent Road
Leicester LE1 7NH

Bankers

Lloyds Bank Corporate Markets

125 Colmore Row
Birmingham B3 3SF

Solicitors

Dechert LLP

160 Queen Victoria Street
London EC4V 4QQ

Registered in England and Wales,
company no. 04597315

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Judges Scientific plc
52c Borough High Street
London SE1 1XN