



**Ricardo plc**  
Annual Report & Accounts 2014

Delivering Excellence Through Innovation & Technology

# What we do

Ricardo is a global strategic, technical and environmental consultancy. It is also a specialist niche manufacturer of high performance products. The company employs over 2,000 professional engineers, consultants, scientists and support staff who are committed to delivering outstanding projects focused on class-leading innovation in our core product areas of engine, transmission, vehicle, hybrid and electrical systems, and environmental forecasting and impact analysis.

Our activities cover a range of market sectors including passenger cars, commercial vehicles, rail, defence, motorsport, motorcycles, off-highway, marine, clean energy and power generation, and government and environmental. Our client list includes the world's major transportation original equipment manufacturers, supply chain organisations, energy companies, financial institutions and government agencies.



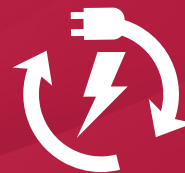
Engines



Vehicle Engineering



Driveline & Transmissions Systems



Hybrid & Electrical Systems



Strategic Consulting

**RICARDO  
AEA**

Environmental Consulting

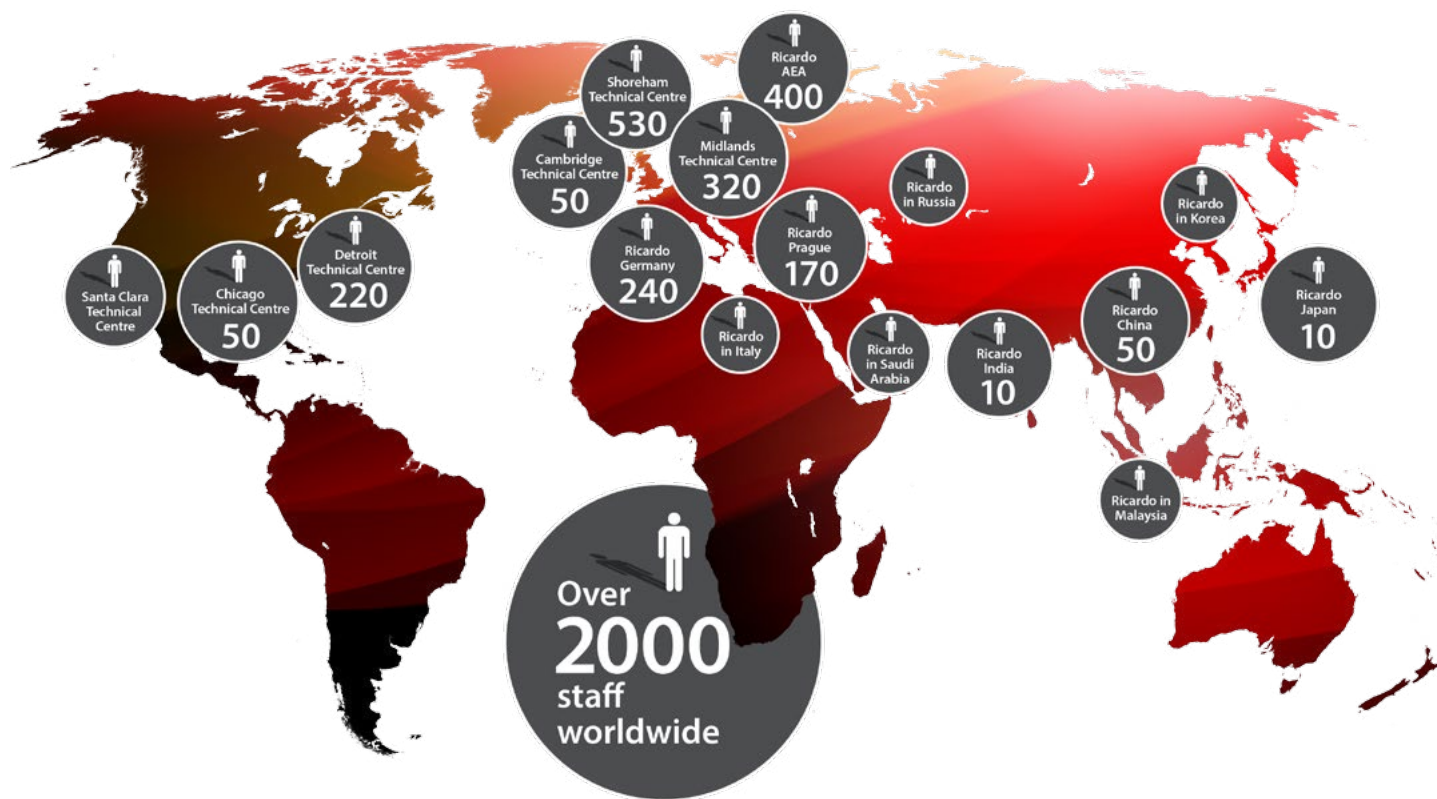


Performance Products



Software

## Where we are



## How we deliver

Our clients have told us that the Ricardo competitive advantage is **CLEAR**

**C**ommitment: To deliver, to innovate and to achieve the very best in everything we do

**L**eadership: To push boundaries and challenge convention both strategically and technologically

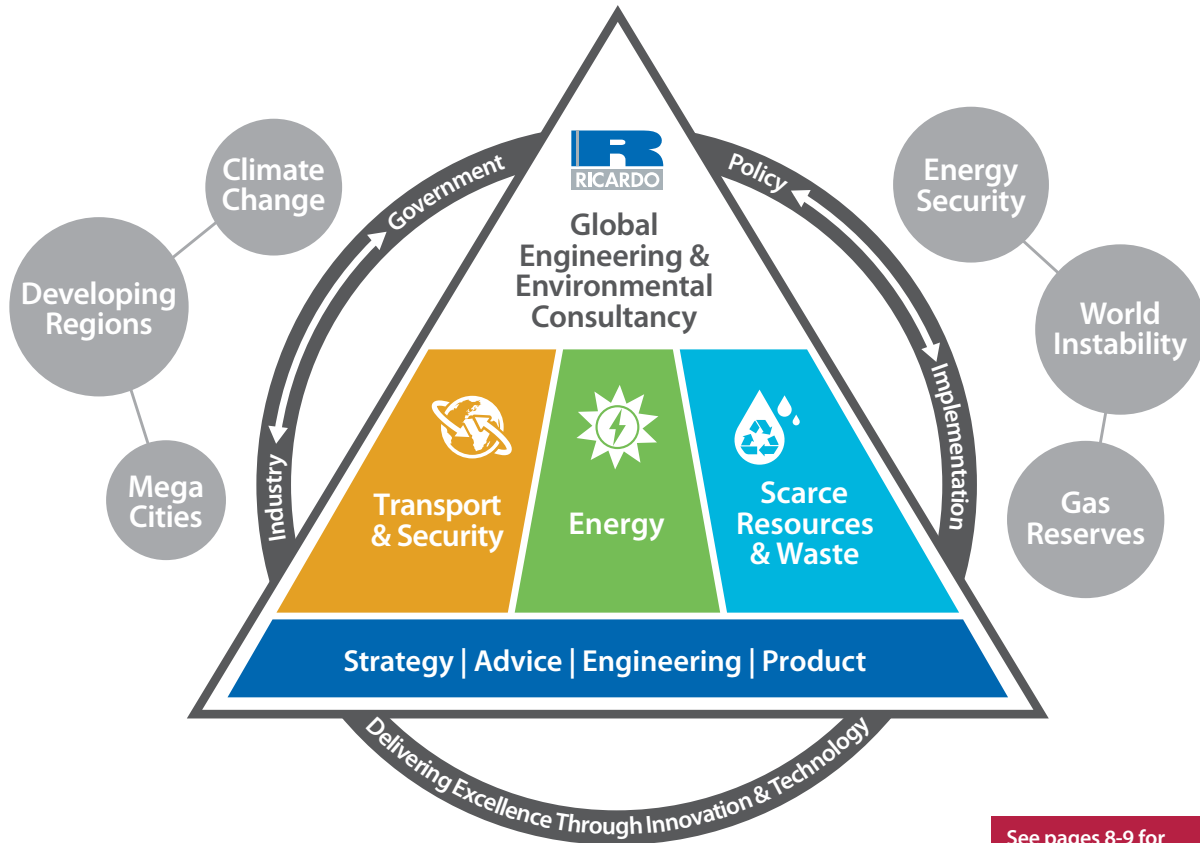
**E**xpertise: To show vision, know-how and creativity to deliver world class leading solutions

**A**gility: To be responsive in our technical and commercial approach to suit the needs of our customers

**R**esponsibility: To be accountable for delivering quality projects on time and to budget

# Our strategy

Our strategy is driven by worldwide trends such as climate change, mega-cities and tightening environmental legislation, and this underpins our approach in the areas of Transport and Security, Energy, and Scarce Resources and Waste.



See pages 8-9 for more information

# Our strategic cornerstones

- 1** Performance growth delivered by focusing on future market demands driven by technology change, customer preferences and prevailing or impending policies and regulation.

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- 2** Reducing risk through the avoidance of business cyclicity and external dependency, whether geographic, technical, industry sector or customer related.

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- 3** Maintenance of an optimised cost base through an efficient global operation which maximises value from our resources.

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- 4** Provision of in-demand services and products incorporating high added value content and providing maximum and enduring benefit to customers.



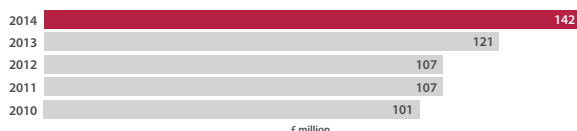
# Highlights

## Order book

# £142m

# +17%

(30 June 2013: £121m)

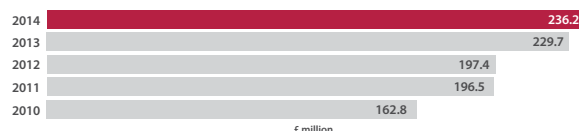


## Revenue

# £236.2m

# +3%

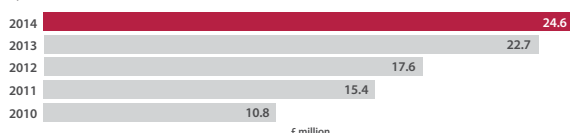
(year ended 30 June 2013: £229.7m)



## Underlying<sup>1</sup> profit before tax

# £24.6m

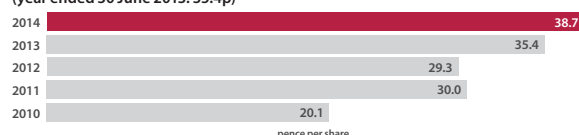
# +8%

(year ended 30 June 2013: £22.7m)<sup>2</sup>

## Underlying<sup>1</sup> basic earnings per share

# 38.7p

# +9%

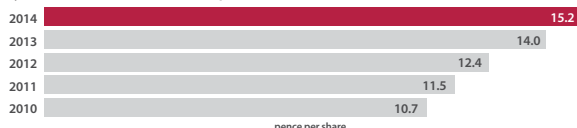
(year ended 30 June 2013: 35.4p)<sup>2</sup>

## Dividends per share (paid and proposed)

# 15.2p

# +9%

(year ended 30 June 2013: 14.0p)

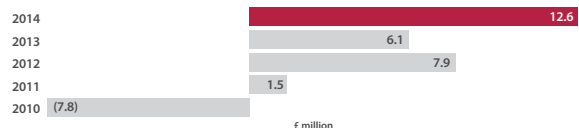


## Net funds

# £12.6m

# +107%

(30 June 2013: £6.1m)



## Operational:

- Multi-year engine supply agreement signed with McLaren Automotive
- Strong order intake, with significant growth from Asia and North America

## Financial:

- A record closing order book at £142m (30 June 2013: £121m)
- Group revenue up 3% to £236.2m (30 June 2013: £229.7m)
- Underlying<sup>1</sup> profit before tax up 8% to £24.6m (30 June 2013: £22.7m)
- Underlying<sup>1</sup> basic earnings per share up 9% to 38.7p (30 June 2013: 35.4p)
- Full year dividend up 9% to 15.2p (30 June 2013: 14.0p)
- Net funds up 107% to £12.6m (30 June 2013: £6.1m)

<sup>1</sup> excluding specific adjusting items, which comprise amortisation of acquired intangible assets and acquisition costs

<sup>2</sup> restated on adoption of revised IAS 19 Employee Benefits

# Group order intake at a glance

## Technical Consulting

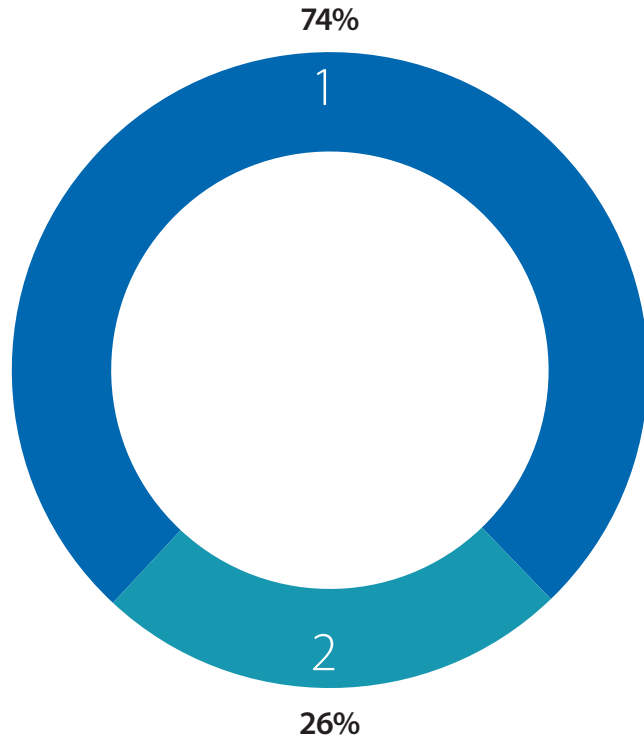
We provide engineering, design and consulting services to customers in our chosen market sectors. The services which we provide to these markets are co-ordinated through "product groups" which describe our fields of expertise and delivery streams.

See pages 16-21 for more information

## Performance Products

We manufacture and assemble low-volume, high-quality extreme performance products which have either been designed by our Technical Consulting segment, our motorsport products design team within the Performance Products segment or by our clients. Our products include transmissions, engines and components as well as the provision of vehicle assembly.

See pages 22-23 for more information



## Order intake

Year ended 30 June 2014

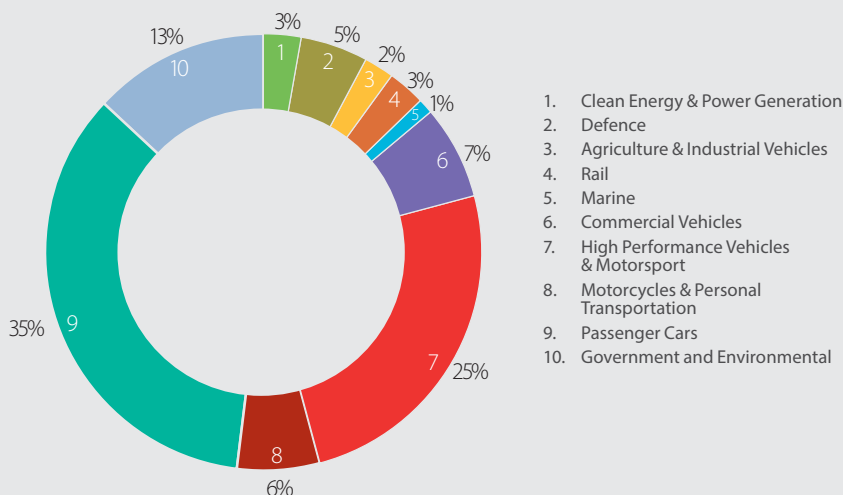
- 1. Technical Consulting
- 2. Performance Products

Total order intake  
**£259m**

# Order intake by:

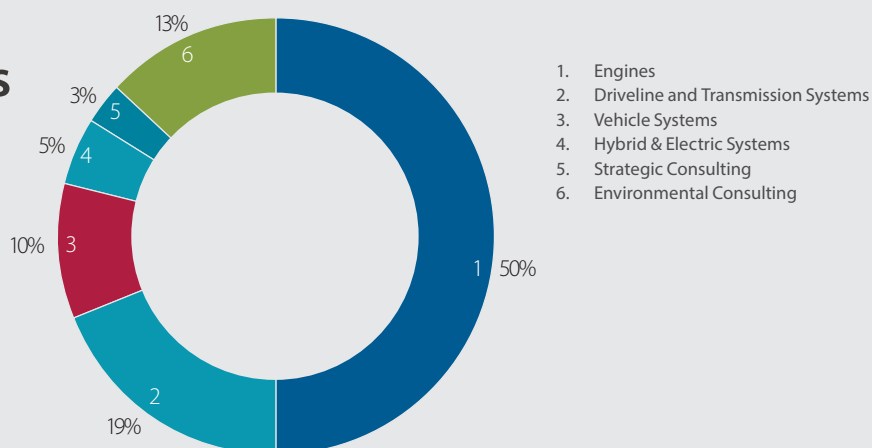
## Our market sectors

Our strategy of diversification into adjacent market sectors has improved the balance of our order intake.



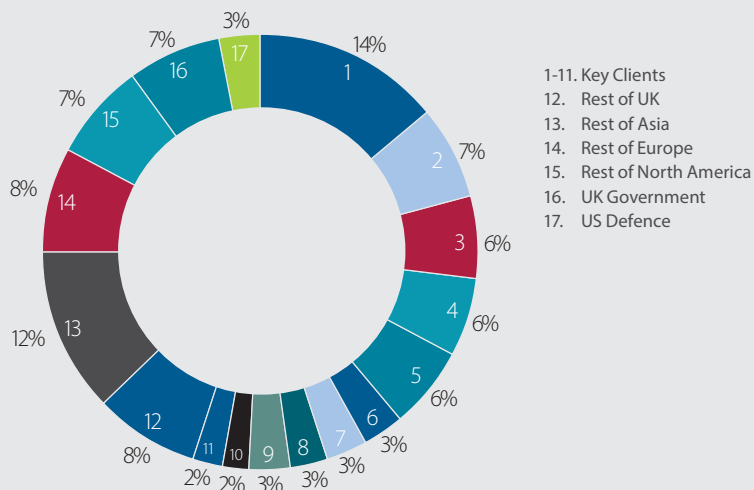
## Our product groups

Engines remains our dominant product group. Elsewhere order intake has been diversified across our other activities.



## Our customers

Our order intake arises from a client list that includes the world's major transportation original equipment manufacturers, supply chain organisations, energy companies, financial institutions and government agencies.



# Chairman's statement



Michael Harper - Chairman

The Group delivered good results in 2014. Global economic trends continue to underpin the Ricardo strategy. With a strong balance sheet and a range of opportunities open to it, Ricardo is well positioned for future growth.

## Results

In the year ended 30 June 2014, the Group delivered a good operating result with 3% revenue growth to £236.2m, an 8% increase in underlying profit before tax to £24.6m and a 9% increase in basic underlying earnings per share to 38.7 pence. Cash management has been good and we ended the year with closing net funds of £12.6m, up from £6.1m in the prior year.

The Group continues to pursue its strategic objectives through organic growth and carefully targeted acquisitions. The Group's strategic objectives are outlined on pages 14 to 15. Investment in research and development (described on pages 24 to 25), people and facilities has continued. The £9.5m Vehicle Emissions Research Centre in the UK is planned to become operational in December 2014.

## People

I would like to thank all our employees for their hard work and dedication over the past year.

Ricardo is a people business and it is the expertise and commitment of our people, above all in project delivery, that enables us to deliver these results and which underpins our reputation with clients.

## Corporate Governance

The Board firmly believes that robust corporate governance and risk management are essential to maintain the stability of the Group and its financial health. I am reporting separately on Corporate Governance on pages 42 to 54 of this Annual Report.



 *The Group continues to pursue its strategic objectives through organic growth and carefully targeted acquisitions* 

## The Board

After over eleven years as a non-executive director, including the last five years as Chairman, I will be retiring from the Board at the end of the Annual General Meeting in October 2014. Terry Morgan CBE joined the Board of Ricardo plc as a non-executive director and Deputy Chairman on 2 January 2014 and it is intended that he will succeed me as Chairman with effect from the close of the Annual General Meeting in October 2014. Terry has many years of Board-level experience at the top of UK industry and is currently the non-executive Chairman of Crossrail Limited, the Manufacturing Technology Centre and the National Skills Academy for Railway Engineering. Terry is also a non-executive director of Boxwood Limited.

Following the Annual General Meeting in November 2013, David Hall CBE stepped down as Chair of the Remuneration Committee after four years of service. David has continued in his role as Senior Independent Director. I would like to thank David for his valuable contribution as Chair of the Remuneration Committee. Following recommendation from the Nomination Committee, Peter Gilchrist CB has succeeded David as Chair of the Remuneration Committee.

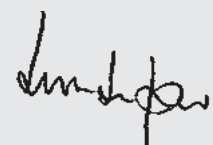
## Dividend

The Board has declared a final dividend of 10.9 pence per share to give a total dividend for the year of 15.2 pence, an increase of 9% on prior year. This is in line with the Board's policy to pay progressive dividends and reflects its confidence in the prospects of the Group.

## Outlook

Global economic trends, including emissions legislation, air quality, climate change and resource scarcity, continue to underpin the Ricardo strategy. The Group has a strong balance sheet and a range of opportunities are open to it as a diverse Technical Consulting and Performance Products business. Ricardo is well positioned for future growth.

I would like to take this opportunity to express my thanks to my fellow directors, executive colleagues and to all at Ricardo for what has been a very rewarding eleven years with the Group. I am delighted to be handing over to such a well-respected and experienced successor as Terry. His significant business knowledge allied to his proven track record of being Chairman of major companies makes him ideally positioned to help Ricardo on the next stage of its journey as we enter our centenary year in 2015.



Michael Harper

## Chief Executive's statement



Dave Shemmans - Chief Executive Officer

This year we have again delivered a good set of financial results, good cash generation and a diverse portfolio of projects. We are starting 2015 with a record year-end order book and a diverse and encouraging order pipeline – not to mention securing our largest opportunity ever, in the way of the next engine supply contract for McLaren Automotive. Our strategy continues to be underpinned by the growing importance of finding solutions to the world's environmental issues and supplying transport solutions to the growing and developing global population.

### Strategy

Our focus continues to be on developing transportation, energy storage and power generation solutions around air quality, emissions, fuel efficiency, urbanisation, energy security and resource scarcity. These long-term strategic drivers are shared across all elements of the Ricardo business and are at the heart of how we deliver benefit to our global clients.

We continue to follow a consistent strategy for balanced growth and risk mitigation. Organic expansion of the business has seen strong growth in our Performance Products business, Ricardo-AEA has delivered on expectations, the Technical Consulting business has seen strong levels of business in China, Japan and the US and we continue to diversify into adjacent market sectors. In addition to our reported order book, which drives near-term performance, our longer-term business growth is underpinned by large multi-year contract wins. This year we announced a new multi-year engine supply agreement with McLaren Automotive which will deliver revenues for many years from its 2016 start, and in May 2014 we signed an additional multi-year production supply contract with a customer that wishes to remain anonymous prior to the launch of its exciting product.

Our strategy moving forward focuses on the core growth areas of Transport and Security, Energy, and Scarce Resources and Waste. In each of these areas we are looking to exploit our core competencies in Technical Consulting and Performance Products to further expand and diversify the business. We are also looking

➤ *Our strategy moving forward focuses on the core growth areas of Transport and Security, Energy, and Scarce Resources and Waste* ◀



McLaren Automotive was responsible for the largest order in Ricardo history, placing an expanded follow-on multi-year engine supply contract to start in 2016

for additional expansion in the strategic partnerships we have established with clients and others to provide longer-term visibility and a platform for sustained growth. Having embedded the successful acquisition and integration of Ricardo-AEA, we are now focused on the next stage – continuing to seek opportunities to grow both organically and through partnerships or acquisitions.

Our strategic priorities remain largely unchanged from last year and include:

- To continue to focus the business around common competencies both organically and by acquisition
- To further expand business opportunities in Asia
- To continue to grow in Technical Consulting and to ensure stability by balancing order intake across market sectors, product groups and customers
- To exploit our research and development programmes
- To seek opportunities to expand the geographic footprint of Performance Products

Further information on the execution of our strategy can be found on pages 14 to 15.



With the draw-down of forces in Afghanistan, Ricardo is partnering with Morgan Advanced Materials and Ultra Electronics in a major MoD contract covering the Ridgback, Wolfhound and Mastiff (pictured) vehicle fleets





**Highlights from the year**

2014 was another good year in terms of our financial performance.

- Underlying profit before tax increased by 8% to £24.6m (2013: £22.7m).
- Revenue grew by 3% to £236.2m (2013: £229.7m). Growth within Technical Consulting was constrained by the late phasing of new orders in the financial year.
- The balance sheet remains strong with net funds of £12.6m (2013: £6.1m) at the year end.
- Market demand was variable across our geographical markets. US, China and Japanese markets grew strongly, as expected activity levels from UK-based customers reduced from a peak level in the prior year and Germany remained a challenging market for us, with losses incurred at a similar level to the prior year. The overall order intake in the year was £259m (2013: £218m) and this is analysed across clients, product groups and market sectors in the charts on page 5. Overall, there was a good balance of new business with strong performance in the passenger car, commercial vehicle, motorcycle and high performance vehicle sectors. The order book at the year end was a record £142m (2013: £121m).

Research and development and the creation of further innovation remain the core drivers of growth and we



will be focusing our efforts through the creation of the Ricardo Innovations division on the faster development and exploitation of our IP portfolio.

Satisfying customers through excellent project delivery is at the heart of Ricardo's success, and during the year our global teams have delivered a range of successful projects. Some examples are discussed in the Case Studies section on pages 116 to 137.

These five examples illustrate some important and common Ricardo themes. On pages 118 to 121 we describe how we have developed through our own R&D investment a flywheel energy recovery system called TorqStor, the primary objective of which is to drive improved levels of fuel and energy efficiency in the off-highway industry. Another case study describes how Ricardo is working alongside UK industry partners to continue to provide world-class defence vehicle technology and support to the UK MoD as the planned draw-down of forces continues from Afghanistan. On pages 126 to 129 the Doosan case study demonstrates how Ricardo's leading-edge knowledge in engine and aftertreatment technologies has helped off-highway manufacturers meet successive rounds of increasingly stringent exhaust emission regulations with maximum





Ricardo continues to work with blue-chip clients across multiple industrial sectors, including Scmi Rail, BMW Motorrad and Doosan Infracore



cost effectiveness. Our ability to help governments and industry sustainably and profitably manage resources is highlighted in a waste management case study which highlights the top-level environmental consulting skills that Ricardo-AEA has added to the business. Finally, we highlight the actions being taken by Ricardo Software that will enable the development of next-generation vehicles. For readers wanting to find out more about other Ricardo programmes, our quarterly RQ magazine can be found on our website [www.ricardo.com](http://www.ricardo.com).

Operational priorities continue to be to develop business within each of the regions as well as to balance workload across our global engineering facilities in the UK, US, Germany, Czech Republic and China. Balancing workload ensures the optimal use of resources and the lowest flexible cost.

**Conclusion**

We have ended the year with a strong order intake in the final quarter, leading to a record order book as

we enter the new financial year. Market conditions remain positive in the UK and Asia, are improving in the US, and in Germany we enter the new financial year with an order book significantly up on previous years. The strong order book and pipeline across the Group, together with the large long-term assembly contracts secured in the year, provide confidence in the further development of the business.

As we approach our centenary year our order book and balance sheet provide a good platform for further growth, and we are actively looking for opportunities to expand and enhance our business.

**Dave Shemmans**  
Chief Executive Officer

# Market overview

MARKET TRENDS

## Emissions, waste and urban air quality



## Fuel efficiency and climate change



## Increasing resource scarcity



KEY INDUSTRY DRIVERS

- The latest US Tier 4, Euro 6/VI regulations and increasingly strict emissions limits in emerging markets
- International Maritime Organisation action on marine grade fuels and emissions
- Low Emission Zones initiatives such as that operating in London
- Managing waste and reducing pollution

- Consumer fuel prices remain high in many markets
- Escalating fuel economy/CO<sub>2</sub> regulation in most developed countries (i.e. CAFE standard for 2025)
- Increased demand for distributed power systems
- National energy security concerns
- Interest in natural gas due to low cost of shale gas extraction/fracking
- International obligations for countries to manage and report greenhouse gas emissions levels

- Growing global populations and urbanisation placing increasing pressures on the supply of key resources
- Water scarcity starting to be recognised as a major future issue in many nations
- Continued focus on renewable energy options (wind, tidal, solar, geothermal)
- Growth of fracking, especially in North America, driving different capital investment profiles
- Nuclear new build starting to emerge again as an area of growth

RICARDO PLC

- World leader in vehicle emissions monitoring and aftertreatment technology
- Successful developer of clean technologies
- Respected international authority on urban air quality
- Expertise in transforming the way organisations manage resources, leading to considerable cost savings and minimised environmental impacts

See inside back cover for more information

- Technology leadership in vehicle fuel economy – engine, driveline, whole vehicle; lightweight materials, powertrain electrification, battery electric vehicles, waste heat recovery; infrastructure; autonomous vehicle systems
- Expertise in natural gas and alternative fuels, energy storage and management
- Technology agnostic, objective, informed and commercially independent
- World-leading expert on the measurement, reporting and verification of climate mitigation and adaptation actions

- Track record of delivering innovation into the renewables sector
- Programmes with cities and utilities for policy, optimisation, validation and integration of city systems
- Development of energy storage systems for local and utility scale usage with technologies including batteries and compressed air
- Contributor to the liquid air energy network

## Premium brands and products



- Increasing demand for performance-enhanced 'halo' variants of existing vehicles to deliver enhanced brand differentiation
- Vehicle attribute refinement (NVH, ride and handling) is an increasingly important determinant of customer car purchasing decisions
- Product differentiation and novel integrated technologies are also increasingly important in niche products
- Connectivity is increasingly important

## Flexible defence requirements in an uncertain world



- Need for a new generation of crew-protected, versatile and fuel-efficient vehicles
- Need for compact and robust, high-power performance engines for special forces and specialist applications
- Innovation and speed to market are increasingly important differentiators, as is total lifecycle cost
- More time- and cost-efficient methods for designing, developing and procuring large and complex defence equipment – moving towards more 'crowd sourcing'

## Economic growth focused on developing markets



- Emergence of new market entrants in automotive, motorcycle and off-highway sectors
- Increasing demand for technology transfer and skills development
- Established players requiring capacity support
- Increasing shift to urbanisation driving multi-modal mobility requirements

- Ricardo is a highly regarded long-standing technology leader in vehicle attribute development, especially in powertrain and vehicle NVH, thermal performance and vehicle dynamics
- We have leading-edge calibration skills, helping to ensure that the vehicle's control strategy and systems promote desired brand values
- We have a proven track record in manufacturing high-performance niche products

- Ricardo has an established technology thought-leadership position in the US, delivering key technology programmes
- We have a long history of design, development and manufacture of vehicles for UK MoD and global forces
- We are focused on toolset development around Total Systems Optimisation
- We have the ability to rapidly meet bespoke military product requirements – driving the development of our digital tools and processes

- Ricardo has a long-standing global orientation, combining wide-ranging capability with local delivery
- The company is well known for its open attitude towards technology transfer across multiple sectors and geographies
- Our global reach, coupled with local delivery, provide a compelling customer proposition
- Unique strategic and technical delivery capability
- Long-range product planning and solution development



# Strategic performance

The Board monitors performance indicators related to our strategic cornerstones

## 1

**Performance growth delivered by focusing on future market demands driven by technology change, customer preferences and prevailing or impending policies and regulation**

	Commentary	Principal risks						
<p><b>Revenue</b> £m</p> <table border="1"> <tr><td>2014</td><td>236.2</td></tr> <tr><td>2013</td><td>229.7</td></tr> <tr><td>2012</td><td>197.4</td></tr> </table>	2014	236.2	2013	229.7	2012	197.4	<p>Revenue has increased in the current year, largely due to the inclusion of a full year of revenue from Ricardo-AEA. More details of this are described in the Financial Review section on pages 34 to 37, and also in the Technical Consulting and Performance Products sections on pages 16 to 21 and 22 to 23 respectively.</p>	<p>Customers and Markets</p>
2014	236.2							
2013	229.7							
2012	197.4							
<p><b>Order book</b> £m</p> <table border="1"> <tr><td>2014</td><td>142</td></tr> <tr><td>2013</td><td>121</td></tr> <tr><td>2012</td><td>107</td></tr> </table>	2014	142	2013	121	2012	107	<p>The order book ended the year at a record level, with significant order intake in the fourth quarter from US customers in particular. In addition there are large new framework agreements, as described on page 23, that are not included in the year end order book.</p>	<p>Customers and Markets</p>
2014	142							
2013	121							
2012	107							
<p><b>Net funds</b> £m</p> <table border="1"> <tr><td>2014</td><td>12.6</td></tr> <tr><td>2013</td><td>6.1</td></tr> <tr><td>2012</td><td>7.9</td></tr> </table>	2014	12.6	2013	6.1	2012	7.9	<p>The Group remains cash generative and continues to focus on working capital management.</p>	<p>Contract Performance, Financing &amp; Defined Benefit Pension Scheme</p>
2014	12.6							
2013	6.1							
2012	7.9							

## 2

**Reducing risk through the avoidance of business cyclicity and external dependency, whether geographic, technical, industry sector or customer related**

	Commentary	Principal risks						
<p><b>Sector dependency</b> Number of sectors exceeding 10% of revenue</p> <table border="1"> <tr><td>2014</td><td>3</td></tr> <tr><td>2013</td><td>3</td></tr> <tr><td>2012</td><td>3</td></tr> </table>	2014	3	2013	3	2012	3	<p>The number of sectors exceeding 10% of revenue is stable, showing good spread in our markets.</p>	<p>Customers and Markets &amp; Technology</p>
2014	3							
2013	3							
2012	3							
<p><b>Client dependency</b> Number of clients generating revenue for Ricardo exceeding 10% of Group revenue</p> <table border="1"> <tr><td>2014</td><td>1</td></tr> <tr><td>2013</td><td>2</td></tr> <tr><td>2012</td><td>2</td></tr> </table>	2014	1	2013	2	2012	2	<p>The number of clients exceeding 10% of revenue has fallen compared to the prior year, which demonstrates that we have an increasingly diverse client base.</p>	<p>Customers and Markets</p>
2014	1							
2013	2							
2012	2							



More detail on these principal risks together with how they are mitigated is presented on pages 52 to 53

### 3 Maintenance of an optimised cost base through an efficient global operation which maximises value from our resources

	Commentary	Principal risks								
<p><b>Underlying* operating profit margin</b> %</p> <table border="1"> <tr><th>Year</th><th>Profit Margin (%)</th></tr> <tr><td>2014</td><td>10.8</td></tr> <tr><td>2013</td><td>10.4</td></tr> <tr><td>2012</td><td>9.4</td></tr> </table>	Year	Profit Margin (%)	2014	10.8	2013	10.4	2012	9.4	<p>The underlying operating profit margin has increased over the last few years as a result of effective cost control measures and a strong commercial approach to delivery.</p> <p>*excluding specific adjusting items as described on page 3</p>	Contract Performance
Year	Profit Margin (%)									
2014	10.8									
2013	10.4									
2012	9.4									
<p><b>Employee and knowledge retention</b> Voluntary employee turnover % per annum</p> <table border="1"> <tr><th>Year</th><th>Turnover (%)</th></tr> <tr><td>2014</td><td>15</td></tr> <tr><td>2013</td><td>15</td></tr> <tr><td>2012</td><td>14</td></tr> </table>	Year	Turnover (%)	2014	15	2013	15	2012	14	<p>Employee turnover is stable in spite of increased activity in the labour market as demand for engineers and scientists grows.</p>	People
Year	Turnover (%)									
2014	15									
2013	15									
2012	14									
<p><b>Environment</b> CO<sub>2</sub>e tonnes per employee for scope 1 and scope 2 emissions according to the new reporting regulations</p> <table border="1"> <tr><th>Year</th><th>CO<sub>2</sub>e tonnes per employee</th></tr> <tr><td>2014</td><td>8.1</td></tr> <tr><td>2013</td><td>7.5</td></tr> <tr><td>2012</td><td>8.1</td></tr> </table>	Year	CO <sub>2</sub> e tonnes per employee	2014	8.1	2013	7.5	2012	8.1	<p>We are now reporting using our scope 1 and scope 2 emissions. Data from previous years now reflects these. Scope 1 emissions vary based on project mix. We encourage improvements to reduce underlying emissions and improve effective use of resources on projects.</p>	Compliance with laws and regulations
Year	CO <sub>2</sub> e tonnes per employee									
2014	8.1									
2013	7.5									
2012	8.1									

### 4 Provision of in-demand services and products incorporating high added value content and providing maximum and enduring benefit to customers

	Commentary	Principal risks								
<p><b>Technology development</b> R&amp;D spend (£m)</p> <table border="1"> <tr><th>Year</th><th>R&amp;D Spend (£m)</th></tr> <tr><td>2014</td><td>8.5</td></tr> <tr><td>2013</td><td>9.7</td></tr> <tr><td>2012</td><td>10.0</td></tr> </table>	Year	R&D Spend (£m)	2014	8.5	2013	9.7	2012	10.0	<p>R&amp;D spend was in line with our plans. The reported spend includes amounts capitalised in respect of development costs on a range of products around the Group. The capitalisation and trend in R&amp;D spend reflects our increasing focus on targeted development activity and new product creation.</p>	Technology & Customers and Markets
Year	R&D Spend (£m)									
2014	8.5									
2013	9.7									
2012	10.0									
<p><b>Customer satisfaction</b> Customer satisfaction ratings out of 10 across a range of measures</p> <table border="1"> <tr><th>Year</th><th>Satisfaction Rating</th></tr> <tr><td>2014</td><td>8.3</td></tr> <tr><td>2013</td><td>8.2</td></tr> <tr><td>2012</td><td>8.4</td></tr> </table>	Year	Satisfaction Rating	2014	8.3	2013	8.2	2012	8.4	<p>Customer satisfaction has remained strong at over 8 out of 10 during the past 12 months.</p>	Contract Performance
Year	Satisfaction Rating									
2014	8.3									
2013	8.2									
2012	8.4									

# Technical Consulting

## Performance

At the centre of Ricardo's business model lies its Technical Consulting activity, which accounts for around three quarters of Group revenues and two thirds of Group underlying operating profit. Technical Consulting includes Ricardo-AEA and our strategic consulting business.

Revenues remained flat at £181.0m (2013: £180.1m), and fell by 6% to £169.3m on a like-for-like basis excluding Ricardo-AEA for the period from 1 July 2013 to 8 November 2013. The reduction in like-for-like revenue can be attributed to the expected ramp down of a large programme in the prior year that was not fully replaced in the current year as order intake was weighted towards the fourth quarter. Underlying operating profit decreased by 4% to £17.8m (2013: £18.5m). Operating margins have decreased to 9.8%, down from 10.3% in 2013. Order intake in the year stood at £192m (2013: £172m), strengthened by a strong fourth quarter in the US in particular. The Technical Consulting businesses have continued to be managed as a global portfolio, and balancing work across the portfolio continues to be a key theme. There has been a good balance of order intake across the regions. Market Sector highlights can be found on pages 18 to 21.

The UK has continued to work on a range of existing multi-year programmes and has secured a good stream of new business in the passenger car, high performance vehicle, commercial vehicle and defence sectors in particular. Internal improvement initiatives focused around cost management have increased the effectiveness of the business in a number of areas. The UK continues to be the main business in terms of profit generation.

In Germany we appointed a new Managing Director in the first half of the year with extensive experience in the automotive consulting industry. During the year we have secured a number of multi-year programmes from international clients in the motorcycle, large engine/power generation and marine sectors in particular.

In the US the business has built momentum in the second half, with strong growth in the passenger car and commercial vehicle sectors. This has included significant large multi-year contract wins from the "Detroit Big Three". We have seen our defence activity continue to strengthen

on the back of existing multi-year programmes and we have also seen increasing engine testing activity across both light and heavy duty applications.

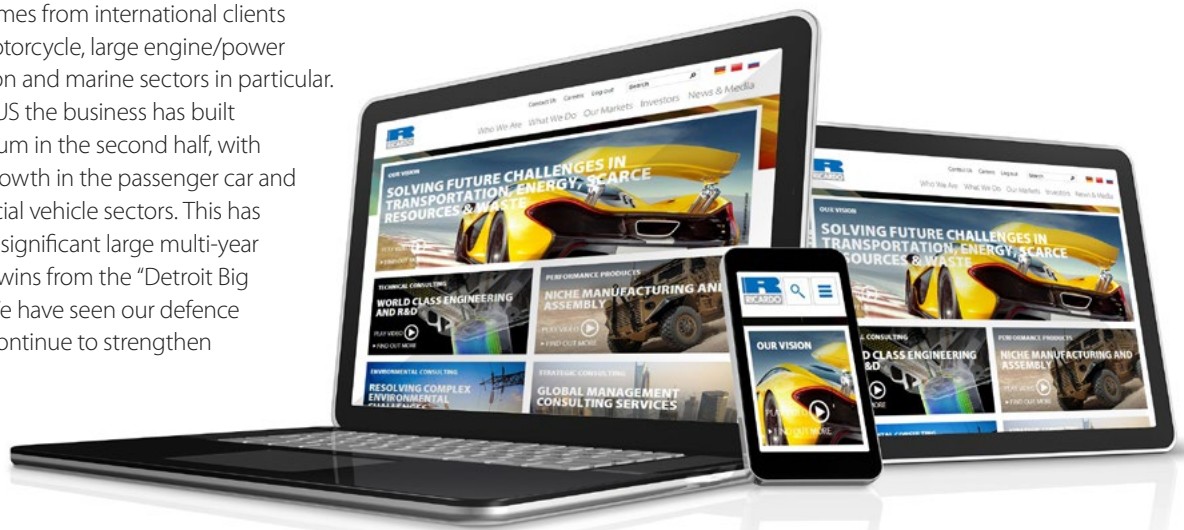
Asia, including China and Japan, remains a key region and our Shanghai-based business has secured and started to deliver a number of large locally won contracts. This has included a mixture of hybrid vehicle, engine, transmission and attribute development activities. In Japan we have seen strong performance in the passenger car and commercial vehicle sectors.

Ricardo-AEA has had a good year and has seen growth in both international and private sector clients. The five practice areas of Energy and Climate Change, Air Quality, Resource Efficiency and Waste Management, Sustainable Transport, and Chemical Emergency and Risk Management have performed to expectation.

Our strategic consulting activities continue to operate across all geographies. Performance has been strong in all operating regions. The combination of management consulting skills and deep industry insight continues to offer real differentiation to our customers across a wide variety of sectors. These include companies in the passenger car, commercial vehicle and off-highway sectors, plus numerous government bodies and private equity firms.

## Business model

At the centre of our business, the Technical Consulting segment provides engineering, design and consulting services to customers in our chosen market sectors. These are Government and Environmental, Passenger Cars, High Performance Vehicles and Motorsport, Motorcycles and Personal Transportation, Commercial Vehicles, Agricultural and Industrial Vehicles, Defence, Rail, Clean Energy and





The ADEPT R&D programme is applying intelligent electrification to deliver a very low CO<sub>2</sub> mild-hybrid diesel C-segment vehicle

Power Generation, and Marine. The services which we provide to these markets are coordinated through the following fields of expertise and delivery streams:

- Engines
- Driveline and Transmission Systems
- Vehicle Systems
- Hybrid and Electric Systems
- Strategic Consulting
- Environmental Consulting

To service our customers we have a global infrastructure. We have technical and engineering centres in the UK, US, Germany, China and the Czech Republic; we also have sales offices where local presence is needed to support customers. The technical and engineering centres include specialists in, for example, mechanical and electrical/electronic design, development, prototype build, project management, cost estimation, supply chain management and manufacturing. Engineers from any of the engineering centres can be deployed on projects across the globe using common engineering processes; we often make use of short-term geographical secondments. Our environmental consulting services are delivered from a number of UK locations and are making

increasing use of our global network. Our strategic consulting service already has a well-established global team operating out of a number of different locations.

Ricardo's projects range in size from a few thousand pounds to multiple millions over several years. Typically, Ricardo will be engaged on between 400 and 500 projects and assignments across the globe at any one time. Each of these is specific to a client's needs and has defined deliverables. Ricardo will provide engineering, technical, scientific, policy and advice-based services where required. In general, these are delivered on a fixed-price basis for a scope of work. Our value chain is based on the application of knowhow, knowledge and experience, and benefits from a wide range of facilities and equipment selected from our global resources for each project. Project management, resource management and customer management are therefore key skills to enable efficient delivery. Where the scope of a project is changed, Ricardo will negotiate appropriate changes to the commercial terms of the contract. The business process is normally the development of client relationships, developing unique value propositions, proposing or tendering to meet a need, negotiating a contract, delivery with clearly defined milestones and closing out the programme by capturing customer feedback.



**Market sector highlights**

**Government and Environmental**

Ricardo’s activities in the government and environmental sector have been driven largely by the long standing relationships that Ricardo-AEA has with various government bodies in the UK, EU and globally. Activity in the government sector continues to focus around issues such as urban air quality, flood prediction and prevention, sustainable transport solutions to overcome congestion, emissions compliance, waste and resource efficiency and future energy mix.

Despite UK Government pressure on budgets, Ricardo-AEA has secured a number of major contract wins. These have included large contracts from DEFRA and DECC. In the US we continue to build strong relationships with EPA, NHTSA and CARB and in the EU we are working with the EU Commission on a range of future potential green vehicle initiatives.

The business also expanded its customer base internationally, with an example being the contract win in Saudi Arabia focused on air quality improvement in the city of Riyadh.

**Passenger Cars**

The passenger car sector remains one of the most significant for Ricardo. Projects continue to be driven by emissions legislation, CO<sub>2</sub> reduction and global competition. During the year demand remained strong, with large multi-year contract orders from OEMs in the US, Japan and China as well as in the UK. New orders were secured across all major vehicle subsystems – engines, driveline and transmission systems, chassis, lightweight structures and hybrid and electric systems.

Order intake was well balanced and the technology focus of programmes remained high. This was

reflected in an increase in interest in complex challenges to optimise powertrain and vehicle architecture across markets, including conventional and electrified powertrains, lightweight materials, and connected and autonomous vehicles. One of the key drivers of demand is the requirement to deliver lower CO<sub>2</sub> solutions at lower cost whilst still maintaining high levels of functional performance.

Significant contract wins have included a range of diesel and gasoline design and development programmes in the US, EU and Asia ranging from inline three cylinder through to V8 configurations. We also won hybrid installation and development programmes including stop/start functionality, battery pack and BMS design and attribute development activities for China-based vehicle manufacturers.

We continue to invest in advanced combustion and other key technologies in areas related to improvements in overall vehicle efficiency, such as intelligent driveline, lightweight materials and electrification.

**High Performance Vehicles and Motorsport**

Technical Consulting activities in the high performance vehicles sector generally become the focus of long-term manufacturing contracts for the Performance Products business.

We have seen increasing demand for higher performance ‘halo’ variants of existing vehicles where the key objective is to deliver enhanced brand recognition through upgraded or extreme performance.

We have also seen continued demand for products for competitive motorsport. In both areas we have been supporting a range of design and development activities usually focused around the development of powertrain systems. In the motorsport business,

Ricardo signs a contract with Jiangling Motor Holding Co. Ltd of China – manufacturer of vehicles under the Landwind brand – to provide new vehicle and transmission engineering support







Ricardo's HyBoost demonstrator vehicle was featured on Jay Leno's Garage in early 2014, receiving significant praise from the leading American television host and comedian

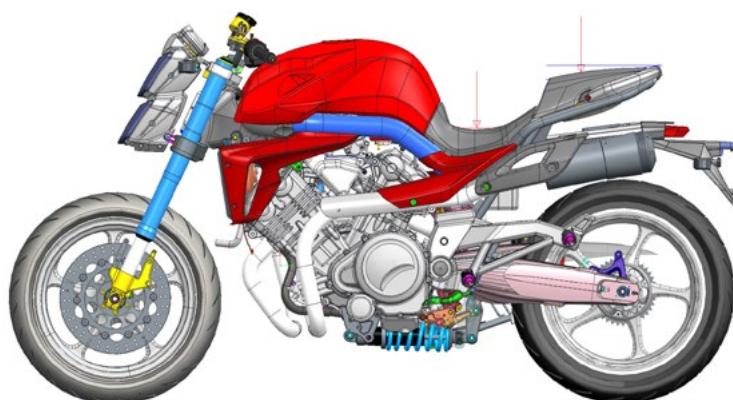
projects were largely focused on the design and development of products for subsequent manufacture and assembly as part of our Performance Products activity. These are primarily transmission and driveline products, ranging from individual components, electronics modules and control units to entire systems, including transmissions for single-make race series.

### Motorcycles and Personal Transportation

We have seen strong growth this year driven by the need for a reduction in CO<sub>2</sub> emissions to address the increasing focus on urban mobility, together with the increased demand for high-quality motorcycles in developing markets. We have received a number of large multi-year contracts and have enhanced our position in this important sector with the recent announcement of our partnership relationship with Exnovo, a motorcycle vehicle engineering business based in Italy. We have also seen growing interest in e-bikes.

With Exnovo we are now able to offer full end-to-end motorcycle engineering solutions in all global markets, recognising the strong market differences between the value-driven brands of south-east Asia and the technology-focused luxury marques of Europe, North America and Japan.

During the year new significant multi-year customer projects have been won in Japan, China and Germany. The motorcycle business mix covers a number of major subsystems including engines and driveline and transmission systems.



Ricardo has collaborated with Exnovo to launch a full motorcycle and scooter product development capability. By combining Ricardo's strengths with those of Exnovo, Ricardo can now offer a comprehensive whole vehicle capability from concept design to production implementation

### Commercial Vehicles

Activity in the commercial vehicles sector has picked up driven by legislation and new product development for global application. We have seen strong engagement in the US and Japan in particular, which has driven increasing engine test activity in this sector. We have also seen growing interest in our aftertreatment and fuel cell capabilities that we acquired in January 2014 through the asset purchase of a new technical facility in Santa Clara, California. Facilities include a catalyst hydrothermal ageing test lab, a synthetic gas reactor test lab for rapid evaluation and modelling of aftertreatment components and



systems under both steady-state and transient conditions, and fuel cell testing capabilities for solid oxide and proton exchange membrane fuel cells.

In addition to our core powertrain offering we have also focused on developing our product offering in the areas of fuel economy improvement, system optimisation and hybridisation, which we see as areas of significant future growth.

Contract wins have included control and electronics hardware design and development as well as engine design, development and testing across light and heavy duty configurations.

### Agricultural and Industrial Vehicles

Activity in the off-highway sector continues to be driven by the cycle of emissions legislation. In the year Stage IV emissions standards were introduced into Europe and thus our activity levels were lower as we had already assisted clients in meeting this legislation. Our focus in the coming years will be in assisting clients with EU, US and China legislation for 2020.

The highly successful TaxiBot programme for IAI of Israel continued during the year, with the ongoing delivery of the wide-body version of this advanced semi-robotic, pilot-controlled taxiing system. In addition we have continued to invest in energy recovery technology and have now launched our innovative TorqStor flywheel energy recovery system which was awarded an SAE World Congress Technology Award in April 2014.

See case study on pages 118 to 121

### Defence

Ricardo's defence-related activity has seen an important number of new customer wins in addition to the continuation of long-term large contracts. We have seen increasing activity in mainland Europe, Middle Eastern and Asian markets as a result of focused business growth activities outside of the UK market. These include the development of future 4x4, 6x6 and 8x8 vehicles. In the UK we have seen increasing demand for our Total Systems Optimisation approach, a programme which is focused on optimising vehicle architecture selection to minimise lifecycle costs and maximise fuel economy.

See case study on pages 122 to 125

In the US we have continued with the delivery of the Fast Adaptable Next-Generation Ground Vehicle (FANG) for the Defense Advanced Research Projects Agency (DARPA) and have focused on development of model-based acquisition capability.

### Rail

Ricardo's rail sector business has continued to perform strongly, with Technical Consulting activities leading to long-term manufacturing contracts for the Performance Products business. Our activity has continued to develop a broad geographic spread with a variety of programmes taking in Tier 1 equipment manufacturers, rail operators, rail equipment manufacturers and governments.

The range of projects being undertaken reflects the international rail industry's imperatives of





increasing fuel efficiency and reliability, while also achieving more stringent international emissions regulations. These projects include, for example, monorail driveline design and manufacture, and research into energy storage systems and the use of alternative fuels, in particular natural gas.

### Clean Energy and Power Generation

The clean energy and power generation sector has seen the majority of its activity in the large engine area for power generation. We have seen proportionally less activity this year in the renewable energy sector, although we continue to be engaged in significant dialogue in the offshore and onshore wind subsector and tidal stream power generation. We have also seen increasing levels of activity in fracking applications for the oil and gas market.

Contract wins have chiefly been around the design and development of large generator sets used principally for power generation.

### Marine

The widely anticipated international marine emissions regulations, and the introduction of low sulphur fuels in particular, have led to increasing demands for high-speed diesel generator sets and main propulsion systems, and also for the conversion of engines for gas or dual fuel operation.



### Outlook

Technical Consulting orders have become increasingly balanced geographically and we end 2014 with a strong order book. We continue to seek diversified opportunities that will drive growth into Transport and Security, Energy, and Scarce Resources and Waste and to exploit the breadth of our skillset and global footprint.

# Performance Products

## Performance

The Performance Products segment accounts for around one quarter of Group revenues and one third of Group underlying operating profit.

Ricardo Performance Products continues to deliver growth both in terms of order intake, revenue and underlying operating profit. Revenues grew by 11% to £55.2m (2013: £49.6m), with underlying operating profit increasing to £7.9m (2013: £6.1m). Operating margins have increased to 14.3%, up from 12.3% in 2013. Order intake in the year stood at £67m (2013: £46m).

The continuing upward trend in results has been achieved largely through the development of long-term strategic relationships and using a growing track record of product quality and on-time delivery to win new large contracts. The results also benefitted from our strong engineering performance and rigorous process control, which has resulted in fewer warranty claims than expected. Activity continues to be diversely spread across a number of market sectors and clients. Further details of activity within the year can be found within Market Sector highlights on page 23.

## Business model

We manufacture and assemble low-volume, high-quality extreme performance products which have either been designed by Ricardo's Technical Consulting segment, our motorsport products design team within the Performance Products segment, or by our clients. These deliverables include transmissions, engines and components as well as the provision of vehicle assembly.

This activity is based in the UK, although we will expand geographically when profitable opportunities are identified. We manage the complete supply chain and we earn revenue either for the products that we supply or for the manufacturing or assembly services that we provide.

The key skills to deliver these services include product design and development, production and operations management, supply chain management as well as customer management. Our productive resources are centred around a highly flexible transmissions manufacturing facility at our Midlands Technical Centre, in conjunction with the engine and vehicle assembly facilities based at our Shoreham Technical Centre. The products and services that we supply are critical for our customers, but thanks to Ricardo's manufacturing knowhow and ability to manage low-volume production and assembly, customers prefer to use Ricardo rather than our competitors or their own in-house facilities. High customer satisfaction means that programmes can



CBI director general John Cridland speaks with Ricardo Performance Products managing director Mark Barge during a visit to the company's manufacturing facilities

continue over many years. We often have downstream spares or other post-supply support arrangements for our larger programmes, which can extend relationships.

The Performance Products segment also includes the Ricardo software activities, which develop and commercialise a wide range of computer-aided-engineering (CAE) software products for virtual engineering of powertrain and vehicle systems. Ricardo's CAE products are licensed and supported globally by staff in Asia, Europe and North America, and in select regions via channel partners. This year has seen the launch of a new product called IGNITE which is the first Ricardo software product targeted outside of internal combustion engine applications. It is a systems engineering tool for ground vehicle performance and fuel economy simulation, a discipline which is a growing area of opportunity for Ricardo.





## Market sector highlights

### Defence

Assembly of the Foxhound vehicle for use by British Forces concluded during the year, with the successful completion and delivery of this programme. Some 376 vehicles were delivered under this contract.

### High Performance Vehicles

Demand for engines from McLaren for its supercars continues, and we now supply power units for the new 650S and the highly sophisticated P1 hybrid models. We also continue to supply advanced dual clutch transmissions to Bugatti.

In the area of motorsports, Ricardo's involvement continued during the year with manufacturing orders from Formula 1 customers, and products such as the Ricardo-designed transmissions for the Japanese Super GT, GT3 and the Renault World Series championships. In addition we have been producing Porsche Cup transmissions throughout the year under a contract that commenced in July 2013.

### Rail

Rail activity continues to perform strongly through the continuing manufacture and supply of monorail transmissions for applications in both Malaysia and Brazil. We continue to seek out similar future opportunities



which exploit the market presence developed through our Technical Consulting activities.

### Outlook

New Performance Product lines are adding to the segment's diversity and strengthening the operating platform. We continue to look for geographic and new sector growth opportunities as the basis for future growth, all of our expansion plans being underpinned by our advanced production and manufacturing techniques.

The new multi-year engine supply agreement with McLaren Automotive that we announced in December 2013 will generate circa £40m per annum in revenues from 2016/17 onwards. Additionally, in May 2014 we signed a multi-year production supply contract with another customer, commencing in financial year 2015/16, with total contract revenues expected to be in excess of £35m.



# Research & Development



Mark Garrett - Chief Operating Officer

recently announced UK Advanced Propulsion Centre, which has been formed to support product innovation in the UK through a 10 year £1billion investment.

### Torqstor flywheel energy storage

Following market interest in the innovative energy storage and recovery device presented in last year's Report and Accounts, further development work has been conducted through the year. The primary focus has been to bring the design to a "production intent" level, building in manufacturing and assembly features as well as learning points from the proof-of-concept phase of work. Latest build phase units will commence testing in the autumn, coincident with availability of units for client testing (see case study on pages 118 to 121).

### Advanced low emissions diesel demonstrator

We continue to promote the importance of a "systems" approach to maximise the benefits from future technologies. A good example of this is a collaborative grant-supported programme to develop our SynerD™ vehicle, based on a Jaguar XF, which has achieved a better than 30% reduction in CO<sub>2</sub> emissions thanks to a combination of downsizing, advanced boosting, fast warm up and next-generation aftertreatment and thermal technologies. This vehicle has received excellent feedback during test drives with customers on account of its remarkable driveability, a feature not normally associated with a downsized engine, and for the cost efficiency of the system that we have developed. The technologies and knowhow developed by Ricardo for this vehicle have proved to be a key element in winning future business for our Engines Product Group.

## Research & Development

Investment in new technologies and services is a key enabler to meet our business objectives. Our R&D activity not only creates new products but also provides our staff with new skills and capabilities. Our programme is formed by a balanced portfolio of self-funded and collaborative projects supported by our industry partners and government funding organisations. Ricardo has actively engaged with the new European R&D framework programme "Horizon 2020" through the European Green Vehicle Initiative, whilst also developing close links with the UK Technology Strategy Board, German BMWi and US government funding agencies. Ricardo has also been actively engaged in developing the proposition for the







### Intelligent electrification

Whilst electrification of vehicle propulsion systems is a continuing trend, this is far from limited to the development of battery electric vehicles. The most cost-effective future low carbon propulsion systems will feature a combination of combustion engine and electric drive technologies in various combinations, depending on the specific application. Our most cost-effective combination of these technologies to date has been implemented in our HyBoost vehicle. This has also been a collaborative grant-supported programme and produced a Ford Focus vehicle capable of 95 g/km economy with excellent driveability. This vehicle is in great demand from our customers for test drives and roadshows and has led to a wide range of opportunities to apply this approach to commercial products in our key markets. Of particular note has been the interest and orders received from China for the application of our systems approach to electrification featured in HyBoost.

### Future clean combustion system design and development

The need to continually improve air quality, particularly in urban areas, is a global requirement. Recent reports from Beijing, Shanghai, Paris and London show that more progress will need to be made to meet future air quality standards. Ricardo is at the leading edge for developing future combustion tools and techniques to design the next generation of clean and efficient combustion systems. We have an extensive experimental and simulation programme to further develop our capabilities: this is run in collaboration with OEMs, FIE suppliers, aftertreatment specialists and universities including the Sir Harry Ricardo laboratory at Brighton University. Recent achievements include a newly validated injection spray model for passenger car diesel engines, new chemical combustion models for the Ricardo Software VECTIS tool, and verification of the emissions reduction potential of very high injection

Ricardo worked with Brighton & Hove Bus and Coach Company to research the real-world emissions of a modern bus fleet in this UK south coast city, providing valuable insights as to how urban air quality might be improved

pressures (3000 bar) for future heavy duty diesel engines. A range of technical papers based on the work has been presented, including at the Aachen Colloquium conference held in Beijing, the SAE World Congress in Detroit and the International Congress in Stuttgart.

### Safety-critical systems and software processes

Ricardo has been actively involved in developing partially autonomous or "drive-by-wire" control systems such as autonomous speed control, torque vectoring and stability systems for over 10 years. Our experience in these technologies has led to an increased understanding for the need for a robust approach to the development of safety-critical systems and software. Where driver or operator input has either been removed or overridden, fail-safe operation is vital: this has led to the development of new ISO standards to ensure more uniform compliance. Ricardo has invested in a number of grant-supported projects to further develop our capabilities and services in this area where compliance with ISO Safety-Critical standards is an essential precondition before bidding for high value customer work.

### Safety and stability systems for the defence sector

Many vehicle safety studies have shown that accidental vehicle rollover results in more passenger fatalities than any other type of incident. Leveraging our safety-critical and complete systems capabilities, Ricardo engineers have developed automatic torque vectoring and brake control systems to substantially reduce the threat of rollover in both on and off-road vehicle applications. We have recently invested in a collaborative programme, working with a Tier 1 supplier to provide a complete stability system for a tactical vehicle. We have developed a successful prototype system and are now looking at further commercial opportunities to exploit this technology.

# Corporate social responsibility

## Why CSR matters to Ricardo

Ricardo has a proactive and engaged approach to Corporate Social Responsibility. The environment is a key driver for our strategy and is seen in many of our delivery streams where excellence through innovation and technology provides the missions to all of our teams. It is embedded in what we do and the solutions we deliver:

- Developing new combustion systems and engineering solutions to meet the next sets of emission regulations
- Improving vehicle fuel economy via engine developments, light weight vehicle structures and transmissions and hybrid vehicle systems
- Helping governments and cities address climate change and waste challenges
- Providing policy and technical advice across the public and private sector to improve the environmental, social and economic performance of the transport sector

We rely on the innovation, talent, skills and customer care from our employees in whom we invest and develop for the benefit of all our stakeholders. Our values and policies are designed to ensure we and our suppliers operate ethically, honestly and meet human rights obligations.

Ricardo employees are engaged as active members of the communities where most of our larger sites operate, with a strong focus on working to promote Science, Technology, Engineering and Maths (STEM) in schools and colleges as this links directly to the next generations of engineers and scientists who will be the core of our future value chain.

As a responsible employer, we seek to protect and care for our employees by providing a safe and healthy work environment and to minimise the environmental impact of our operations.

## The environment – strategic driver in action

The environment is at the heart of what we do. It is embedded in the strategy as shown on page 2:

- **Transport and Security** is driven by the worldwide trends on climate change, emissions and fuels consumption legislation
- **Energy** is similarly driven by the need to provide more sustainable and efficient solutions
- **Scarce Resources and Waste** provide solutions to improve air quality, reduce environmental risk and improve the efficiency of resources use and waste management

We support all these areas with R&D to enhance our capabilities. This is described on pages 24 and 25.

## Environmental benefits

Ricardo delivers many positive environmental outcomes which are the result of the work we undertake in the Technical Consulting segment. This broadly comes from two themes: firstly lower carbon use from engineering projects which lead to more efficient products for consumers that are manufactured by our clients and, secondly, from the results of environmental consulting work which is largely undertaken by Ricardo-AEA. These products and services will have an impact on the future levels of emissions, waste, fuel consumption and noise across the sectors we serve. This includes Ricardo-funded and client-funded engineering projects where technology is developed to provide low-emissions and high-efficiency technologies for incorporation in products in all parts of the world.

The very nature of Ricardo-AEA's environmental consultancy work provides a further significant environmental benefit. We work with businesses, governments and international organisations to help find solutions to some of the most pressing environmental challenges. We have a comprehensive environmental consulting capability which provides:

- Excellence in thought leadership around economic, societal and environmental interactions
- Extensive understanding of the climate change, resource scarcity and sustainability agendas
- Deep understanding of policy drivers, providing insight and project delivery for business and industry
- Economic modelling and data management to identify and realise value for business and industry

The scale at which we work is wide ranging, from global corporations and international donors and funders, down to country, city, or individual site level.

Working with the UK Government's Department for Food and Rural Affairs (Defra) on its online greenhouse gas conversion factor repository website is a good example: here, Ricardo-AEA has been responsible for providing the emissions factors – a crucial element of the new UK mandatory reporting requirement. This will be of use to companies based in the UK as well as international organisations fulfilling their requirement for environmental reporting of carbon emissions.





Ricardo delivers many positive environmental outcomes – including its work on reducing vehicle emissions and improving urban air quality



Ricardo-AEA's Managing Director Robert Bell (centre right) and Finance Director Ian Rogerson discussing joint opportunities in Saudi Arabia with senior representatives of the Kaid Group company Arensco – Tawfiq Al Zamil (centre), Kamal Al Juhani (right) and Faisal Basaleem

### Delivering environmental benefits

Many of these programmes can point to a tangible environmental benefit which far exceed our own corporate energy use. For example:

- Ricardo-AEA manages the Combined Heat and Power Quality Assurance certification programme (and provides associated policy support) for the Department of Energy and Climate Change, and the 1,200 certified CHP schemes save in the order of 9 MtCO<sub>2</sub> each year
- Long-term exposure to air pollution is a major public health risk (with an estimated 29,000 premature deaths per year) and the annual economic cost from the impacts of air pollution in the UK is estimated at £9-19 billion. Our UK expertise is now being rolled out internationally to cities such as Riyadh, where we are developing the air quality strategy for a city of over 5 million people
- Ricardo-AEA has worked with DECC to agree challenging but achievable energy efficiency improvement targets for the new Climate Change Agreement (CCA) Scheme for UK businesses, which started in January 2013. Achieving these agreed targets will lead to cumulative savings of 22.6 MtCO<sub>2</sub> over the period 2013-2020, or an average annual saving of 3.2 MtCO<sub>2</sub>
- Ricardo-AEA has provided supporting analysis to Transport for London to inform the development of a Low-Emission Vehicle Roadmap for London. The Roadmap will set out pathways to support cutting GHG emissions by up to 48% and air pollutant emissions by up to 80% from road transport in the capital by 2025 through the accelerated deployment of low emission vehicles and alternative fuels
- Ricardo-AEA has been delivering the Resource Efficient Scotland advice and support service since 2013, providing energy, water and waste efficiency advice to Scottish businesses. In the first year, the service has engaged with over 33,000 Scottish businesses and





International capacity-building on climate change is an area of focus for Ricardo-AEA in Africa, Asia, Europe and South America

delivered over 550 site audits across Scotland. This support identified an impressive £12m of savings for these businesses and also achieved savings of 45,000t CO<sub>2</sub>

- Over the last year, about 450 people have attended international capacity-building workshops on climate change run by Ricardo-AEA in Africa, Asia, Europe and South America; in addition, more than 100 climate negotiators have taken part in our e-learning course on the UN climate talks
- Our Vehicle Engineering team integrated the more efficient 2.0 GTDi gasoline engine into Jaguar XF and XJ vehicles. Introduction of this more fuel efficient powertrain, displacing older technology is expected to yield a saving of 1.2 MtCO<sub>2</sub> over the product life
- Our Engines team completed a project for a global large engine manufacturer redesigning one of their large bore liquid fuel engines for stationary applications to run on natural gas. As these engines have a long service life of circa 20 years the move from diesel/heavy fuel oil to natural gas operation is anticipated to yield up to 97 MtCO<sub>2</sub> saving over the product life
- Ricardo has developed a low cost range extender engine for an electric vehicle. Incorporating this “back-up” technology on an electric vehicle helps customers to overcome the range anxiety often felt with pure electric vehicles and is an enabler to increasing the penetration of electric-based vehicles in the marketplace. With the likelihood that the engine will hardly be used in operation the potential lifetime CO<sub>2</sub> savings from customers switching from purchasing an IC engined vehicle to an electric vehicle is estimated between 0.23 and 0.585 MtCO<sub>2</sub>

### Environmental impact and greenhouse gas emissions

Ricardo is committed to keeping the environmental impact of the Group’s facilities and activities to a minimum as well as ensuring our services have positive impacts to society. The Board’s commitment is embodied in the Ricardo Environmental Policy which was further updated during the year. It is widely available via the intranet and to the public via the website [www.ricardo.com](http://www.ricardo.com). The drivers for the policy are these: making strategic improvements for our clients and end users of their products as a result of our services, the need for continuous improvement, and the desire to be responsible members of the local communities in which Ricardo operates.

The impact of our operations, particularly testing and manufacturing, are the largest contributors to our operational carbon footprint and greenhouse gas (GHG) emissions. Our testing for customer and research programmes mainly uses fuels and electrical energy. Heating some of our buildings and some process plant uses gas. Our manufacturing energy use is mainly power for machine tools and assembly facilities and gas used in our heat treatment plant. Other Scope 1 (direct) emissions include fire suppression gases such as FM200 and the more usual fuels for business driving. Immaterial sources include gases used for emissions measuring equipment and air conditioning top-ups. Our Scope 2 use is all electricity use. We do not measure our Scope 3 emissions.

We now fully comply with the Companies Act 2006 (Strategic and Directors’ Report) Regulations 2013 on GHG Emissions and have stated our comparative history in the KPIs on page 15. As this requires us to include fuels used in engine and vehicle testing, variability in results year on year can be expected due to the varied mix in types of test and engine size. Projects to reduce





have no dominant waste stream.

Good relationships are maintained with national and local regulatory organisations such as the Environment Agency and Environmental Health Departments in the UK, and the Environmental Protection Agency and Michigan Department of Environmental Quality in the US. Processes are in place to keep up to date on regulatory issues and are the subject of regular audits.

Many of Ricardo's clients require certification to the environmental management system standard ISO 14001 for their key suppliers. We are accredited to this standard in our technical centres in the UK, the US, Germany and the Czech Republic. The application of the policy is defined by appropriate processes and procedures as part of the quality system in each division. Many of these are closely linked to both quality and health and safety procedures. Individual divisions focus on continuous improvement based on their emission footprints and business needs.

energy consumption and waste generation are actively encouraged and have become more important as unit fuel costs increase, and as the manufacturing activities of Performance Products grow in future years, waste streams will become more important. Regenerative dynamometers enable the re-use of electricity generated by testing operations, leading to savings and environmental benefits, which include lower water usage. The majority of our test cells have this capability.

We focus our operational carbon footprint improvements on underlying energy efficiency prior to use of fuels for testing. We continue to use CO<sub>2</sub>e per employee as an intensity measure.

CO <sub>2</sub> e '000 tonnes	2014	2013	2012
Scope 1	8.1	6.1	5.2
Scope 2	8.8	8.7	8.4
Total	16.9	14.8	13.6

Tonnes per employee	8.1	7.5	8.1
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In deciding if an emission is within Scope 1, we apply the operational control test.

Our scope 1 variability is driven by varying fuel and fire suppression needs on client projects in Technical Consulting. Scope 2 is electricity and shows a reducing trend, which is encouraging as manufacturing activity levels have increased and we invested in additional machinery.

Other environmental impacts include waste streams, which are monitored to identify potential improvement opportunities and to ensure legislative compliance. Higher-risk parts of the facilities, such as fuel storage and distribution systems, have containment and inspection regimes which meet local legislative requirements. We





Business processes within the ISO 9001 certifications are used to ensure the appropriate staff members are appraised, objectives are set and training needs are identified. Best practice is shared between divisions by internal audits and discussions between quality, health, safety and environmental managers. The suite of certifications and the supporting internal and external audit programmes are used to check policy effectiveness and identify improvement opportunities.

Staff training in health, safety and environmental matters is a priority and is reviewed annually as part of normal appraisal processes. We are registered in the UK for the Carbon Reduction Commitment (CRC), but Ricardo does not engage in carbon trading as we are not large enough.

**Governance – CSR**

The Board as a whole reviews the key elements of corporate social responsibility on an annual basis. To underline the importance of integrity in all relationships between employees and stakeholders, we have ethics, fraud prevention and whistle-blowing policies which are communicated to all employees. A summary of these is

	Males	Females
<b>Board/Company Secretary</b> At 30 June 2014 there were six non-executives and three executives, all of whom were male, and a female Company Secretary	9	1
<b>Senior leadership</b> There were 55 Divisional senior leaders in Ricardo at 30 June 2014 of whom 49 (89%) were male and 6 (11%) were female	49	6
<b>All employees</b> There were 2,057 employees in Ricardo at 30 June 2014, of whom 1,680 (82%) were male and 377 (18%) were female	1,680	377

communicated externally via our Code of Conduct which includes the policy elements to meet our human rights obligations. Under our ethics policy we do not permit bribery, anti-competitive or corrupt business practices in any dealings. Under our fraud prevention policy we do not allow intentional acts by one or more individuals within the business to use deception or theft to gain unjust or illegal advantage. Under our whistle-blowing policy we provide a procedure for any employee to raise any malpractice concerns in an appropriate manner, with protection to the whistle-blower.

**Employees**

Respecting both the status and diversity of our employees and clients, we aim for Ricardo to be a progressive employer in terms of our people practices. Progress in line with this aim is evident through continuous progress on our people development programme. The Group maintains its belief that it will grow most successfully through the personal growth of its employees. The Group Values are clear standards against which employees and new joiners can align their identity with Ricardo and what the Group stands for and enshrine a respectful relationship between the Group and its employees. Ricardo is privileged to continue to attract new hires



Engineers from Ricardo Prague are advising the Formula Student team from Czech Technical University





A Give and Gain team helping a community centre near Shoreham refurbish its kitchen

from prestigious organisations and has seen a number of returnees.

We make regular and rigorous reviews of our skill base, proactively managing the balance between attrition and refreshing or enhancing the skill set through carefully targeted recruitment.

Throughout the year the Group continued to bring in fresh skills in line with its international business requirements. Strong knowledge retention within the business is always key and the efforts between and across divisions to enhance collaborative working have had a positive impact for employees and customers. As an example, Ricardo UK in collaboration with Ricardo Deutschland has been exchanging work programmes which maximise the capabilities of both organisations to best service the client. These also provide a number of development opportunities for staff in both countries.

At Ricardo we continue to emphasise as one of our core principles our people's commitment to meeting customer expectations. Employee fulfilment is vital and the management teams are focused on creating an environment where people are respected for their contribution, where integrity is demonstrated in all that we do, where we provide exciting work which allows innovation and creativity to flourish, and where our passion is tangible.

Our talent management process continues to identify up-and-coming business leaders to take up the challenge of career development opportunities as we expand our presence in existing geographical markets and new sectors. In particular, the ability to identify top talent and high-potential employees on a global basis enables us to more accurately focus on our developmental priorities.

A continuing focus this year has been on developing our leadership and management capability, picking up on work performed in the prior year and rolled out across the Group.

Ricardo is committed to promoting equality of opportunity for all employees and job applicants free from all discrimination and actively seeks diversity in its recruitment. Ricardo is an inclusive employer and values broad representation in its employees and aims to recruit the best person for the role in all its positions across the Group.

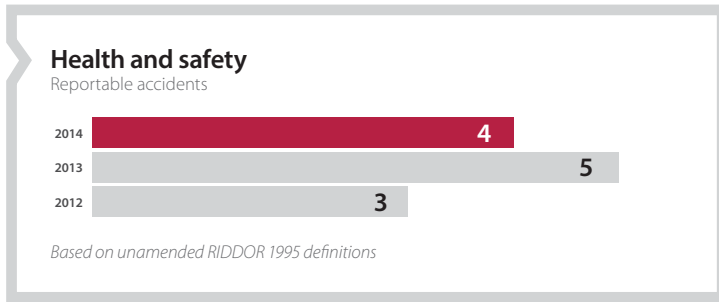
### Health and safety – operations

Ricardo is committed to compliance with local health and safety legislation, a safe working environment and a very low level of reportable accidents. We fully support training



Jon Brown of Ricardo receiving the Business in the Community's Sieff Award presented in recognition of individuals who drive sustainability values into the heart of business





in health and safety awareness, impending changes in relevant legislation and other specialist health and safety subjects. Health and safety activities are verified by regular internal audits and inspections and certification to OHSAS18001 in our technical centres in the UK, US, Germany and the Czech Republic. Ricardo-AEA has a RoSPA Gold Award, a demonstration of our commitment to good governance and to being an employer of choice. During the year we refreshed our Health and Safety Policy, which is widely available via the intranet and to the public via the website.

Good relationships are maintained with local regulators in the main territories in which we operate. We recognise the level of reportable accidents as a primary performance indicator. The number of reportable accidents decreased slightly from 2013: the level is still low overall and shows the success of our health and safety policies. We continue to focus on reducing accidents and near-misses as part of our commitment to continuous improvement.

**Health and safety – chemical risk**

The National Chemical Emergency Centre (NCEC) provides telephone chemical emergency response support to the UK emergency services, which includes Police, Fire, Ambulance and other public sector teams working with, or subject to, chemical hazards. We help to minimise the risk to people, property and the environment by reducing the impact of chemical incidents. NCEC, which is part of Ricardo-AEA, receives around 350-450 calls per year from the emergency services. Of these, incidents range from

road traffic collisions and fires and spills, to police raids where unknown chemical substances are identified and pose a hazard. It is also delivering Chemical Emergency response telephone advice to 50% of the world’s top 100 chemical manufacturers and over 400 other organisations.

We recently undertook an analysis which shows that, on the basis of the time saved thanks to quicker incident response and reduction in use of essential emergency and support service infrastructure, the NCEC service provides an economic benefit to the UK of £10m in the year. By far the most significant savings are as a result of minimising disruption to transport, which also has an environmental benefit.

**Human rights**

The Group firmly believes in the principles behind the Universal Declaration of Human Rights. We support this by having a strong commitment to compliance with laws and regulations where we operate and by expecting the same from our suppliers. We articulate this via our Values and Code of Conduct, which contain the following relevant policy elements:

- Being honest, ethical and above reproach with each other and with our stakeholders in all our business dealings
- Treating all others as we would like to be treated
- We will not engage in activity that can be considered as trafficking in persons, including the use of forced labour or procurement of immoral services for the performance of contracts
- There should be no discrimination against, or harassment of, any employee or job applicant either directly or indirectly
- Encourage all our employees to take an active role against all forms of discrimination and harassment
- Ricardo will only employ or use staff who are appropriately vetted and have the proven right to work in the country of employment for the type of work being undertaken.

The Group’s position on human rights is supported through a number of ethics and employment policies which are designed to ensure we conduct business in a legal and ethical manner at all times.

**Suppliers**

Relations with the supplier community are regarded as an essential ingredient in achieving client and shareholder satisfaction. Our policy is that key suppliers should be certified to ISO 9001 and ISO 14001, and all suppliers are encouraged to obtain these certifications. Where a choice between suppliers is possible, various procurement methods are used, depending on the type of product or service being procured. For service functions for our





and understanding of the business and the engineering profession in the community. These activities are often used as development opportunities for staff as part of their career paths. Examples in education include the provision of work experience placements for local schools, active engagement in STEM events across the education age range, promoting engineering and Ricardo at careers fairs and by employees acting as school and academy governors. We have a number of higher education relationships with universities close to our major sites. These support our R&D agenda as well as cementing community relationships.

Ricardo engineers enthusing school and college students at STEM events and visits to Ricardo

Our community engagement via the Shoreham Technical Centre continues with Business in the Community (BITC), a business-led charity focused on responsible business, where we work with a local Academy and undertake community engagement projects as part of their Give and Gain programme. We have some employee-led health-related activity, with several sites engaging in the Movember campaign raising funds for prostate cancer.

We also work with our local communities to provide business input on economic regeneration and actively engage in local partnerships, particularly around Shoreham, where we are the largest private sector employer in the Adur District. To this end we have successfully supported the negotiation of the Greater Brighton City Deal, which will secure public and private investment for the area.

We occasionally match staff donations to charitable activities, particularly where there is active staff participation in events. Financial contributions to charities in the year to 30 June 2014 were £17,798 (2013: £25,333). The effectiveness of these policies is informally measured by community feedback.

main sites, local suppliers are used where commercially practical. There are no significant supply contracts which are essential to the business of the whole Group, and we are not tied to any suppliers in such a manner as to jeopardise the independence of the business. Initiatives being managed by our Head of Global Procurement are delivering a number of savings by consolidating the supply base and in some cases by securing better rates for longer-term contracts. We strongly encourage our suppliers to comply with our Code of Conduct or their own equivalents.

### Local communities

It is our policy objective to make a positive contribution to all countries and communities in which we operate, particularly in education in areas local to our main sites. Most of the larger Ricardo offices support local community activity and give charitable donations, particularly where employees participate in community or charitable fund-raising activities. The focus is on creating sustainable links and on improving the image



# Financial review



Ian Gibson - Chief Financial Officer

## Headline Group performance numbers are as follows:

	2014	2013 Restated <sup>(2)</sup>
Revenue	<b>£236.2m</b>	£229.7m
Profit before tax <sup>(1)</sup>	<b>£24.6m</b>	£22.7m
Basic EPS <sup>(1)</sup>	<b>38.7p</b>	35.4p
Net funds	<b>£12.6m</b>	£6.1m

(1) excluding specific adjusting items, which comprise amortisation of acquisition-related intangible assets and acquisition costs

(2) restated on adoption of revised International Accounting Standard 19 Employee Benefits

## Group results

The Group has delivered a good operating result for the year to 30 June 2014 with a strong performance within the Performance Products segment in particular. Total Group revenue increased to £236.2m, a 3% increase on the prior year. Excluding Ricardo-AEA for the period 1 July 2013 to 8 November 2013, to provide a like-for-like comparison with the prior year, total Group revenue reduced by 2%. Ricardo-AEA was acquired on 8 November 2012. The reduction in like-for-like Group revenue was primarily due to delays in receiving certain orders within the Technical Consulting segment, which then materialised in the final quarter of the year.

Underlying profit before tax increased by 8% to £24.6m, up from £22.7m in the prior year, with reported profit before tax at £23.5m compared to £20.7m in the prior year. Organic profit growth, which excludes £1.3m of underlying Ricardo-AEA trading profit for the period 1 July 2013 to 8 November 2013, increased by 3%. The Group's underlying profit before tax margin improved to 10.4% compared to 9.9% in the prior year.

Basic earnings per share was 36.9p compared to 32.5p in 2013. The directors consider that an underlying basic earnings per share provides a more useful indication of underlying performance and trends over time. Underlying basic earnings per share was up 9% to 38.7p, compared with 35.4p in the prior year.

Strong order intake within the final quarter of the year contributed to a record year end closing order book of £142m, up from £121m in the prior year. The Group also has a significant pipeline of opportunities. The order book and pipeline contain good diversification across market sectors, customers and geographies. In addition there are large new framework agreements, as described on page 23, that are not included in the year end order book.

The Group continues to invest in Research and Development (R&D), and spent £8.5m (2013: £9.7m) before government grant income of £1.3m (2013: £1.2m). This amount includes costs capitalised in accordance with IFRS of £3.0m (2013: £0.7m) in respect of development expenditure on a range of product developments around the Group. The amounts capitalised reflect our increasing focus on development activity and include expenditure on software development, a Ricardo Flywheel energy recovery system and further projects within the UK and US. An overview of current



R&D activities is presented on pages 24 to 25.

Segmental operating results for Technical Consulting and Performance Products are discussed on pages 16 and 22 respectively. In Technical Consulting, revenue was impacted by the delays in receiving certain orders and the expected ramp down of a large programme in the prior year, although the business also achieved some better than expected outcomes on contract negotiations. Together these resulted in a reduced underlying operating profit of £17.8m (2013: £18.5m). Also within Technical Consulting, Ricardo-AEA has continued to deliver profits in line with plan. Performance Products had a strong year, with growth in revenue, operating profit and order intake as well as the announcement of a new multi-year engine supply agreement with McLaren Automotive, which will generate circa £40m per annum in revenues from 2016/17 onwards. The Performance Products underlying operating profit of £7.9m (2013: £6.1m) has also benefitted from our strong engineering performance and rigorous process control, which has resulted in lower warranty claims than expected.

### Basis of preparation

The financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") and International Financial Reporting Standards Interpretations Committee ("IFRS-IC") interpretations adopted by the European Union ("EU") and with those parts of the Companies Act 2006 applicable to companies reporting under IFRS. The prior year results have been restated to reflect the amendments under IAS 19 (revised 2011) Employee Benefits. These

amendments are presented within note 1 a) on page 86. The Group's principal accounting policies are detailed in note 1 to the financial statements on pages 86-91. Those that require the greatest estimates and judgements are discussed in note 1 c) on page 87.

### Acquisition and acquisition-related intangible assets

On 8 November 2012 the Group acquired the business and certain operating assets of AEA Technology plc (in administration) for total cash consideration of £18.0m. This investment generated goodwill of £9.9m and acquisition-related intangible assets of £8.8m.

Amortisation of acquisition-related intangible assets amounted to £1.1m (2013: £0.7m). The Group also incurred acquisition costs of £1.3m in the prior year. The acquisition costs and the amortisation of acquisition-related intangible assets have been charged to the Consolidated Income Statement as specific adjusting items.

The Group holds a further £15.2m (2013: £16.0m) of goodwill on the balance sheet. This comprises £2.7m (2013: £2.7m) in relation to two businesses fully integrated into Ricardo UK Limited (Gemini and Tarragon), and £12.5m (2013: £13.3m) in relation to the Technical Consulting business in Germany. The Group performs an annual goodwill impairment test as part of the year end procedures, or more frequently if events or changes in circumstances indicate a potential impairment. Following the year end test, we consider that no impairment is required. Further details are disclosed within note 11 to the financial statements, on page 98.

Recent investment in 5 axis machining centres at the Midlands Technical Centre adds capacity and capability to the Performance Products business



Robert Hentschel, Managing Director of Ricardo Deutschland

### Net finance costs

Finance income was £0.2m and finance costs £1.2m, giving a net finance cost of £1.0m which is broadly in line with the prior year (2013: £1.2m). Included within the finance costs is £1.0m (2013: £1.2m) in respect of the net finance charge for the defined benefit pension scheme. As described on page 86, the prior year charge has been restated to reflect the amendments under IAS 19 (revised 2011) Employee Benefits.

### Taxation

The total tax charge for the year was £4.3m (2013: £3.9m), representing an effective rate of 18% (2013: 19%). The Group has continued to benefit from R&D tax credits in both the UK and US. Due to a legislative restriction in Germany on the utilisation of tax losses in any one year, as in the prior year a deferred tax asset has not been recognised for the current year losses in Germany, which have remained at a similar level to the prior year.

UK legislation for the new Research and Development Expenditure Credit (RDEC) was published in the Finance Bill 2013, and was substantively enacted during July 2013. Under the new regime, the R&D credit will no

longer be a tax incentive benefiting the corporation tax line in the Consolidated Income Statement, but will become more like a grant which offsets R&D expenditure within operating profit. The RDEC will become mandatory for accounting periods beginning on or after 1 April 2016. The Group has not applied the RDEC accounting within its 2014 financial statements.

### Earnings per share

Basic earnings per share was 36.9p compared to 32.5p in 2013. Note 9, on page 97, discloses an underlying basic earnings per share which excludes the net-of-tax impact of the amortisation of acquisition-related intangible assets, and acquisition costs. The directors consider that an underlying earnings per share provides a more useful indication of underlying performance and trends over time. Underlying basic earnings per share increased to 38.7p, from 35.4p in the prior year.

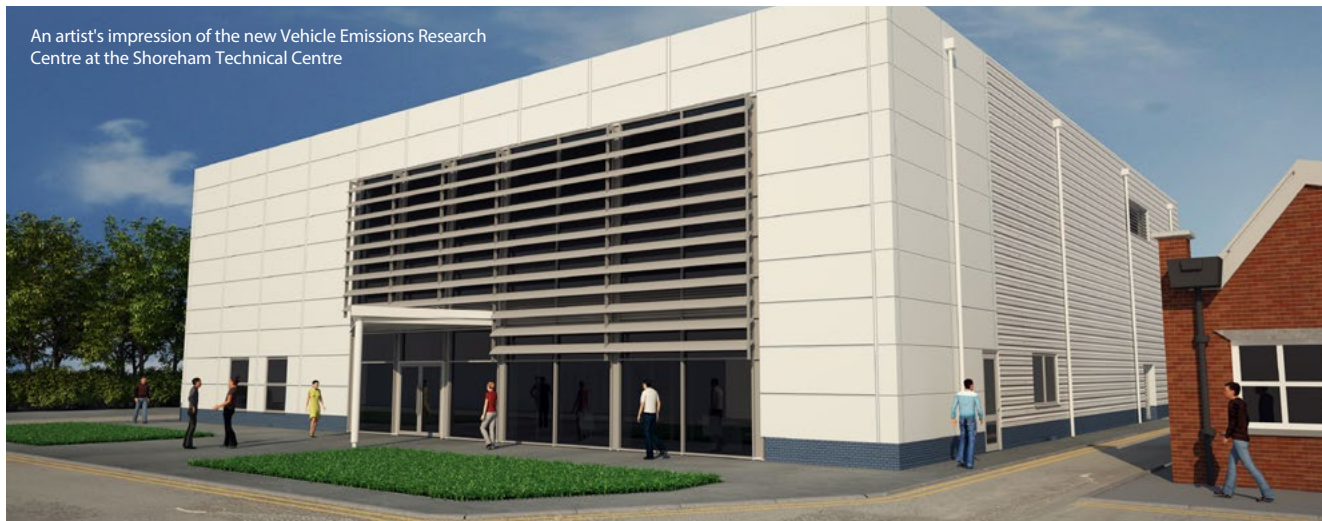
### Dividend

The total (paid and proposed) dividend for the year has increased to 15.2p per ordinary share (2013: 14.0p) and amounts to £7.9m (2013: £7.3m). The proposed final dividend of 10.9p (2013: 10.0p) will be paid on 14 November 2014 to shareholders who are on the register of members at the close of business on 24 October 2014, subject to approval at the Annual General Meeting on 29 October 2014.

### Capital investment

In the prior year, the Group embarked on its largest capital project ever, a new Vehicle Emissions Research Centre (VERC) located at our Shoreham Technical Centre in the UK. The new facility will provide latest technology vehicle emission measurement

An artist's impression of the new Vehicle Emissions Research Centre at the Shoreham Technical Centre





facilities, allowing a range of tests to be performed across all geographical regulatory requirements.

The development of the VERC was selected for part-funding under the UK Government's Regional Growth Fund (RGF). At 30 June 2014, gross capital expenditure incurred on the VERC was £8.4m (2013: £3.7m), offset by grant income of £3.1m (2013: £1.6m). The net cost of the VERC has been included within Land and Buildings (note 13) as an Asset under Construction.

### Net funds

The Group generated net cash of £6.5m in the year, leading to closing net funds of £12.6m (2013: £6.1m). The composition of net funds is defined in note 31 of the financial statements on page 114.

### Banking facilities

At the end of the financial year, the Group held total facilities of £49.2m (2013: £52.1m), which comprised committed borrowing facilities of £35.0m (2013: £35.0m) and uncommitted facilities of £14.2m (2013: £17.1m). Of the committed facilities, £15.0m is available to November 2015 and £20.0m available until December 2016. The Group seeks to make contracts self-financing. However, medium-term working capital requirements can change significantly. The committed facilities are in place to support the Group's financing needs and provide headroom against forecast requirements.

### Exchange rates

On consolidation, income and expense items are translated at the average exchange rates of the year. The average value of sterling was 3.8% higher against the dollar, 1.5% higher against the renminbi and 1.2% lower against the euro during the year ended 30 June 2014 compared to the previous financial year. Had the current year results been stated at constant exchange rates, reported revenue for the year ended 30 June 2014 would have been £2.4m higher and profit



before tax £0.2m higher. The Group is also exposed to movements in the euro/sterling exchange rates, arising from the work carried out in the UK for European customers and purchases within the UK from European suppliers, and the sterling/renminbi exchange rate, arising from the work carried out in the UK for Chinese customers. Significant resulting exposures are hedged through forward currency contracts, with hedge accounting applied. The exchange loss for the year ended 30 June 2014 was £0.5m (2013: gain £0.2m).

### Pensions

The Group's defined benefit pension scheme operates within the UK. At 30 June 2014, the accounting deficit measured in accordance with IAS 19 Employee Benefits was £19.5m before tax, or £15.6m after tax (2013: £19.7m and £15.1m respectively). The £0.2m decrease in the deficit was primarily due to additional company contributions of £4.3m (2013: £4.3m) increasing asset values, offset by a decrease in the discount rate assumption to 4.35% (2013: 4.65%), which has increased the value of the liabilities. The additional cash contributions were agreed with the Pension Trustees following the last full actuarial valuation to 5 April 2011. The triennial valuation to 5 April 2014 is in progress, and it is expected that this process will be completed in the year ending 30 June 2015.



Our 2014 Strategic Report, from page i to page 37, has been reviewed and approved by the Board of Directors on 10 September 2014

**Dave Shemmans**  
Chief Executive Officer  
10 September 2014



# DIRECTORS' REPORT

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55	Directors' remuneration report
71	Additional disclosures

# Board of Directors



**David Shemmans** *BEng*  
**(Chief Executive Officer)**

Dave Shemmans, aged 48, joined Ricardo in 1999 as Senior Business Development Manager for Ricardo Consulting Engineers ("RCE"). In 2002 he was appointed Business Development Director for the Ricardo Group and in December 2003, Managing Director of RCE. He was appointed to the Board as Chief Executive Officer Designate and Managing Director International Operations in February 2005, and became the Chief Executive Officer of Ricardo plc on 4 November 2005. Prior to joining Ricardo he was Operations Director and co-founder of Wavedriver Limited (a subsidiary of PowerGen plc). He has also gained consulting and management experience in both listed and private companies. He holds a degree in electronics from UMIST and is a graduate of the Harvard Business School. Dave was appointed non-executive director of Sutton and East Surrey Water plc on 1 September 2014.



**Ian Gibson** *BSc, ACA*  
**(Chief Financial Officer)**

Ian Gibson, aged 54, was appointed Chief Financial Officer on 1 July 2013. Ian holds a degree in Business Studies from The City University in London and is a Chartered Accountant. He is a highly experienced finance professional with almost thirty years' commercial experience, most recently as Chief Financial Officer of Cable & Wireless Worldwide plc. Ian spent seventeen years in a number of senior financial management positions within the Cable & Wireless Group. In recent years he played a key role in both the demerger and listing of Cable & Wireless Worldwide plc, and the subsequent acquisition of that company by Vodafone. Prior to his time with Cable & Wireless, Ian spent twelve years at Deloitte where he worked in the audit and forensic accounting teams of the London and Toronto offices.



**Mark Garrett** *CEng, FIMechE*  
**(Chief Operating Officer)**

Mark Garrett was appointed as Group Engineering and Products Director on 1 July 2008 and on 1 July 2010 he was designated Chief Operating Officer. He is 51 years old. Mark joined Ricardo in August 1998 as Manager – Gasoline Engines, coming from the position of Small Car Powertrain Manager at Rover Group. Since joining Ricardo he has performed a number of key roles, including Global Product Group Director for Gasoline Engines and head of Ricardo (2010) Consultants Ltd. Mark holds an honours degree in mechanical engineering from Bristol University, is a Chartered Engineer and a Fellow of the Institution of Mechanical Engineers.



**Michael Harper** *MSc, CCMI, FRAeS*  
**(Chairman)**

Michael Harper was appointed a non-executive director on 24 June 2003 and was appointed Chairman on 18 November 2009. He was the Senior Independent Director until 18 November 2009. He is 69 years old. He was Chief Executive of Kidde plc until he retired from that position in March 2005 and Chairman of BBA Aviation plc until his retirement in May 2014. Michael is currently Deputy Chairman of QinetiQ Group plc.



**Terry Morgan** *CBE*  
**(Non-Executive Director and Deputy Chairman)**

Terry Morgan was appointed non-executive director and Deputy Chairman on 2 January 2014. Terry is 65 years old. Terry is currently non-executive Chairman of Crossrail Limited, the Manufacturing Technology Centre and the National Skills Academy for Railway Engineering. He is also a non-executive director of Boxwood Limited and was, until 31 August 2014, non-executive director of the Department of Energy and Climate Change.





**David Hall** *CBE, MA, MSc*  
(Non-Executive Director, Senior Independent Director)

David Hall was appointed a non-executive director on 21 February 2006 and was appointed as the Senior Independent Director on 18 November 2009. He is 67 years old. He was formerly at the Boston Consulting Group, the international strategic and management consulting firm, where he started and built up the financial services practice, served on the worldwide Executive Committee, was Chairman of BCG's ten global practice groups and had global responsibility for HR. He was also Chairman of the Financial Services Compensation Scheme, retiring from that appointment in April 2012. David was awarded Commander of the Order of the British Empire in 2012 for his services to the Financial Services industry. David joined Vestra Wealth LLP as Senior Independent Director on 1 May 2013.



**Hans-Joachim Schöpf**  
(Non-Executive Director)

Hans-Joachim Schöpf was appointed non-executive director on 1 July 2009. He is 72 years old. He was formerly executive vice president at DaimlerChrysler AG, head of Mercedes R&D and member of the board of Mercedes Car Group. Since retiring from DaimlerChrysler in 2004, Professor Schöpf has been appointed to directorships of BEHR and TK Bilstein in Germany and Valmet Automotive in Finland, and is a member of the advisory board of Mahle. In addition, Professor Schöpf was a director of Ballard Power Systems in Canada until the end of 2007. He has also worked as an independent automotive consultant and is an Honorary Professor of the Technical University of Vienna and Honorary Senator of the Technical College of Esslingen. Hans-Joachim is non-executive director of Ricardo's Technology Exploitation Board.



**Peter Gilchrist** *CB*  
(Non-Executive Director)

Peter Gilchrist was appointed non-executive director on 1 December 2010 and Chairman of the Remuneration Committee on 14 November 2013. He is 62 years old. His military career spanned almost four decades in the British Army and involved him in senior positions in operations as well as in defence diplomacy, strategic management and procurement. Following a tour in Afghanistan, his last appointment was at the British Embassy in Washington DC. Earlier, for 4½ years, he was Master General of the Ordnance on the Army Board and an executive director in the Defence Procurement Agency. Peter is currently Chairman of Push Technology Limited, Enterprise Control Systems Limited and the Board of Trustees, Tank Museum. He is also a director of Synergie Business Limited.



**Ian Lee** *BA, CA, CPA*  
(Non-Executive Director)

Ian Lee was appointed non-executive director on 1 August 2008 and Chairman of the Audit Committee on 18 November 2008. Ian is 67 years old. He is a former senior partner of Ernst & Young LLP in Glasgow. He was a member of the Ernst & Young UK Governing Council for six years, and was a member of its audit committee. He was the Convener of the Institute of Chartered Accountants of Scotland Audit and Assurance Committee. Ian was a non-executive director and chairman of the audit committee of Clyde Process Solutions plc from 2007 to 2011. He is Vice-Chair of NHS Greater Glasgow and Clyde Board, where he is Convener of the Quality and Performance committee and has been a non-executive director and member of the Audit Committee since 2008. He has also been the independent external member of the audit committee of the Student Loans Company since 2011.

# Corporate governance statement



## Chairman's overview

I am pleased to introduce the Directors' Report for the year ended 30 June 2014.

Governance is an important contributor to the success of Ricardo, and the Board is committed to ensuring that appropriate standards of governance are maintained throughout the Group.

This report sets out the way we comply with good corporate governance principles. It describes how the Board and its committees work, and also our approach to risk management and internal control.

As part of the Board's succession planning, and as alluded to in our last Annual Report, during the year our Nomination Committee conducted a search for the next Chairman of Ricardo.

At our last AGM in November 2013 I

announced my intention to stand down as Chairman this year. It has been both a privilege and honour to be a member of the Ricardo Board since 2003 and at the helm of Ricardo since 2009.

It has been a pleasure to have the excellent support of my Board colleagues throughout my tenure.

Terry Morgan CBE will take on the role of Chairman following the conclusion of our AGM in October 2014 and I wish him every success in guiding Ricardo to greater success.

**Michael Harper**

	Board meetings	Committee meetings		
		Audit	Remuneration	Nomination
Number of scheduled meetings in the year	8	3	5	1
Number attended by each member:				
Michael Harper	8	–	5	1
Hans-Joachim Schöpf	8	3	5	1
David Hall	8	3	5	1
Ian Lee	8	3	5	1
Peter Gilchrist	8	3	5	1
Dave Shemmans	8	–	–	1
Mark Garrett	8	–	–	–
Ian Gibson	8	–	–	–
Terry Morgan*	4	1	1	1

\* Appointed 2 January 2014

## UK CORPORATE GOVERNANCE CODE

The Board confirms that the Company has complied with the provisions of the UK Corporate Governance Code published in September 2012 ("the Code") throughout the year ended 30 June 2014.

The Code and associated guidance are publicly available on the Corporate Governance page of the Financial Reporting Council's website, [www.frc.org.uk](http://www.frc.org.uk).

## THE ROLE OF RICARDO'S BOARD

Our role is to provide entrepreneurial leadership and we recognise that we are collectively responsible for the long-term success of the Company.

We set strategy and oversee its implementation by the executive team. We assess business opportunities and seek to ensure that appropriate controls are in place to assess and manage risk. We are responsible for reviewing the executive team's performance and we oversee senior-level succession planning within the Group.

We agree the Company's values and standards and ensure that the Company's obligations to its shareholders are met.

We have a formal schedule of matters reserved for our approval which are not delegated to the executive team. These include:

- Strategy
- Acquisitions and disposals of businesses (over a certain size)
- Annual budgets
- Capital expenditure
- Financial results
- Overseeing systems of internal control, governance and risk management
- Dividends
- Appointment and removal of directors and company secretary

The full schedule of matters reserved for our decision is available on our website ([www.ricardo.com](http://www.ricardo.com)). We delegate certain responsibilities to our Nomination, Audit and Remuneration Committees. These committees comprise our independent non-

executive directors (save for the Nomination Committee which includes the Chief Executive Officer) and all play a key role in supporting us.

There are eight scheduled Board meetings a year and otherwise as required. Details of attendance at scheduled Board and Committee meetings are shown in the table above. Board meetings focus on strategy and financial and business performance, developing strong leadership and succession planning. The Board agenda is set by the Chairman in consultation with the Chief Executive Officer and the Company Secretary. Our agendas allow time for debate and long-term strategic discussion.

We spent considerable time focusing on the Group strategies and reviewing progress against respective objectives. We held two strategy meetings during the year. The first was in October 2013 at our Midlands Technical Centre. This three-day session gave us, amongst other things, greater insight into our Performance Products division and an opportunity to meet employees and clients. This included, amongst others, the Head of Engineering at Jaguar Land Rover.

In April 2014 we visited our Detroit Technical Centre and reviewed progress against strategy for the US Division. In addition, we were honoured to host a dinner for Isuzu Motors America Inc. and discussed current and potential future projects with them.

Whilst in the US the Chairman took the opportunity to meet and congratulate one of our engineers who had been recognised for their world-class skills by receiving our Engineering Excellence Award.





Every June we hold a business planning session during which each divisional Managing Director presents their budgets for the following year for review and approval by the Board.

Our agenda focuses on driving Ricardo's strategy, developing strong leadership and succession planning, monitoring risks and protecting our strong relationships with clients, employees and other stakeholders.

Our agendas allow time for debate and long-term strategic discussion. Our forward planner gives Board members visibility of what is on future agendas for their consideration.

**BOARD COMPOSITION AND INDEPENDENCE**

As at 30 June 2014 our Board comprised six non-executive directors and three executive directors as follows:

Michael Harper	Non-Executive Chairman (independent at the time of appointment)
Dave Shemmans	Chief Executive Officer
Ian Gibson	Chief Financial Officer
Mark Garrett	Chief Operating Officer
Terry Morgan CBE	Independent Non-Executive Director and Deputy Chairman
David Hall CBE	Independent Non-Executive Director and Senior Independent Director
Ian Lee	Independent Non-Executive Director and Chair of Audit Committee
Peter Gilchrist CB	Independent Non-Executive Director and Chair of Remuneration Committee
Hans-Joachim Schöpf	Independent Non-Executive Director

David Hall stepped down as Chairman of the Remuneration Committee on 14 November 2013 and Peter Gilchrist was appointed as Chairman in his place.

Terry Morgan joined the Board on 2 January 2014.

Biographies of directors, giving details of their experience and other commitments are set out on pages 40 and 41.

The wide-ranging experience and backgrounds of the non-executive directors enable them to debate and constructively challenge management in relation to the strategy and performance of the Group.

On 14 November 2013 the Company announced that Michael

Harper would retire from the Board immediately following the 2014 Annual General Meeting and that Terry Morgan would be appointed as Chairman of the Board in his place.

The Board has concluded that Terry Morgan CBE, Ian Lee, David Hall CBE, Peter Gilchrist CB and Hans-Joachim Schöpf are independent in character and judgement. They have never been employees of the Company nor have they participated in any of the Company's share schemes, pension schemes or bonus arrangements. They receive no remuneration from the Company other than the directors' fees disclosed and travel expenses. Their fees are determined by the Board as a whole on the recommendation of the Chief Executive Officer. No director is involved in deciding his own fees. They all held office throughout the year with the exception of Terry Morgan who joined the Board on 2 January 2014.

The Company has procedures in place to ensure that the Board's powers to authorise conflicts are operated effectively and such procedures have been following during the year under review.

Letters of appointment for the non-executive directors are available for inspection by shareholders at each AGM and during normal business hours at the Company's registered office.

Non-executive directors are appointed for specified terms of three years which can be extended by agreement provided that the individual's performance continues to be effective. In accordance with the Company's Articles of Association and the Code, all directors will retire at the Annual General Meeting in October 2014 and, being eligible, will offer themselves for election and re-election (as appropriate). We believe that each of the directors should be elected and re-elected by the shareholders because each continues to be effective and demonstrates commitment to the role that each of them performs.

During the year the Chairman met the other non-executive directors without the attendance of the executive directors on a number of occasions. There were formal meetings between the Senior Independent Director and each of the non-executive and executive directors without the presence of the Chairman at which the performance of the Chairman was reviewed.

There were several other occasions during the year when discussions between various directors took place on an informal basis.

The Chairman and the non-executive directors have provided assurances to the Board that they remain fully committed to their respective roles and can dedicate the necessary amount of time to attend to the Company's affairs.

Executive directors may only accept one non-executive directorship in any other company. Prior consent of the Board must be obtained before doing so. Executive directors may retain the fees from any such directorship. No executive directors held non-executive directorships during the year, although Dave Shemmans was appointed non-executive director of Sutton and East Surrey Water plc as at 1 September 2014.

## CHAIRMAN, CHIEF EXECUTIVE OFFICER AND SENIOR INDEPENDENT DIRECTOR

There is a clear division of responsibilities between the Chairman and the Chief Executive Officer, which is documented, clearly understood and approved by the Board.

Michael Harper is primarily responsible for leading the Board and ensuring its effectiveness. Dave Shemmans has direct responsibility for the Group on a day-to-day basis and is accountable to the Board for the financial and operational performance of the Group.

Dave Shemmans chairs the Executive Committee, which meets formally at least three times a year. The Executive Committee is primarily responsible for developing and implementing our corporate strategy and policies. The minutes of this committee are circulated to, and considered by, the Board.

The responsibilities of the Senior Independent Director, David Hall, are also documented and include the provision of an additional channel of communication between the Chairman and the non-executive directors. David Hall also provides an additional point of contact for our shareholders should they have concerns that communication through normal channels has failed to resolve or where these contacts are inappropriate.

## BOARD APPOINTMENTS

We recognise our responsibility for planned and progressive refreshing of the Board. There is a formal and transparent procedure for the appointment of new directors, the primary responsibility for which is delegated to the Nomination Committee. Further details of the work undertaken by the Committee during the year under review are contained on pages 46 and 47.

Our Board continued to discuss matters relating to succession planning and talent management for leadership succession.

## Diversity

Our Board is committed to promoting equality of opportunity for all employees and job applicants free from all forms of discrimination. Ricardo is an inclusive employer and values diversity of skills, knowledge, background, industry and international experience and gender in its employees and aims to recruit the best person for the role in all its positions Group-wide.

Details on the gender split of our workforce are described in the Strategic Report on page 30.

Our Board appreciates that a diverse range of backgrounds is an important part of succession planning at all levels in the Group. Our Board continually monitors tenure profile and is very conscious of the need to continue to promote diversity at Board level and throughout the Group. Upon engagement of external recruitment consultants our Board requires that full account of all aspects of diversity are considered in preparing candidate lists.

## Induction

There is a written framework for the full, formal and tailored induction of new directors.

Terry Morgan's induction included site visits, meetings with

senior management and advisers and the provision of corporate documentation to facilitate his understanding of our business, its operations, key markets and risks.

## SUPPORT AND PROFESSIONAL DEVELOPMENT

Our Chairman is responsible for ensuring the directors receive accurate, timely and clear information, with Board and Committee papers being circulated sufficiently in advance of meetings.

The Board and its committees are kept informed of corporate governance and relevant regulatory developments as they arise through the Company Secretary.

In addition, we as a Board keep ourselves informed about the Group's activities through a structured programme of presentations from each of the businesses within the Group and from a number of Group functional leaders. During the year under review we received presentations from the Group IT Director, the Group HR Director and the Group Risk Manager, together with specific presentations on key projects for the business.

Directors are updated continually on the Group's business with monthly performance packs and by means of additional presentations on matters including insurance, treasury and health, safety and environmental risk management.

The Audit Committee is routinely briefed on accounting and technical matters by senior management and by the external auditor.

The Remuneration Committee receives updates on remuneration trends and market practices as part of its regularly scheduled business and during the year under review Towers Watson provided updates on the proposals and reporting requirements for executive remuneration.

Training for directors is available as required and is provided mainly by way of external courses. A register of the training that individual directors have undertaken is maintained by the Company Secretary and is reviewed by the Chairman individually with each director as part of the Board evaluation process. The Board considers that it is the primary responsibility of each director to identify the individual training and development needs he requires.

All directors have access to the advice and services of the Company Secretary and directors have been informed that, in the furtherance of their duties, each is entitled to seek independent professional advice at the expense of the Company.

The Company arranges appropriate insurance cover in respect of legal actions against its directors. In addition, the Company has entered into indemnities with its directors as described on page 71.

## BOARD EVALUATION

We conduct an evaluation of our activities and effectiveness annually, facilitated by the Company Secretary.

The determination of whether or not to conduct an external review is considered annually by the Nomination Committee. Following consideration of the Committee's recommendation we decided to continue with the internal review of our effectiveness this year.

The aim of the review is to check progress against the issues identified in last year's evaluation and to identify any new issues. Our approach calls for the completion of a questionnaire by all directors on the processes and behaviours of the Board and its Committees including, amongst other things, the quality of leadership and setting of objectives, the appropriateness of our skill level and how well our members work and communicate with each other and with others. In addition, each director completes a separate questionnaire concentrating on his individual input to the Board and his specific training requirements.

Additionally, Ricardo's auditors and remuneration consultants provide an evaluation on the performance of our Audit and Remuneration Committees respectively.

Following completion of these questionnaires, Michael Harper conducts one-to-one interviews with each director and the Company Secretary. David Hall conducts one-to-one interviews with each director, in the absence of Michael Harper, on his performance as Chair of the Board.

The results of the evaluation are analysed and reviewed by the Board in conjunction with the progress made on the previous year's objectives. During the year under review, the Board's objectives included, amongst other things, continuing focus on improving quality of earnings and shareholder value; key risks and mitigation plans; and talent management and succession planning; the Board considers it has made good progress against many of its objectives.

Overall, the conclusion from the evaluation and appraisal process was positive with each director actively contributing to the effectiveness of the Board and the Committees of which he is a member.

## BOARD COMMITTEES

Our Board has Nomination, Audit and Remuneration Committees. Written terms of reference for each committee are reviewed annually and are available on our website, [www.ricardo.com](http://www.ricardo.com) or on request from the Company Secretary.

### Remuneration Committee

#### Composition

The Remuneration Committee, which is chaired by Peter Gilchrist, comprises the independent non-executive directors Ian Lee, Hans-Joachim Schöpf, Peter Gilchrist, David Hall, Terry Morgan (since appointment) and Michael Harper.

#### Responsibilities

During the year, the Committee had five scheduled meetings. The work of the Committee, including the Chairman's Overview, is described in the Directors' Remuneration Report on pages 55 to 70. The Directors' Remuneration Report is the subject of a binding vote by shareholders at the 2014 Annual General Meeting. In preparation for this vote, Peter Gilchrist took the opportunity to brief and meet major shareholders on the proposed Long Term Incentive Arrangements for the executive directors.

## Nomination Committee



### Chairman's overview

A key focus during the year has been the appointment of a Deputy Chairman to succeed me in October 2014. This appointment was managed in conjunction with the JCA Group. Further details of this process are included in the Responsibilities section below.

In addition, we continued to focus on talent management and succession planning for management below board level.

### Michael Harper

### Composition

The Nomination Committee, which is chaired by Michael Harper, comprises the independent non-executive directors Ian Lee, Hans-Joachim Schöpf, Peter Gilchrist, David Hall, Terry Morgan (since appointment) and the Chief Executive Officer, Dave Shemmans.

The Committee has one scheduled meeting per year, which is supplemented by ad hoc meetings as necessary and informal meetings between the Committee members.

### Responsibilities

The Committee:

- Evaluates the balance of skills, knowledge and experience on the Board;
- Monitors the leadership needs and succession planning of the Company;
- Considers the training needs of the executive and non-executive members;
- Regularly reviews the structure, size and composition of the Board; and
- Makes recommendations to the Board for executive and non-executive appointments.



Before such recommendations are made, descriptions of the skills and experience required in fulfilling these roles are prepared for particular appointments. To attract suitable candidates, appropriate external advice is taken and interviews conducted by at least two members of the Nomination Committee to ensure a balanced view.

The search for our new Chairman during the year was managed with the assistance of recruitment consultants JCA Group, who have signed up to the voluntary Code of Conduct for executive search firms. Our Chairman, Michael Harper, did not take part in the selection process. The JCA Group provided a shortlist of candidates who were interviewed by David Hall, Ian Lee and Peter Gilchrist before it was agreed to offer the role to Terry Morgan CBE. Terry has undertaken an extensive induction programme to ensure a rounded understanding of the business and our ambitions. Terry joined the Board as Non-Executive Director and Deputy Chairman with effect from 2 January 2014. The JCA Group has no other connection with the Company.

The Committee recognises the need for diversity, in its broadest sense, when considering the composition of the Board. Diversity in all its aspects, including gender diversity, continues to be important to the Company. The Board's policy on diversity is set out on page 45.

The Committee has spent time looking at succession planning for the Executive Director team as well as for the Board over the medium term. We have also discussed talent management and

succession planning for the top managers in the business.

When an appointment of a non-executive director is made, a formal letter is sent setting out clearly what is expected regarding time commitment, committee membership and involvement outside Board meetings. The chosen candidate is required to disclose to the Board any other significant commitments before the appointment can be ratified.

The Chairman of the Committee is the Chairman of the Board, Michael Harper, except when a new Chairman of the Board is being sought as in the appointment of Terry Morgan, when it is the Senior Independent Director, David Hall.

Non-executive directors, including the Chairman, are subject to rigorous review when they continue to serve on the Board for any term beyond six years.

### Succession Planning

Name	Date of Appointment	Tenure
Michael Harper	June 2003	11 years
David Hall	February 2006	8 years
Ian Lee	August 2008	6 years
Hans-Joachim Schöpf	July 2009	5 years
Peter Gilchrist	December 2010	4 years
Dave Shemmans	February 2005	9 years
Mark Garrett	July 2008	6 years
Ian Gibson	July 2013	1 year
Terry Morgan	January 2014	6 months

## Audit Committee



### Chairman's overview

During the year the Audit Committee has kept abreast of the ongoing consultations on audit reform and implemented new processes and reporting to deal with the revised Code requirements and narrative reporting. Last year I noted in my report the key audit and accounting issues that the Committee had considered, along with their resolution. This year, the Committee has reviewed the guidance that has emerged and has reported below on its consideration of key judgements and estimates, taking account of such guidance. While risk strategy and risk appetite are matters for the whole Board, the oversight of

the processes that underlie risk assessment and internal control are delegated to the Audit Committee. We receive reports from the Head of Internal Audit on the risk and project management processes and outcome, the planned scope and results of internal audits and the results of the review of internal control processes. Last year the audit committee advised the Board on the early adoption of its statement that the Report and Accounts, taken as a whole, were fair, balanced and understandable and provide the information necessary for shareholders to assess the Company's performance, business model and strategy. This year the Committee reviewed the further guidance that has emerged on such reporting, developed its approach in the context of this guidance and accordingly advised the Board on this year's statement.

### Ian Lee

### Composition

The Audit Committee, which is chaired by Ian Lee, comprises the independent non-executive directors Hans-Joachim Schöpf, David Hall, Terry Morgan and Peter Gilchrist.

The Committee's Chairman, Ian Lee, has recent and relevant financial experience and a professional accountancy qualification as considered desirable by the Financial Reporting Council's Guidance on Audit Committees issued in September 2012.

The executive directors, Michael Harper and the Company's external auditors have standing invitations to attend all Committee meetings. In addition, the Committee meets our external auditors and the Head of Internal Audit at least once a year without management being present.

The Committee has three scheduled meetings per year and ad hoc meetings as required.

### Responsibilities

The Committee is established by, and is responsible to, the Board. Its main responsibilities are:

- To monitor and be satisfied with the truth and fairness of the Company's financial statements before submission to the Board

- for approval, ensuring their compliance with the appropriate accounting standards, the law, the Listing Rules of the UK Listing Authority and the Disclosure And Transparency Rules;
- To review the Company's internal financial controls and internal control and risk management systems, and to review the effectiveness of the internal audit function and ensure that it is adequately resourced;
- To make recommendations to the Board in relation to the appointment and re-appointment of the external auditors and their remuneration, before appointment or re-appointment by the shareholders in general meeting, and to review the scope and planning of the audit and be satisfied with the auditors' independence, objectivity and effectiveness on an ongoing basis;
- To review the content of the Annual Report and Accounts and advise the Board on whether, taken as a whole, they are fair, balanced and understandable and provide the information necessary for shareholders to assess the Company's performance, business model and strategy;
- To establish and oversee the Company's arrangements for employee disclosure and fraud prevention arrangements within the Company; and

- To implement the policy relating to any non-audit services performed by the external auditors.

Ian Lee meets regularly with the Head of Internal Audit and executive management on matters of risk, controls, audit and accounting.

The Audit Committee receives reports from management and internal audit on the effectiveness of the system of internal controls and risk management systems. The Committee also receives from the external auditors a report of matters arising during the course of the audit which the auditors deem to be of significance for the Audit Committee's attention.

The Committee meeting in September carried out a full review of the year end financial statements and of the audit, using as a basis reports prepared by the Chief Financial Officer and the external auditors and taking into account any significant accounting policies, any changes to them and any significant estimates or judgements.

Questions are asked of management in relation to any significant or unusual transactions where the accounting treatment could be open to different interpretations. A similar, but less detailed review is carried out in February when the Interim Report is considered.

The Committee also reviewed the processes to assure the integrity of the Annual Report and Accounts, in particular that the information presented in the report, when taken as a whole, is fair, balanced and understandable and contains the information necessary for shareholders to assess the Company's performance, business model and strategy.

The Audit Committee is authorised by the Board to seek and obtain any information it requires from any officer or employee of the Company and to obtain external legal or other independent professional advice as is deemed necessary by it.

The February meeting also considers, amongst other things, the Company's approach to risk appetite.

The July meeting focuses on the risk management process, the results of internal audits for the year, the plan for the following year and reviews the ethics and whistle-blowing processes.

The topics covered by the Committee during the year under review included:

- Review of any significant financial reporting issues and judgements in respect of the half-year results and year-end accounts;
- Review of any significant matters raised by the internal auditors;
- Consideration of the audit fee and the balance between audit and non-audit fees;
- Developments regarding auditor reforms in the European Union;
- Annual review of the terms of reference of the Committee;
- Auditor independence and effectiveness;
- Recommendation for the re-appointment of the auditors;
- System of internal control; and
- Risk management systems

### Significant financial reporting issues considered by the Audit Committee

The Committee considers reports from the Chief Financial Officer and Group Risk Manager and reports from the outcome of the half-year review and annual audit. The Committee supports PricewaterhouseCoopers LLP in displaying the necessary professional scepticism their role requires.

The Committee considered the following significant issues in approving the 2014 financial statements:

#### Carrying value of goodwill

The total value of goodwill as at 30 June 2014 is £25.1m as outlined in note 11 'Goodwill'. The Group carries out an impairment review of goodwill on an annual basis or more frequently if events or changes in circumstances indicate a potential impairment. The estimation of the recoverable amount of goodwill supported by the Group's cash generating units (CGU) requires considerable judgement. The business in Germany made a loss in the year ended 30 June 2014.

The Committee received reports from senior management detailing their analysis and assumptions used when performing the impairment review. In particular, the Committee reviewed and challenged the assumptions used to assess the value of the German CGU and was satisfied with the carrying value of goodwill. Business plans are reviewed and approved by the Board. In addition, this matter is a key focus of the external audit.

#### Deferred taxation

The Group holds a £9.2m deferred tax asset in relation to accumulated tax losses and credits as outlined in note 23 "Deferred tax". A key management judgement is the extent to which a deferred tax asset should be recognised in respect of accumulated tax losses and credits. As in the prior year, no further deferred tax asset has been recognised in relation to the current year loss in Germany.

The Committee addressed this issue through reporting from senior management and a process of critically evaluating and challenging the appropriateness of management's plans and expectations for future taxable profits. The Committee satisfied themselves on the carrying value of the deferred tax asset. In addition, this matter is a key focus of the external audit.

#### Capitalisation of development costs

Certain directly attributable costs which are incurred in the development of an intangible asset are capitalised. These costs are recognised as an asset once the Group has determined that it has the intention and the necessary resources to complete the relevant project, it is probable that the resulting asset will generate economic benefits for the Group and the attributable expenditure can be measured reliably. Determining whether it is probable that the resulting asset will generate economic benefit requires management judgement. During the year ended 30 June 2014, £3.0m of development costs have been capitalised.

The Committee received reports from senior



management detailing their analysis and assumptions used when assessing whether the costs incurred met the requirements for capitalisation under IFRS, and was satisfied that the level of capitalisation was appropriate. In addition, this matter is a key focus for the external audit.

### Warranty provisions

Provisions for warranty costs are recognised at the date of sale for relevant products. The closing provision represents the directors' best estimate of the expenditure required to settle the Group's obligations at the end of the reporting period.

The Committee questioned management on the underlying principles and the application of the provisioning methodology for relevant products. The Committee was satisfied with the principles, provisioning methodology and judgements made by management. In addition, this matter is a key focus of the external audit.

### Internal Audit

The internal audit function is centrally managed and is led by suitably skilled staff from head office or parts of the business independent from the business or function being audited. It is resourced by staff from around the Group with suitable skills, experience and independence for the area they are auditing.

Where relevant, external specialists are used to supplement internal resources where specialist knowledge is required. This approach not only ensures independence in the process but also the relevance of the recommendations and the sharing of best practice around the Group.

As part of the annual process the Committee's review includes:

- The internal audit process, the audit plan and resources;
- The internal audit reports and management's response to the findings and recommendations; and
- Meetings with the Head of Internal Audit without management being present and the Head of Internal Audit is invited to attend audit committees where considered appropriate.

The Audit Committee considers that the internal audit process is an effective tool in the overall context of the Company's risk management system.

### Whistle-blowing, ethics and fraud prevention

Internal audit scope includes a review of compliance with Group policies, including on established whistle-blowing, ethics (including Bribery Act related matters) and fraud prevention policies.

The whistle-blowing policy is designed to deal with concerns, which must be raised without malice, in relation to specific issues which are in the public interest and which fall outside the scope of other Company policies and procedures. The whistle-blowing policy is overseen by Ian Lee, and has been reviewed during the year; it is promoted via the staff briefing process and the Company's intranet site.

Two matters were reported to the Committee and, following

investigation by senior management, disciplinary action was taken and a review of systems and revised controls were put in place.

The Committee has completed its review of the effectiveness of the Group's systems of internal control during the year and up to the date of the Annual Report, in accordance with the requirements of the revised Turnbull Guidance on Internal Control, published by the FRC. The Committee confirms that no significant failings or weaknesses were identified in the review for 2013/14.

### External Audit

PricewaterhouseCoopers LLP were appointed as external auditors in 1990 and no formal tender for audit services has been conducted since appointment. One of the Committee's duties under its Terms of Reference is to ensure that at least once every ten years, commencing 1 July 2013, the audit services contract is put out to tender to enable the committee to compare the quality and effectiveness of the services provided by the incumbent auditor with those of other audit firms.

The external auditors are required to give the Committee information about policies and processes for maintaining their independence and compliance with requirements regarding the rotation of audit partners and staff.

The Committee considers all relationships between the external auditors and the Company to ensure that they do not compromise the auditors' judgement or independence, particularly with the provision of non-audit services. A policy relating to these has been agreed by the Board.

Essentially the external auditors would be excluded from carrying out non-audit services if they are either put in the position of auditing their own work, are making management decisions for the Company, or if a mutual interest between the Company and the auditors is created, or if the auditors take on the role of an advocate for the Company.

Our policy in respect of services provided by the external auditors is as follows:

#### Audit-related services

The external auditors are invited to provide services which, in their position as auditors, they must undertake or are best placed to undertake. This includes review of the interim results and any other review of the accounts for regulatory purposes; assurance work related to compliance and corporate governance, including high-level controls; work in connection with listing particulars and prospectuses (if required); regulatory reviews or reviews commissioned by the audit committee; and accounting advice and reviews of accounting standards.

#### Tax consulting

In cases where they are best suited, we may use the external auditors provided that such advice does not conflict with the external auditors' statutory responsibilities and ethical guidance.

#### General consulting

There may be occasions when the external auditor is best placed

to undertake other accounting, advisory and consultancy work on behalf of the Company due to their in-depth knowledge of the Company. However, the following are specifically prohibited:

- Work related to accounting records and financial statements that will ultimately be subject to external audit;
- Management of, or significant involvement in, internal audit services;
- Secondments to management positions that involve any decision-making;
- Any work where a mutuality of interest is created that could compromise the independence of the external auditor; and
- Any other work which is prohibited by UK ethical guidance.

If the external auditors carry out non-audit services and the cost of these services is estimated to exceed £50,000 or in aggregate more than 100 percent of the audit fees, prior approval by the Committee is required.

The split between audit and non-audit fees for the year ended 30 June 2014 and information on the nature of non-audit fees appear in note 4 to the accounts.

Both the Board and the external auditors have for many years had safeguards in place to avoid the possibility that the auditors' objectivity and independence could be compromised.

The Committee carried out a formal effectiveness assessment of the external auditors, including:

- The continuity and objectivity of the audit partner and audit team;
- Effectiveness of audit planning and execution;
- The role of management in ensuring an effective audit;
- Communication with and support of the Audit Committee; and
- The formal reporting of the auditor.

The assessment was completed with input from an internal questionnaire completed by senior and relevant Finance staff.

The Committee considered a report on the audit firm's own internal quality control procedures, as well as consideration of the audit firm's annual transparency report.

In addition, the Committee considered the developments regarding auditor reforms in the European Union.

The Audit Committee confirms that during the year it has maintained formal and transparent arrangements for considering corporate reporting, risk management and internal control and for maintaining an appropriate relationship with the Company's auditors.

The Audit Committee has recommended to the Board that the reappointment of PricewaterhouseCoopers LLP be proposed to shareholders at the 2014 Annual General Meeting.

## RISK AND ACCOUNTABILITY

The Board has overall accountability for ensuring that risk is effectively managed across the Group and, on behalf of the Board, the Audit Committee reviews the effectiveness of the Group's risk management processes.

We consider that effective risk management is critical to the

achievement of Ricardo's strategic objectives and the long-term sustainable growth of our business. That said, such systems are designed to manage rather than eliminate the risk of failure to achieve Ricardo's objectives and can only provide reasonable assurance against material misstatement of loss.

Risks are reviewed by all business areas on a half-yearly basis and measured against a defined set of likelihood and impact criteria. This is captured in consistent reporting formats, enabling Internal Audit and Risk to consolidate the risk information and summarise the key risks in the form of the Group Risk Profile ahead of it being submitted to the Board for final approval.

As part of the risk management process, directors and senior managers are required to certify on a bi-annual basis that they have established effective controls to manage risk and to comply with legislation and Group procedures and disseminated Group policies.

Ricardo's internal control and monitoring procedures include:

- Clear and understood responsibility on the part of the line and financial management for the maintenance of good financial controls and the production of accurate and timely management information;
- Control of key financial risks through clearly laid down authorisation levels and appropriate segregation of accounting duties, the control of key project risks through project delivery and review systems and the control of other key business risks via a number of processes and activities recorded in the Group Risk Register;
- Detailed monthly forecasting and reporting of trading results, balance sheets and cash flow, with regular review by management of variances from budget;
- Reporting on compliance with internal financial controls and procedures by Group Internal Audit; and
- Review of reports by external auditors.

To ensure our risk process drives improvement across the business, we monitor ongoing status and progress of key action plans against each risk on a half-yearly basis. Risk is a key consideration in all strategic decision-making at Board level.

## Principal risks and uncertainties

In common with all businesses, we face risks and uncertainties on a daily basis. It is the effective management of these that places us in a better position to be able to achieve our strategic objectives and to embrace opportunities as they arise.

The Group has risk management processes in place for projects and other business risks. Contract risks are managed through a project management process which is closely linked to financial performance measurement. Non-contract risks are controlled by the leaders of global product groups, Group functions and divisional managing directors. These

non-contract risks are analysed and reviewed regularly and are recorded in the Group's Risk Register in liaison with the Group's Risk Manager, who has an independent reporting line to the Chairman of the Audit Committee. The Group's approach to risk management is to identify key risks early and to remove, control or minimise the impact of them before they occur.

Risk appetite is managed by a number of internal controls via authority limits as well as setting excesses on insurances.

We comply with the Code by:

- Classifying individual risks on the register as either strategic or operational and as either internally or externally driven; they are

evaluated on a gross and net risk basis

- The Chief Executive Officer reviewing higher-rated risks on the register with the Board twice each year

We set out below details of our principal risks, the mitigating activities in place to address them and additional actions implemented to further reduce net risk to the Group. It is recognised that the Group is exposed to a number of risks, wider than those listed. Additional risks and uncertainties not presently known to management, or currently deemed to be less material, may also have an adverse effect on the business.

**Customers and markets**

The Group is largely dependent on a dynamic marketplace which is exposed to many external pressures, competition and structural change caused by global economic, cost-base, environmental and capacity concerns.

**Impact**

This could cause changes in client product plans or government policy leading to delays in the placement of orders, the redirection, delay or curtailment of contracts, slippage in payments or variations in demand for resources. The precise timing of order receipt and rate of ramp-up of project workload delivering the subsequent revenue, profit and cash streams may give some volatility in our ability to forecast future performance.

**Mitigation**

These risks are mitigated by the strategy of broadening the base of the business to reduce exposure to any one specific client, territory or market sector, and the success of this strategy is measured by the key performance indicators for client dependency and sector dependency shown on page 14 and by the geographic spread disclosed in the note 3 to the accounts. In the event of a sudden downturn, contingency plans are quickly deployed to minimise the short-term performance effects and preserve cash whilst protecting the long-term needs of the stakeholders. The impact of insolvency risk is mitigated by robust working capital management and the use of credit insurance where this is economically available.

**Contract performance**

The majority of the Group's revenue arises from fixed-price contracts for engineering and environmental consulting services. The costs and liabilities to complete these contracts may be different from initial estimates, thus reducing or increasing margins and project timescales. In low-volume manufacturing there is a risk of dependency on specialist suppliers or product liability or recall or warranty claims.

**Impact**

Onerous contract terms, failure to perform on contracts, the infringement of the rights of others, or a faulty product could potentially subject the business to a claim from a customer and loss of reputation or reduced opportunity for repeat business or increased costs. On contracts where we exceed planned performance, additional profits may be generated. Failure of production processes or product validation could lead to warranty or recall claims. Failure or poor performance of a supplier could disrupt delivery to clients and increase operating costs.

**Mitigation**

These risks are proactively managed by clearly defined lead qualification, bidding and project management processes, whereby projects are categorised according to their risk level, which in turn dictates the level of approval or review required. Internal procedures are in place to ensure that the technical content of our output is of good quality and meets client requirements without infringing the rights of others. These processes are subject to continued improvement focus with the central leadership of the Chief Operating Officer and the Director of Engineering and Programmes, and are core to our strategy. Procurement processes are in place to assess critical suppliers and selections are often made with the involvement of the client. In low-volume manufacturing there are rigorous quality assurance processes in place to reduce the risk of product liability, warranty and recall claims.

**People**

Ricardo is a business that is knowledge-driven and people-led, with a focus on attracting and retaining the best talent. Recruiting, developing and retaining talent and knowledge are essential.

**Impact**

The failure to recruit, develop or retain the very best talent would restrict growth and the execution of the strategy and have an impact on delivery and client relationships.

**Mitigation**

We are focusing on a model of 'bringing in and bringing on' the best talent. We aim to ensure that we actively develop and manage staff to encourage their optimum contribution, encourage mobility, professional development and provide appropriate remuneration and working conditions. Employees as stakeholders are reviewed further on pages 30 and 31.



<p><b>Technology</b></p> <p>The business is driven by changes in technology to meet the needs of markets, sectors and regulators on varying time scales.</p>	<p><b>Impact</b></p> <p>If the Group invests in the wrong technologies it could lose marketplace advantage and business levels could reduce. If there are delays in the implementation of new regulations, which in turn delay client programmes dependent on new technology, the time taken to deliver returns from our R&amp;D programmes may also increase.</p> <p><b>Mitigation</b></p> <p>Our R&amp;D programmes are developed in consultation with clients and many programmes are collaborative. We use established and proven road-mapping processes to produce these plans. This creates stronger links to the market and reduces the risk of sudden curtailment. The direction of R&amp;D is regularly reviewed by our Technology Exploitation Board, which is chaired by the Chief Technology &amp; Innovation Officer. Further details of our R&amp;D programmes are given on pages 24 and 25.</p>
<p><b>Compliance with laws and regulations</b></p> <p>The Group's operations are subject to a wide range of domestic and international laws, regulations and restrictions.</p>	<p><b>Impact</b></p> <p>Non-compliance with these laws, regulations and restrictions could expose the Group to fines, penalties or loss of reputation, or result in trading restrictions which could have a material adverse effect on the business.</p> <p><b>Mitigation</b></p> <p>To mitigate these risks the Group has a number of defined policies and operating procedures, and takes professional advice, where considered necessary, to ensure that employees and others act with the highest ethical standards and within local legal and regulatory requirements. Our Code of Conduct is published on <a href="http://www.ricardo.com">www.ricardo.com</a> to increase awareness and provide availability to external stakeholders. Also, the Group's internal audit programme includes within its remit the review of compliance with applicable legislation and regulations and awareness of key policies. Policies are updated as regulations change and as our knowledge of best practice increases. We aim to anticipate the effects of working in new sectors, particularly defence, which adds to the range of regulations and laws with which we need to comply.</p>
<p><b>Defined benefit pension scheme</b></p> <p>The Group has a UK defined benefit pension scheme which currently has a funding deficit.</p>	<p><b>Impact</b></p> <p>Any decline in the value of the pension fund assets, improvement in the life expectancy, long periods of high inflation or future decreases in interest rates could increase the funding deficit and require additional funding contributions in excess of those currently expected.</p> <p><b>Mitigation</b></p> <p>The current UK funding plan was agreed on the basis of a valuation undertaken at 5 April 2011 and anticipates deficit recovery contributions being made until 2016. The Group also closed the pension fund to future accrual on 28 February 2010. In addition the Group regularly monitors the performance of the pension fund.</p>
<p><b>Financing</b></p> <p>The Group can be in a borrowing position, requiring some borrowing from its bankers.</p>	<p><b>Impact</b></p> <p>There is a risk of the Group being unable to secure sufficient funds or the cost of funds and facilities being high.</p> <p><b>Mitigation</b></p> <p>This risk is managed by robust cash management, regular improvement initiatives, monitoring forecast and actual cash flows, maintaining good relationships with the Group's bankers and ensuring sufficient borrowing facilities are in place at all times to support the Group's requirements, with additional headroom available to meet possible downside scenarios. The Group has ample facility and covenant headroom. Further details of the Group's borrowing facilities and other financial risks can be found in note 21 to the financial statements.</p>

### Risk Management and Internal Control

Internal Audit and Risk comprises both the Group Risk and Internal Audit functions. Whilst Group Risk facilitates and manages the risk process that is ultimately owned by the Board, Internal Audit is accountable to the Audit Committee.

The following examples illustrate how Internal Audit work supports Group Risk whilst driving improvements to our control environment and adding value in core business areas.

- Project reviews look at a range of risk and process control areas across projects in divisions and identify best-practice techniques which can be shared across divisions, and lessons learned have been applied;
- Selected in-depth process reviews evaluate control risks and efficiency, leading to re-evaluation of risks during the risk review processes;
- Testing of controls and process awareness in our Fraud and Bribery Risk Assessment have led to streamlining our process around the management of intermediaries

Management actions from all of our audits are tracked to completion and the status of these actions is reported to the Audit Committee to ensure that the risks identified are appropriately addressed.

### SHAREHOLDER DIALOGUE

The Chief Executive Officer and the Chief Financial Officer regularly meet with institutional shareholders to foster a mutual understanding of objectives, answer their questions and to keep them updated on our performance and plans.

These meetings range from one-to-one discussions to Group presentations and investor conference calls following our results announcements. Any presentations provided in these meetings are uploaded to our website and comments are fed back to us.

Shareholders' and analysts' days were held at our Shoreham Technical Centre in December 2013, allowing shareholders and investors to meet senior management and board directors, visit non-confidential engineering projects and receive presentations on Ricardo's strategy.

Additionally, the Chairman communicates with key shareholders at least once a year and both the Chairman, the Senior Independent Director and the Chairman of the Audit Committee are available for discussions with

major shareholders if required. The Chairman also looks to shareholder groups' annual voting guidelines to better understand their policies on governance and voting.

In preparation for the binding vote by shareholders on the Remuneration Report at the 2014 Annual General Meeting, Peter Gilchrist, Chairman of the Remuneration Committee, took the opportunity during the summer to brief and meet major shareholders on the proposed Long Term Incentive Arrangements for the executive directors.

For an independent view, Investec, the capital markets advisory firm, provides us with regular reviews of major investors' views on Company management and performance. Surveys of shareholder opinion are normally carried out following announcements of results and are circulated to the Board.

### Ricardo's AGM

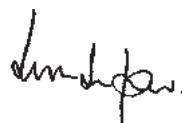
The Notice of Meeting sets out the resolutions being proposed at the Annual General Meeting (29 October 2014 at 10.00am). Last year all resolutions were passed with votes ranging from 99% to 100%. Shareholders unable to attend the AGM are encouraged to vote in advance of the meeting.

The Annual General Meeting ("AGM") in November 2013 was attended by all directors in office at the time of the meeting. The directors encourage the participation of all shareholders, including private investors, at the AGM and as a matter of policy the level of proxy votes (for, against and vote withheld) lodged on each resolution is declared at the meeting and displayed on the Company's website.

Ricardo's website ([www.ricardo.com](http://www.ricardo.com)) contains a wealth of information, including:

- Latest Ricardo news, Stock Exchange announcements and press releases;
- Annual Report and Investor presentations.

The Corporate Governance Statement was approved by the Board on 10 September 2014 and signed on its behalf by:



**Michael Harper**  
Chairman of the Board



**Ian Lee**  
Chairman of the Audit Committee

# Directors' Remuneration Report



## Chairman's overview

This is my first year as the Chairman of Ricardo's Remuneration Committee ("the Committee") and I would like to thank my predecessor, David Hall, for all he did to get the policy in such good shape. I am pleased to present our Directors' Remuneration Report for 2014, for which we will be seeking your approval at our Annual General Meeting.

Although we moved towards the new reporting format last year, this is the first year in which the new disclosure and voting regime applies directly to us. You will see that there are two principal sections to this report: the first part summarises the policy of the Board as regards the remuneration of the directors, and is a re-statement of the existing policy in light of the new regulations. The second part describes how that policy has been implemented during the year.

The policy section will be put to a binding vote at the AGM, as it will be every three years unless there are compelling reasons for changes to our policy requiring shareholder approval. The implementation section of Annual Report on Remuneration will continue to be put to the AGM each year on an advisory vote basis.

The Committee has always aimed to be clear and transparent in matters of remuneration

and we hope that the new report format continues this approach by being informative and easy to understand. As always, we welcome feedback from shareholders on both the content and style of the report.

### 2013/14 performance and remuneration

During the year ended 30 June 2014, Ricardo delivered good trading results, with a strong contribution from the Performance Products segment in particular. Revenue increased 3% compared to the previous year and effective cost control measures led to an 8% growth in underlying profit before tax to £24.6m. The order book ended the year at a record level of £142m. The decisions made in relation to executive remuneration outcomes by the Committee were taken within this context.

Annual bonuses for executive directors, which are based on a combination of Group profit before tax, cash balance and the achievement of individual objectives, paid out at 48%, 36% and 35% of base salary for the Chief Executive, Chief Financial Officer and Chief Operating Officer, respectively (the equivalent to 38%, 36% and 35% of maximum opportunity, respectively).

Awards that vested in October 2013 related to the performance period ending in 2012/2013, and are included in the single figure table for 2012/2013. Awards under the Long-term Incentive Plan ("LTIP") made in November 2011 will vest in November 2014 and the outcome of this award will be disclosed in next year's Annual Report as the performance period will end in the next financial year.

The Remuneration Committee, after considering other options, has decided that



the broad remuneration framework and policy voted on last year remains right for the company and shareholders and therefore decided not to make any changes. The decisions we have taken within the terms of our existing policies have been designed to both reward superior performance that benefits shareholders and focus management on delivering the agreed business strategy.

Ricardo introduced the Executive Share Option Plan ("ESOP") in 2004 and it will lapse on the tenth anniversary of shareholder approval. At the AGM, we intend to seek shareholder approval to renew the ESOP in order to give the Company flexibility to make awards below Board level. (There is no intention to make any awards to executive directors and the ability to do so is not part

of our remuneration policy described on the following pages.) Given the 2006 LTIP will also expire relatively soon, we believe it to be most prudent to seek shareholder approval to renew this plan at the same time.

It is pleasing that the Committee has generally received considerable shareholder support and I am grateful to our shareholders for this. As appropriate, the Committee will continue to engage and communicate with shareholders regarding Ricardo's remuneration policy and to take suitable action when required. This year I have included below a summary of the executive directors' remuneration packages at a glance.

**Peter Gilchrist**

**The executive directors' remuneration arrangements – at a glance**

	<b>Dave Shemmans</b>	<b>Ian Gibson</b>	<b>Mark Garrett</b>
Base salary	£440,000 (effective 01/01/2014)	£283,250 (effective 01/01/2014)	£247,200 (effective 01/01/2014)
Annual bonus	Maximum opportunity of 125% of salary Based on PBT (60%), cash (15%) and personal targets (25%) 50% of any bonus to be deferred into shares for three years	Maximum opportunity of 100% of salary Based on PBT (60%), cash (20%) and personal targets (20%) 50% of any bonus to be deferred into shares for three years	Maximum opportunity of 100% of salary Based on PBT (60%), cash (20%) and personal targets (20%) 50% of any bonus to be deferred into shares for three years
Matching shares	Matching award of shares on bonus deferred of up to 1:1 basis Subject to three-year performance conditions: 50% EPS growth, 50% TSR vs FTSE Small Cap Index	Matching award of shares on bonus deferred of up to 1:1 basis Subject to three-year performance conditions: 50% EPS growth, 50% TSR vs FTSE Small Cap Index	Matching award of shares on bonus deferred of up to 1:1 basis Subject to three-year performance conditions: 50% EPS growth, 50% TSR vs FTSE Small Cap Index
LTIP	Annual award of shares of face value of 100% of base salary Vesting subject to three-year performance conditions: 50% EPS growth, 50% TSR vs FTSE Small Cap Index	Annual award of shares of face value of 55% of base salary Vesting subject to three-year performance conditions: 50% EPS growth, 50% TSR vs FTSE Small Cap Index	Annual award of shares of face value of 55% of base salary Vesting subject to three-year performance conditions: 50% EPS growth, 50% TSR vs FTSE Small Cap Index
Pension	21.2% of salary over Lower Earnings Limit Transitional death in service pension provision arrangements until 2015	20% of salary over Lower Earnings Limit	20% of salary over Lower Earnings Limit
Other benefits	Company car allowance: £17,500 Private fuel Private medical insurance Life assurance	Company car allowance: £12,000 Private fuel Private medical insurance Life assurance	Company car allowance: £12,000 Private fuel Private medical insurance Life assurance
Share retention policy	100% of base salary	100% of base salary	100% of base salary

## Directors' Remuneration Policy

### Remuneration policy

This policy report outlines the framework of Ricardo's remuneration strategy for the next three years and will be effective from its approval at the AGM. There are no substantial changes since the policy was voted on at the 2013 AGM.

The objective of Ricardo's executive remuneration policy is to provide remuneration packages that will reward and thereby retain talented people in the business and enable the recruitment of appropriately skilled and experienced

newcomers. Therefore, the executive remuneration policy is to set levels of base salary that are competitive - compared with relevant companies of similar size and complexity to Ricardo - and to provide other remuneration package elements, namely the annual bonus plan and long-term incentive schemes, that give the senior management team the opportunity to receive upper quartile earnings for superior individual and corporate performance.

### Executive directors' remuneration policy

Pay element and link to strategy	Maximum	Operation
<p><b>Base salary</b></p> <p><i>To provide a core level of remuneration to enable the Company to attract and retain skilled, high-calibre executives to deliver its strategy</i></p>	<p>There is no prescribed maximum annual increase. However, generally speaking, increases will be in line with salary increases for employees across the Group.</p>	<p>Salary levels are reviewed annually in January each year.</p> <p>Pay is set by considering market levels of total pay for comparable roles in companies of similar size, complexity and sector, as well as each individual director's experience, scope of responsibilities and performance and the salary increases for employees across the Group.</p> <p>Ricardo places a strong emphasis on internal succession planning. This emphasis may mean that talented individuals are promoted rapidly. In such circumstances, the Committee's policy is to set a relatively low base salary initially and then increase this to a market competitive level for the role over time. This may mean relatively high annual salary increases as the individual gains experience in the new role.</p>
<p><b>Pension</b></p> <p><i>To offer market competitive retirement benefits</i></p>	<p>For the Chief Executive Officer, the pension contribution is 21.2% of salary due to legacy pension arrangements.</p> <p>It is 20% of salary over the Lower Earnings Limit for other executive directors.</p>	<p>The Company operates a Defined Contribution Scheme, the Ricardo International Pension Scheme ("RIPS"). The policy for executive directors continues to be a pension contribution of 20% of base salary over the Lower Earnings Limit. Pension is calculated on base salary only. Contributions are made up to the annual allowance limit and the rest paid as cash in lieu of pension.</p> <p>Executive directors may only choose to opt out of the RIPS where they are close to or have exceeded the pension lifetime allowance and have applied for fixed protection from HMRC. Under such circumstances, executive directors will receive cash payment in lieu of pension.</p> <p>On death in service, all executive directors, subject to the medical requirements of the insurance company, are entitled to a lump sum of four times annual salary at date of death.</p> <p>Early retirement is available with the consent of the Company and the trustees if the individual is over 55 or retiring due to ill health.</p> <p>The same policy approach applies to all employees although contribution levels vary by seniority.</p> <p>Under the transitional arrangements to the Defined Contribution Scheme, the Chief Executive Officer is also entitled to a death in service benefit which is a protected term as carry-over from the Defined Benefit arrangement such that he is entitled to a spouse's pension of 35% of annual salary and a pension per child of 12.5% of annual salary, subject to a maximum limit of 25%, until the child attains the age of 18 (or 21 if in full time education). This benefit will end on 31st Jan 2015 and he will then become entitled to death in service benefits in line with other executive directors, as described above.</p>
<p><b>Other benefits</b></p> <p><i>To provide market competitive benefits</i></p>	<p>The cost to the Group of providing such benefits will vary from year to year in accordance with the cost of insuring such benefits.</p>	<p>The Company provides other cash benefits and benefits in kind to executive directors in line with market practice. These include a company car or cash alternative, private fuel, private medical insurance, life assurance and permanent health insurance. The benefits arrangements are reviewed on an annual basis.</p> <p>Certain other employees are eligible for the same or similar benefits described above depending on their role, seniority and geographical location.</p>

Pay element and link to strategy	Maximum	Operation
<p><b>Annual bonus</b>  <i>To reward the annual delivery of financial and operational targets</i></p>	<p>Maximum opportunity of 125% of base salary for the CEO and 100% of salary for other executive directors.</p>	<p>Executive directors participate in the annual bonus plan. Under this plan, payouts are based on performance measured against:</p> <ul style="list-style-type: none"> <li>• Group PBT;</li> <li>• Group cash balance; and</li> <li>• achievement of individual strategic objectives. Individual objectives vary from year to year but our policy is to set goals which relate to achievement of the business strategy. Examples include the development and efficient execution of the strategic plan, developing the business in emerging markets, identifying opportunities for inorganic growth and succession planning.</li> </ul> <p>The performance targets and weightings are reviewed annually to ensure alignment to strategy. The weighting of the Group PBT portion will be at least 50% of total bonus opportunity.</p> <p>The choice of these measures, and their respective weightings for each individual, reflected the Committee's belief that any incentive compensation should be tied both to the overall performance of the Group and to those areas of the business that the relevant individual can directly influence and will be disclosed at the end of the performance period.</p> <p>A payment scale for different levels of achievement against each performance target is specified by the Committee at the outset of each year - these range from 0% for below threshold performance up to 100% for full satisfaction of the relevant target.</p> <p>One half of any bonus paid to an executive director will be compulsorily deferred into ordinary shares, the vesting of which is normally subject to continued employment for a three-year period from the award date.</p> <p>The principal purpose of this bonus deferral mechanism is to:</p> <ul style="list-style-type: none"> <li>• provide for further alignment of executives' and shareholders' interests;</li> <li>• provide an additional retention element; and</li> <li>• encourage executive directors to build up a shareholding of a value of at least one times basic annual salary within five years of appointment (see share retention policy).</li> </ul> <p>Bonus arrangements exist for certain other employees throughout the Group on terms that are applicable to their role, seniority and geographical location.</p> <p><b>Clawback:</b> The Committee retains the discretion to reduce or 'claw back' the number of deferred bonus shares to vest in the event of significant misstatement of the Company's financial results in respect of the financial year to which the bonus relates.</p>

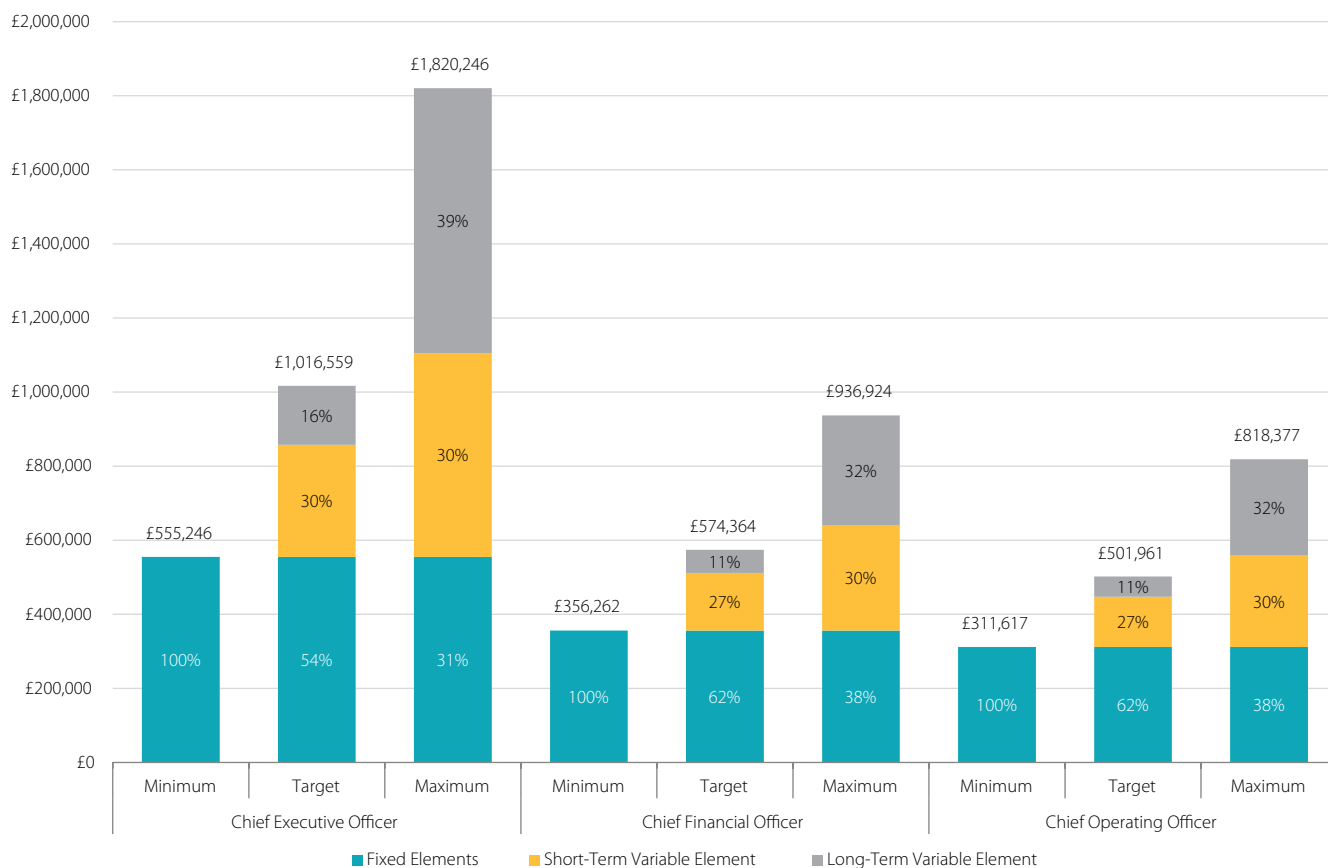


Pay element and link to strategy	Maximum	Operation
<p><b>Long-term incentives</b></p> <p>Deferred bonus shares ("DBP")</p>	<p><b>DBP:</b> Maximum opportunity of 62.5% of salary for the CEO and 50% of salary for other executive directors.</p>	<p><b>Deferred bonus shares:</b></p> <p>Executive directors will be granted an award over further shares (up to a maximum of 1 for 1) in relation to deferred bonus shares. The vesting of these awards will be subject to both continued employment and the extent to which performance conditions measured over a specified three year period are met. These awards will be granted pursuant to the rules of the Ricardo plc 2011 Deferred Bonus Plan (the "2011 DBP"), for which shareholder approval was given at the 2011 Annual General Meeting.</p> <p>The performance conditions applicable to the above awards will be identical to those that will be applied to the awards to be made under the terms of the Long Term Incentive Plan (the "LTIP") in the same period. These are described in more detail below.</p>
<p>Long-term incentive plan ("LTIP")</p> <p><i>To focus motivation on the long-term performance of the Group and reward shareholder value creation</i></p> <p><i>To encourage share ownership and alignment with shareholders</i></p> <p><i>DBP to link short-term and long-term performance</i></p>	<p><b>LTIP:</b></p> <p>Normal maximum: face value of 100% of salary.</p> <p>Exceptional maximum award under the 2014 LTIP plan rules: face value of 200% of salary per year.</p> <p>This higher limit would not normally apply to executive directors but gives the Remuneration Committee the flexibility to grant awards at a higher level in exceptional circumstances, such as recruitment.</p>	<p><b>LTIP:</b></p> <p>Awards under the LTIP are made on an annual basis to the executive directors and a small group of other senior executives. Awards are currently subject to the following performance conditions:</p> <ul style="list-style-type: none"> <li>• 50% of any award vests according to Ricardo's total shareholder return (share price movement plus dividends reinvested – "TSR") performance relative to the constituents of the FTSE Small Cap Index (excluding financial services companies and investment trusts) over the three years from grant. <ul style="list-style-type: none"> <li>- For below median performance, none of this portion of awards will vest.</li> <li>- For median performance, 25% of this portion of awards will vest.</li> <li>- For upper quartile or above performance, 100% of this portion of awards will vest.</li> <li>- For between median and upper quartile performance, straight-line vesting will apply.</li> </ul> </li> <li>• 50% of any award vests according to Ricardo's growth in normalised earnings per ordinary share ("EPS") over a period of three consecutive financial years.</li> </ul> <p>The Committee will decide appropriate EPS growth targets each year. Threshold performance (for which 25% of this portion will vest) is generally intended to align to the performance of the relevant market and / or our competitors' level. If the maximum performance is achieved, we would expect to have significantly outperformed the relevant market and / or our competitors.</p> <p>The Committee believes that TSR and EPS are appropriate measures for the LTIP as they are strongly aligned to shareholder value creation. In particular, the normalised EPS performance targets are considered by the Committee to be suitably stretching. When calibrating performance targets the Committee takes into account the economic and market outlook, the business plan and investor expectations at the time of each award.</p> <p>Awards will be made under the terms of the 2006 Long Term Incentive Plan (the "2006 LTIP") or under the Ricardo plc 2014 Long Term Incentive Plan (the "2014 LTIP"), for which we will be seeking shareholders' approval at the AGM.</p> <p>For both deferred bonus shares and LTIP awards, dividends and dividend equivalents for each performance or deferral period may also be paid in respect of shares under award to the extent that shares have vested to participants.</p> <p><b>Clawback:</b> The rules of the 2014 LTIP include provision for 'clawback' which would allow the Committee discretion to claw back the value of awards in the event of:</p> <ul style="list-style-type: none"> <li>• Material mis-statement of results;</li> <li>• Material error in performance assessment; or</li> <li>• Misconduct (for example, reputational issues) or fraud.</li> </ul>
<p>Share retention policy</p> <p><i>To further align the interests of executive directors and shareholders and encourage both the continued holding of Ricardo shares and a long-term business perspective</i></p>		<p>The Board operates a share retention policy for the executive directors. It is the intention of this policy that each executive director will own shares in the Company with a value at least equal to one times basic annual salary within five years of the date of the executive's appointment.</p> <p>Executive directors are not required to purchase shares to fulfil this requirement but are expected to retain all shares earned under various share plans, less an allowance for income tax and national insurance, until the requirement is met.</p>

### Illustrative remuneration outcomes at different performance levels

Ricardo's pay policy seeks to ensure the long-term interests of executive directors are aligned with those of shareholders. The remuneration packages for each executive director and their fixed and variable elements are reviewed annually.

The scenario chart below presents remuneration outcome under minimum, on target and maximum scenario. The target scenario broadly illustrates the remuneration level when budgeted performance is achieved.



For the purpose of this analysis, the following assumptions have been made:

- Fixed elements comprise base salary, pension and other benefits. e.g. for the CEO, fixed elements comprises salary of £440,000, pension (pension contribution and cash in lieu) of 21.2% of salary above the Lower Earnings Limit and benefits equal to those received in 2013/14.
- Base salary reflects the current salary level.
- For target performance, an assumption of 55% of bonus payout and threshold vesting for long-term incentives is applied.
- No share price increase has been assumed.

### Recruitment remuneration policy

New executive directors will be appointed on remuneration packages with the same structure and elements as described in the policy table above. Annual bonus and LTIP awards will be within the limits described in the policy table.

For external appointments, although we have no plans to offer additional benefits on recruitment (and indeed did not do so for our last executive director appointment), the

Committee reserves the right to offer such benefits when it considers this to be in the best interests of the Company and shareholders and in order to protect a new director against additional costs. The Committee may agree that the Company will meet certain relocation expenses as appropriate.

The Company may make an award to compensate a new recruit for remuneration relinquished when leaving the former employer. Any such award would reflect the nature, time horizons and performance requirements attaching to that relinquished remuneration. The Listing Rules exemption 9.4.2 may be used for the purpose of such an award. Shareholders will be informed of any such payments as soon as practicable following the appointment.

For an internal appointment, any variable pay element awarded in respect of the prior role may be allowed to pay out according to its terms, adjusted as relevant to take into account the appointment. In addition, any other ongoing remuneration obligations existing prior to appointment may continue, and will be disclosed to shareholders at the earliest opportunity.

On the appointment of a new chairman or non-executive

director, the fees will be set taking into account the experience and calibre of the individual. Where specific cash or share arrangements are delivered to non-executive directors, these will not include share options or other performance-related elements.

### Termination remuneration policy

The contractual termination provision is payment in lieu of notice equal to one year's basic salary or, if termination is part way through the notice period, the amount of salary relating to any unexpired notice to the date of termination<sup>1</sup>. There is an obligation on directors to mitigate any loss which they may suffer if the Company terminates their service contract. The Committee will take such mitigation obligation into account when determining the amount and timing of any compensation payable to any departing director. No compensation is paid for summary dismissal, save for any statutory entitlements.

Share scheme awards will lapse unless the individual concerned leaves for one of a number of specified "good leaver" reasons which are: death; injury, illness or disability; redundancy; or retirement. The Committee retains the discretion to prevent awards from lapsing depending on the circumstances of the departure and the best interests of the Company. Awards which do not lapse on cessation of employment may either vest at that time or, in the case of awards to be granted under the 2014 LTIP, on their originally anticipated vesting date (although the Remuneration Committee retains the discretion to allow vesting at cessation depending on the circumstances under the 2014 LTIP rules). These awards will also usually be subject to time pro-rating reduction to reflect the unexpired portion of the performance or deferral period concerned, although the Committee will retain the discretion to disapply this pro-rating. Awards that are subject to performance conditions will usually only vest to the extent that these conditions are satisfied.

Executive directors will also be entitled to a payment in respect of accrued but untaken holiday and any statutory entitlements on termination.

In the event that any payment is made in relation to termination for an executive director, this will be fully disclosed in the next Directors' Remuneration Report.

### Change of control

In the event of a change of control, awards granted under the 2006 LTIP and to be granted under the proposed 2014 LTIP and matching awards granted under the 2011 DBP will normally vest at that time, taking into account the extent to which the performance criteria have been met and the time elapsed since grant.

### Executive directors' service contracts

The Board's policy on setting notice periods for directors is that these should not exceed one year. It recognises, however, that it may be necessary in the case of new executive appointments to

offer an initial longer notice period, which would subsequently reduce to one year after the expiry of that period. All future appointments to the Board will comply with this requirement.

Executives	Date of service contract
Dave Shemmans	7 April 2005
Ian Gibson	15 May 2013
Mark Garrett	1 July 2008

### Executive share options

Ricardo introduced its Executive Share Option Plan in 2004 and the plan will lapse on the tenth anniversary of shareholder approval. ESOP awards have not been made to executive directors in recent years and there is no intention to make any such awards in future. The outstanding share option that remains unexercised as detailed on page 70 remains eligible to be exercised based on its original award terms.

However, the Company wishes to retain the flexibility to make ESOP awards below Board level in certain circumstances – for example, recruiting in territories where the prevailing local remuneration market practice involves the grant of share options or for retaining key individuals following acquisitions. The Committee is therefore proposing to renew the ESOP, with shareholder support sought at the AGM.

No share option grants were made during the year ending 30 June 2014 to directors (or indeed any Ricardo employees). The maximum level of award that can be made to any executive under this plan is 100% of basic salary per annum. ESOP awards that are granted must be subject to performance conditions. Also, the exercise price per share payable to acquire the shares subject to the option must be equal to the market value of a Ricardo share on the date of grant.

### All-employee share plans

For its UK employees the Company operates from time to time tax advantaged Share Incentive Plan ("SIP") and Save As You Earn share option ("SAYE") arrangements, which are intended to encourage share ownership and wider interest in the performance of the Company's shares. Executive directors are eligible to participate in these arrangements.

The SIP provides for partnership, matching, free and dividend shares, either by delivery of market purchased or newly issued shares. The Company has to date offered partnership shares and, in the year ended 30 June 2012, offered an award of 281 shares to all UK based employees (with overseas employees being provided with a broadly equivalent benefit via a cash based "notional" share arrangement). The latter shares (and the cash equivalent awards) will normally vest on the third anniversary of grant, subject to continued employment.

### Dilution limits

The number of shares that may be issued under all Ricardo employee share plans in any ten year rolling period will be restricted to 10% of the issued ordinary share capital of the Company and 5% of the issued ordinary share capital of

<sup>1</sup> For Ian Gibson the contractual termination provision is payment in lieu of notice equal to one year's basic salary, car allowance and pension allowance, to the extent that these benefits are paid in cash.



the Company for discretionary employee share plans.

At the end of the year under review, the Company's overall dilution was 4.15%, of which 3.70% related to discretionary employee share plans. The Company operates an employee benefit trust ("EBT") which has principally been used to facilitate the operation of the long term incentive plan and deferred bonus arrangements. To date, all the shares required to satisfy deferred bonus awards have been purchased in the market by the EBT, whereas 2006 LTIP grants have involved the issue of new shares to the trust. Any such new issue shares are, however, included in the dilution limits noted above.

### Non-executive directors – fees and appointments

The fees for non-executive directors are set in line with prevailing market conditions and at a level that will attract individuals with the necessary experience and ability to make a significant contribution to the Group's affairs. The Committee determines the Chairman's fees. The Chairman and the executive directors determine the fees paid to the other non-executive directors. Non-executive directors are not present at meetings for any discussion or decision about their own remuneration. The fees are reviewed each January.

Non-executive directors do not participate in incentive plans. They receive reimbursement for travel and incidental costs incurred in furtherance of company business. The aggregate limit for fees paid to non-executive directors is laid down in the Articles of Association – £350,000, however, shareholders are being asked to approve an increase in this limit to £500,000 at the 2014 AGM to allow the Company to manage transitional arrangements in respect of potential non-executive director changes.

Remuneration for non-executives is in the form of cash fees and is payable monthly. The Chairman of the Board receives an annual fee. Non-executive directors receive an annual basic fee plus an additional fee for acting as the Chairman of the Audit or Remuneration Committee or the Senior Independent Director. An additional fee may be paid for membership of the Technical Exploitation Board. No director is currently a member of the TEB, however Hans-Joachim Schöpf was a member until 30th June 2014.

The non-executive directors do not participate in any of the Company's share schemes, pension schemes or bonus arrangements, nor do they have service agreements.

They are appointed for a period of three years by letter of appointment (subject to annual re-election by shareholders) and are entitled to one month's notice of early termination for which no compensation is payable. The unexpired terms of the non-executive directors as at 30 June 2014 are:

Michael Harper <sup>1</sup>	4 months
David Hall	12 months
Ian Lee	1 month
Hans-Joachim Schöpf	12 months
Peter Gilchrist	29 months
Terry Morgan	30.5 months

<sup>1</sup> Notwithstanding this unexpired term, as has previously been announced, it is Michael Harper's intention to retire from the Company following the AGM.

### Consideration of employment conditions elsewhere in the Company

Ricardo does not consult directly with employees but the remuneration packages for each executive director and their fixed and variable elements are reviewed annually. This process takes into account a number of factors, including the following:

- individual and business performance;
- pay arrangements for similar roles in other companies and consultancy organisations of Ricardo's size, complexity and international reach;
- risk management;
- pay and employment conditions of employees of the Group; and
- as necessary, the views of the Company's principal shareholders (which are sought by the Committee's Chairman).

### Consideration of shareholders' views

Shareholders' views in respect of directors' remuneration have been taken into account in the formulation of the directors' remuneration policy. For example, the Chairman of the Committee met with a number of shareholders in June and July 2014 to discuss this policy and the proposed renewal of the LTIP and ESOP and their comments have helped to shape the rules of the plans which are being put forward for approval at the AGM. The Committee continues to welcome feedback and comments on the remuneration arrangements at Ricardo.

## Annual Report on Remuneration

### The Remuneration Committee

During the year under review David Hall chaired the Committee until the 2013 AGM when he stood down and was replaced by Peter Gilchrist. David Hall remained a member of the Committee and was joined by the Chairman, Michael Harper, and all of the other non-executive directors: Terry Morgan (from his appointment in January 2014), Ian Lee and Hans-Joachim Schöpf.

The non-executive directors have no personal financial interest (other than as shareholders) in matters to be decided, no potential conflicts of interest arising from cross-directorships and no day-to-day involvement in running the business. Biographical details of the members of the Committee are shown on pages 40 and 41, details of attendance at the meetings of the Committee during the year ended 30 June 2014 are shown on page 43.

### Role and responsibilities of the Remuneration Committee

The Committee's primary purpose is to make recommendations to the Board on the Group's framework or broad policy for executive remuneration. The Board has also delegated responsibility to the Committee for determining the remuneration, benefits and contractual arrangements of the Chairman and the executive directors. No individual is involved in deciding his or her remuneration.

The Committee has written terms of reference, which are available at [www.ricardo.com](http://www.ricardo.com), and its responsibilities include:

- recommending to, and agreeing with the Board, the policy for executive and senior management remuneration;
- agreeing the terms and conditions of employment for executive directors, including their individual

annual remuneration and pension arrangements, and reviewing such provisions for senior management;

- agreeing the measures and targets for any performance-related bonus and share schemes;
- agreeing the remuneration of the Chairman of the Board;
- ensuring that, on termination, contractual terms and payments made are fair both to the Company and the individual so that failure is not rewarded and the duty to mitigate loss is recognised wherever possible; and
- agreeing the terms of reference of any remuneration consultants it appoints.

### Advisors to the Remuneration Committee

The Committee is supported by the Group HR Director (Timothy Hargreaves), the Group Head of Reward and Performance (Mark Jarvis) and the Company Secretary (Patricia Ryan).

Towers Watson has been formally appointed by the Committee to provide independent advice on executive remuneration and share schemes. During the year, Towers Watson provided advice on matters under consideration by the Committee and updates on market practice. Towers Watson's fees for this work amounted to £65,000 (calculated based on a mixture of fixed fees and time spent). Towers Watson is a member of the Remuneration Consultants' Group and their work is governed by the Code of Conduct in relation to executive remuneration consulting in the UK. Towers Watson, through separate teams, also provides services to Ricardo in relation to Ricardo's benefits and pension plan. The Remuneration Committee is satisfied that the advice provided on executive remuneration is objective and independent and that no conflict of interest arises as a result of the provision other services.

## Remuneration for 2013/2014

This section of the report explains how Ricardo's remuneration policy has been implemented during the financial year.

### Base salary

Base salaries were reviewed in January 2014. As described in the policy section, a number of factors are taken into account when salaries are reviewed: principally market levels of total pay for comparable roles in companies of similar size, complexity and sector, as well as the individual director's experience, scope of responsibilities and performance and the salary increases for employees across the Group. The increases for the executive directors were 3%. These increases were in the context of average salary increases across the Group of around 3%.

Current salary levels from 1 January 2014 are:

- Dave Shemmans: £440,000
- Ian Gibson: £283,250
- Mark Garrett: £247,200

### Pension

(a) The Defined Benefit scheme is closed and there are no active members. During the year ended 30 June 2014, the transfer value in respect of the Chief Executive Officer has increased. The transfer value at 30 June 2014 was £343,000, an increase of £8,000 from the prior year.

The CEO's Normal Retirement Date ("NRD") is 16 June 2031 at which point he will receive his pension at date of leaving the Fund, increased for the period in deferment until his NRD. If he decides to retire early, he will receive an immediate pension calculated as for retirement at NRD but reduced for early payment.

(b) With respect to Defined Contribution pension schemes:

	£'000	£'000
	Employer contributions payable in the year	Cash in lieu
Dave Shemmans	25	66
Ian Gibson	0	55
Mark Garrett	34	14

### Other benefits

The Company provides other cash benefits and benefits in kind to executive directors. These include a company car or cash alternative, private fuel, private medical insurance, life assurance and permanent health insurance.

The car allowance for Dave Shemmans is £17,500 p.a.

and for Ian Gibson and Mark Garrett is £12,000 p.a.

Non-executive directors can recover travel expenses for Board and company business meetings and do not receive any other benefits. If tax is payable by a non-executive director on travel expenses for such meetings, these may be paid gross of tax.

### Annual performance-related bonus

For the year ended 30 June 2014, the maximum annual performance-related bonus opportunity was 125% of salary

for the Chief Executive Officer and 100% of salary for the other executive directors. The amount of bonus actually paid for the period was based on achievement against the financial measures of Group profit before tax (60%) and Group cash balance at year end (15% for CEO / 20% for other executive directors) and the achievement of specified individual objectives (25% for CEO / 20% for other executive directors). The choice of these measures, and their respective weightings for each individual, reflected the Committee's belief that any incentive compensation should be tied both to the overall performance of the Group and to those areas of the business that the relevant individual can directly influence.

The performance of the company over the year included an 8% increase in underlying profit before tax to £24.6m (2013: £22.7m) and an overall cash inflow in the period of £6.5m compared to an overall outflow of net funds of £1.8m in the prior year. The profit and cash targets were achieved at a level of 25% and 31.25%, respectively. The Committee judged that individual objectives were achieved at a level of 75% for the CEO and the CFO, and at 70% for the Chief Operating Officer. The specific performance targets for the year 2013/14, and by consequence those for 2014/15, have not been disclosed as they are, in the opinion of the Committee, commercially sensitive. Disclosure of such targets would provide competitors insights into Ricardo's business plan and provide competitors an unfair commercial advantage, particularly as many of these are not subject to the same disclosure requirements as Ricardo.

In light of the above performance against all three measures, the Committee concluded that a bonus payment should be made. The total bonus was 38% of maximum bonus for the CEO, 36% of maximum for the CFO, and 35% of maximum for the Chief Operating Officer. This represents a bonus of 48%, 36% and 35% of base salary, respectively.

One half of any bonus paid to an executive director is subject to a policy of compulsory deferral into ordinary shares, via the 2011 DBP, the release of which is subject to continued employment for a three-year period from the award date.

### Long-term incentives

#### Awards vesting during the financial year

Awards under the LTIP made in October 2010 vested in October 2013 on the basis EPS and TSR performance over three-year periods ending 30 June 2013. The vesting level of these awards was described in our 2013 directors' remuneration report.

There were no awards with performance periods ending during the year ending June 2014. Awards under the LTIP made in November 2011 are due to vest in November 2014 on the basis EPS and TSR performance over performance periods the last of which will end in October 2014. The outcome of these awards will therefore be disclosed in next year's remuneration report.

#### Awards made in the year

Awards were made to the executive directors under the 2006 LTIP and 2011 DBP in October 2013. The awards granted to each executive are as follows:



## 2011 DBP

	Chief Executive Officer David Shemmans	Chief Operating Officer Mark Garrett
Type awarded		Performance Shares (Matching Award)
Basis for award	1:1 match for corresponding Deferred Award	
Date of award	16 October 2013	
Number of shares	34,292	15,620
Share price*	£5.821	£5.821
Face value of award	£199,614	£90,924
% which would vest for the achievement of threshold performance	27.5%	27.5%
End of performance period	35 days after release of preliminary results announcement in respect of the 2015/2016 financial year (expected to be October 2016)	

\* Average of the share prices over the five days up to and including 15 October 2013.

## 2006 LTIP

	Chief Executive Officer David Shemmans	Chief Financial Officer Ian Gibson	Chief Operating Officer Mark Garrett
Type awarded	Performance Shares	Performance Shares	Performance Shares
Basis for award	100% of base salary	55% of base salary	55% of base salary
Date of award	16 October 2013	16 October 2013	16 October 2013
Number of shares	73,380	25,983	22,676
Share price*	£5.821	£5.821	£5.821
Face value of award	£427,145	£151,247	£131,997
% which would vest for the achievement of threshold performance	27.5%	27.5%	27.5%
End of performance period	35 days after release of preliminary results announcement in respect of the 2015/2016 financial year (expected to be October 2016)		

\* Average of the share prices over the five days up to and including 15 October 2013.

The vesting of these awards will be based on Ricardo's three-year relative TSR (50%) and EPS growth (50%) performance summarised in the table below.

## Relative TSR portion (50%)

Relative TSR performance against the FTSE Small Cap (excluding financial services companies and investment trusts)	Vesting level
Below median	Nil
Median	25%
Upper quartile (or above)	100%
Between median and upper quartile	Straight-line basis

## EPS growth portion (50%)

EPS growth performance	Vesting level
Less than RPI + 4% p.a.	Nil
RPI + 4% p.a.	30%
RPI + 10% p.a.	100%
Between RPI + 4% and RPI + 10% p.a.	Straight-line basis

The overall performance condition structure described above was the same as used for awards in the previous year as the Committee believed that this condition remained as stretching as awards in previous years.

## Performance targets history

The Committee reviews targets each year and has adjusted the top end of the EPS target range a number of times in recent years to ensure that it remains appropriately stretching. For awards made in the year ending 30 June 2008, maximum vesting of the EPS portion

required growth of RPI + 10% p.a. For awards in years ending 30 June 2009 and 2010, the EPS growth required for maximum vesting was RPI + 11% p.a. This target was increased again to RPI + 12% p.a. for awards in the year ending 30 June 2011. This increase was made in response to a relatively low base year. The figure was subsequently adjusted to RPI + 11% p.a. and RPI + 10% p.a. for awards in years ending 30 June 2012 and 2013, respectively. The performance condition applicable to the TSR portion of awards has remained constant through this period. The number and value of shares which were awarded to each of the executive directors in the year ended 30 June 2014 are set out above.

### Non-executive directors' fees

Current non-executive director fees as from 1 January 2014 are as follows:

	£'000
Chairman's total fees	131
<i>Other non-executive director fees:</i>	
Basic fee	42
Additional fee for Audit and Remuneration Committee Chairmen	7
Additional fee for the Senior Independent Director	6

Non-executive members of the Technology Exploitation Board currently receive a fee of €4,120 per meeting. Hans-Joachim Schöpf was a member of the TEB until 30th June 2014. No director is currently a member of the TEB.

### Payments to past directors and in respect of loss of office

No payments have been made to past directors and / or in respect of loss of office in the financial year.

### Implementation of remuneration policy in following year

The Committee does not propose to make significant changes to the remuneration policy in 2014/15 and anticipates the implementation of the policy to be similar to that of the current financial year.

The Committee will:

- review base salary levels for the executive directors with effect from 1 January 2015;
- set / review the performance targets for the 2014/15 annual bonus and long-term incentive awards to be made in 2014 to ensure continued alignment to strategy;
- make awards under the 2014 LTIP, subject to shareholders' approval at the 2014 AGM; and
- make awards under the 2011 DBP where necessary.

For example, the Committee has so far considered the targets to apply to the EPS portion of performance awards to be made under the 2014 LTIP and 2011 DBP later on in the year. In order to ensure that they remain challenging in light of market expectation of the Company's EPS performance, the Committee has determined that:

- no part of the EPS portion of these grants will vest if the Company's EPS growth does not exceed the growth in inflation (RPI) by 3% compound per annum;
- 25% (rather than 30% in previous years – to align with the TSR element) of this portion will vest where EPS growth is RPI + 3% compound per annum;
- 100% of this portion will vest where EPS growth meets or exceeds RPI + 10% compound per annum; and
- vesting will take place on a straight-line basis between RPI + 3% and RPI + 10% compound per annum.

The targets applicable to the TSR portion of these awards will be the same as those which applied to awards granted last year.

The Company is seeking shareholder approval to renew the 2004 ESOP and 2006 LTIP at the AGM. The new ESOP and LTIP plans put to shareholders at the AGM will be substantially the same as current plans, with changes mainly to update the drafting of rules to align with current best practice. There is no change to our policy for executive directors. The main changes between the rules of the 2006 and the 2014 LTIPs are set out below:

Proposed change	Comments
<b>Clawback</b>	We are proposing to introduce a clawback provision which would allow the possibility for the value of awards to be clawed back in the event of: <ul style="list-style-type: none"> <li>• material mis-statement of results</li> <li>• material error in performance assessment</li> <li>• misconduct (for example reputational issues) / fraud</li> </ul>
<b>Flexibility below Board</b>	The plan rules will allow flexibility for awards made to individuals below Board level in terms of performance conditions and length of performance period. There is no change for executive directors. Awards to executive directors will continue to be made with a three-year vesting period and EPS/TSR performance conditions. This is part of our remuneration policy so would require shareholder approval for any future change.
<b>Good Leavers</b>	Under the proposed plan rules, awards to 'good leavers' will vest on the normal vesting date (subject to performance assessment and time pro-ration) rather than on the date of leaving employment, as is currently the case. The Remuneration Committee retains the discretion to allow vesting at cessation depending on the circumstances, e.g. death in service.
<b>Individual limit</b>	The normal limit will continue to be 100% of salary. There is no change for executive directors. Our policy is a maximum award of 100% of salary for the CEO and 55% for other executive directors. There is no intention to increase these levels. We would consult with shareholders if different levels were proposed and would be required to seek shareholder approval for this change in policy. Proposed to introduce an exceptional limit of 200% of salary, which will only apply on rare occasions such as recruitment to allow the Committee some flexibility.

### CEO remuneration compared to employees

The table below compares the percentage change in CEO's remuneration and the percentage change in employees' remuneration between 2012/13 and 2013/14. The employee figures represent information for all UK-based employees. This group was selected for comparison purposes as it most closely reflects the economic environment applicable to the CEO. Bonus comparison is based on total amounts paid to CEO and the UK based population.

	CEO	Employees
Base salary increase	3%	3%
Benefits change	0%	0%
Annual bonus decrease	(47%)	(49%)

## Relative importance of pay spend

The following table sets out the total amounts spent on remuneration, the dividends declared and other significant distributions to shareholders in 2012/13 and 2013/14.

	2012/2013 (£m)	2013/2014 (£m)	% change
Total remuneration spend	110.3	117.9	7%
Distribution to shareholders	7.3	7.9	8%

## Voting outcome at AGM

The AGM for the financial year 2012/13 was held on 14 November 2013 and Ricardo's remuneration report received strong support from shareholders. The results of the vote on the remuneration report are set out below.

	Remuneration Report
% of votes for	99.84%
% of votes against	0.13%
Number of votes with-held	4,093

## Audited section

### Single total figure table

The table below sets out the remuneration received by the executive directors and non-executive directors during the year. Please note that the LTIP figures are £nil for 2013/2014 due to a change in performance periods between awards granted in 2010 and 2011 as is more fully described in note 3 to the table.

	Financial year	Basic salary and fees (£000)	Benefits <sup>1</sup> (£000)	Bonus (cash element) <sup>2</sup> (£000)	Bonus (deferred element) <sup>2</sup> (£000)	TOTAL BONUS (£000)	Deferred bonus matching shares (£000)	LTIP <sup>3</sup> (£000)	TOTAL LTIs (£000)	Pension <sup>4</sup> (£000)	TOTAL (£000)
<b>EXECUTIVE DIRECTORS</b>											
Dave Shemmans	2013/2014	434	23	106	106	212	0	0	0	91	760
	2012/2013	421	23	200	200	400	0	614	614	88	1,546
Ian Gibson <sup>5</sup>	2013/2014	279	18	51	51	102	0	0	0	55	454
	2012/2013	0	0	0	0	0	0	0	0	0	0
Mark Garrett	2013/2014	244	16	44	44	88	0	0	0	48	396
	2012/2013	230	22	91	91	182	0	211	211	41	686
<b>NON-EXECUTIVE DIRECTORS</b>											
Michael Harper	2013/2014	129	4	0	0	0	0	0	0	0	133
	2012/2013	126	3	0	0	0	0	0	0	0	129
Terry Morgan <sup>6</sup>	2013/2014	21	1	0	0	0	0	0	0	0	22
	2012/2013	0	0	0	0	0	0	0	0	0	0
David Hall	2013/2014	50	2	0	0	0	0	0	0	0	52
	2012/2013	53	2	0	0	0	0	0	0	0	55
Hans-Joachim Schöpf <sup>7</sup>	2013/2014	41	13	0	0	0	0	0	0	0	54
	2012/2013	40	12	0	0	0	0	0	0	0	52
Peter Gilchrist	2013/2014	46	4	0	0	0	0	0	0	0	50
	2012/2013	40	3	0	0	0	0	0	0	0	43
Ian Lee	2013/2014	49	6	0	0	0	0	0	0	0	55
	2012/2013	47	5	0	0	0	0	0	0	0	52

- Further information on benefits for the executive directors can be found on page 64. The benefits figures for non-executives represent expenses incurred while travelling for business and committee meetings.
- Further details of the annual bonus can be found on page 64.
- The LTIP figures are £nil for 2013/2014 as the performance period for awards made in November 2011 will end in October 2014 and the value will therefore be included in the single remuneration figure for the 2014/15 financial year. The performance period for awards made in 2010 ended on 30 June 2013, but the awards did not vest until November 2013. The figures included in the single remuneration figure in last year's remuneration report were based on an average share price over the three months to 30 June 2013 (£4.01) and in the above table figures have been updated to the actual share price of £6.29 at the date of vesting.
- Further information on pensions for executive directors can be found on page 64.
- Ian Gibson was appointed Chief Financial Officer on 1 July 2013.
- Terry Morgan was appointed to the Board on 2 January 2014.
- In addition to the basic fee, Hans-Joachim Schöpf received €8,000 in 2012/2013 and €12,120 in 2013/2014 as a member of the Technical Exploitation Board.



### Directors' shareholdings

The interests of directors and their connected persons in ordinary shares as at 30 June 2014 (or date of cessation of employment), including any interests in share options and shares provisionally awarded under the Long Term Incentive Plan and Deferred Bonus Plan, are presented below:

At 10 September 2014, the interests in shares of the directors who were still in office were unchanged from those at 30 June 2014.

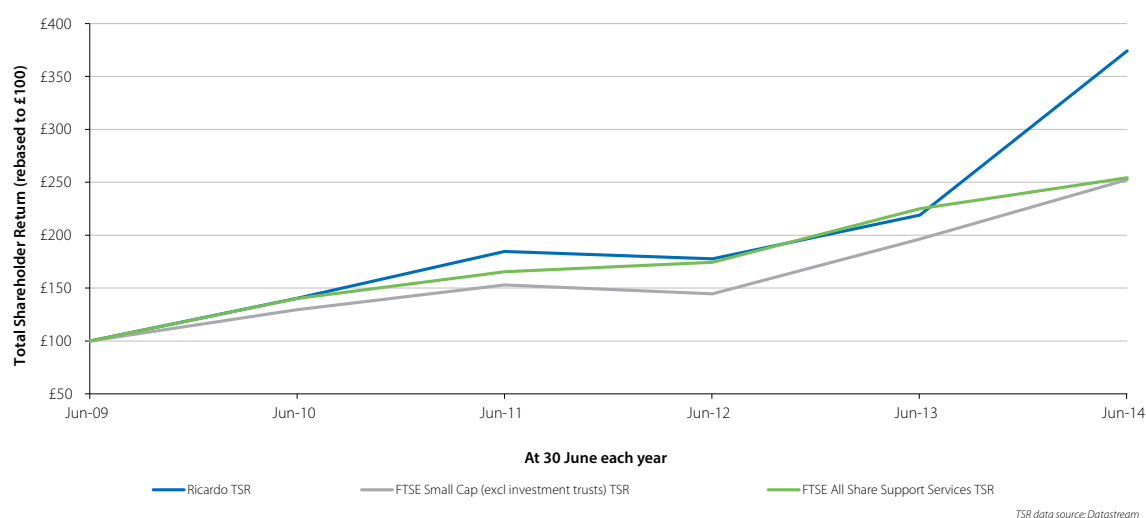
	Beneficial	Not subject to performance conditions	Subject to performance conditions	Unexercised share options
		Deferred Awards under the Deferred Bonus Plan and the 2011 Deferred Bonus Plan	LTIP awards and Matching Awards under the 2011 Deferred Bonus Plan	2004 Executive Share Option Plan <sup>1</sup>
<b>EXECUTIVE DIRECTORS</b>				
Dave Shemmans	182,170	117,002	371,231	0
Mark Garrett	40,663	50,744	119,982	7,068
Ian Gibson	0	0	25,983	0
<b>NON-EXECUTIVE DIRECTORS</b>				
Michael Harper	35,000	0	0	0
Terry Morgan	0	0	0	0
David Hall	20,000	0	0	0
Hans-Joachim Schöpf	10,000	0	0	0
Peter Gilchrist	4,970	0	0	0
Ian Lee	13,304	0	0	0

(1) The ability to exercise the above options was originally subject to certain EPS related performance conditions which have now been satisfied. Further details of these conditions can be found on page 56 of the Ricardo plc Annual Report & Accounts 2011 which is available on the Company's website.

As described in the policy table, the Board operates a share retention policy for the executive directors with the intention that each executive director will own shares in the Company with a value at least equal to one times basic annual salary within five years of the date of the executive's appointment. As at 30 June 2014, Dave Shemmans and Mark Garrett meet this shareholding requirement. Ian Gibson has not yet met this required level but will be expected to retain any vested shares net of tax from the LTIP and Deferred Bonus Plan until the guideline has been achieved.

## CEO pay and TSR performance graph

TSR and CEO single remuneration figure chart for the years 30 June 2009 to 30 June 2014



The chart above shows Ricardo's TSR performance for the past 5 years against the FTSE Small Cap index (excluding investment trusts). In the directors' opinion, the FTSE Small Cap index (excluding investment trusts) represents an appropriate index against which the Company should be compared when considering the Company's size. The FTSE All Share Support Services index is also shown for information. Dave Shemmans' remuneration for the period is represented in the table below.

Financial Year	Single figure of total remuneration (£000)	Annual variable element award rates against maximum opportunity	Long term incentive vesting rates against maximum opportunity
2013/2014	760	38%	N/A
2012/2013	1,546	75%	77%
2011/2012	979	58%	35%
2010/2011	1,116	97%	46%
2009/2010	708	19%	36%

## Directors' interests in shares provisionally awarded under the Long Term Incentive Plan

Cycle Ending	Award Date <sup>(1)</sup>	Share price at award date in pence	At 1 July 2013				At 30 June 2014 <sup>(2)</sup>		Vesting Date
			Allocated	Lapsed	Vested	At 30 June 2014 <sup>(2)</sup>			
Dave Shemmans	2013	301.70	126,483	–	28,839	97,644	–	25.10.13	
	2014	368.80	108,644	–	–	–	108,644	03.11.14	
	2015	364.40	113,804	–	–	–	113,804	15.11.15	
	2016	582.10 <sup>(3)</sup>	–	73,380	–	–	73,380	16.10.16	
Ian Gibson	2016	582.10 <sup>(3)</sup>	–	25,983	–	–	25,983	16.10.16	
Mark Garrett	2013	301.70	43,503	–	9,919	33,584	–	25.10.13	
	2014	368.80	29,826	–	–	–	29,826	03.11.14	
	2015	364.40	33,205	–	–	–	33,205	15.11.15	
	2016	582.10 <sup>(3)</sup>	–	22,676	–	–	22,676	16.10.16	

(1) Awards made under the 2006 LTIP: performance conditions as outlined on page 65.

(2) The mid-market closing price of the Company's shares on 30 June 2014 was 640.50p (2013: 393.00p).

(3) Awards made under the 2006 LTIP: performance conditions as outlined on page 65. The face value of the awards made in October 2013 at the date of grant was Dave Shemmans: £427,145; Ian Gibson: £151,247; Mark Garrett: £131,997.

The value of shares vested under the October 2010 awards was £613,937 for Dave Shemmans and £211,159 for Mark Garrett. The market price per share of these shares that vested on 25 October 2013 was 628.75p.

## Directors' interests in shares provisionally awarded under the Deferred Bonus Plans

	Type of Award	Award date	Deferral / performance period	Share price at award date in pence	Number of provisional shares					
					At 1 July 2013	Awarded	Dividend shares <sup>(1)</sup>	Lapsed	Vested	At 30 June 2014
Dave Shemmans	Deferred	Oct 10	3 yrs	301.70	8,650	–	–	–	8,650	–
	Deferred	Nov 11	3 yrs	368.80	37,543	–	865	–	–	38,408
	Deferred	Nov 12	3 yrs	364.40	42,533	–	979	–	–	43,512
	Matching	Nov 12	3 yrs	364.40	41,111	–	–	–	–	41,111
	Deferred	Oct 13	3 yrs	582.10	–	34,292	790	–	–	35,082
	Matching <sup>(2)</sup>	Oct 13	3 yrs	582.10	–	34,292	–	–	–	34,292
Mark Garrett	Deferred	Oct 10	3 yrs	301.70	2,860	–	–	–	2,860	–
	Deferred	Nov 11	3 yrs	368.80	14,682	–	339	–	–	15,021
	Deferred	Nov 12	3 yrs	364.40	19,300	–	444	–	–	19,744
	Matching <sup>(2)</sup>	Nov 12	3 yrs	364.40	18,655	–	–	–	–	18,655
	Deferred	Oct 13	3 yrs	582.10	–	15,620	359	–	–	15,979
	Matching <sup>(2)</sup>	Oct 13	3 yrs	582.10	–	15,620	–	–	–	15,620

(1) Amounts allocated include shares equivalent to dividends on provisional shares.

(2) Matching Awards made under the 2011 DBP: performance conditions as outlined on page 65. The face value of the awards made in October 2013 at the date of grant was Dave Shemmans: £199,614; Mark Garrett: £90,924.

## The 2004 Executive Share Option Plan

	At 1 July 2013	Granted	Exercised	Lapsed	At 30 June 2014	Exercise price in pence	Date from which exercisable	Expiry date
Dave Shemmans	80,000	–	80,000 <sup>(2)</sup>	–	–	267.50	22.02.08 <sup>(1)</sup>	21.02.15
Mark Garrett	7,068	–	–	–	7,068	305.00	22.10.11 <sup>(1)</sup>	21.10.18

(1) The ability to exercise the above options was originally subject to certain EPS related performance conditions which have now been satisfied. Further details of these conditions can be found on page 56 of the Ricardo plc Annual Report & Accounts 2011 which is available on the Company's website.

(2) These options were exercised on 10 September 2013 when the market value of a share was 499p. The aggregate gain was £185,200.

The closing mid-market price of the Company's shares on 30 June 2014 was 640.5 pence. The highest closing price during the year was 791.5 pence and the lowest closing price during the year was 378.5 pence.



**Peter Gilchrist**

Chairman of the Remuneration Committee  
10 September 2014

# Additional Disclosures

## Group results and dividends

The results for the year ended 30 June 2014 are shown in the Consolidated Income Statement on page 81.

The directors recommend the payment of a final ordinary share dividend for 2014 of 10.9 pence per share on 14 November 2014 for shareholders on the register at the close of business on 24 October 2014, which together with the interim dividend paid on 7 April 2014 makes a total of 15.2 pence net per ordinary share for the year (2013: 14.0 pence) and amounts to £7.9m (2013: £7.3m).

## Acquisitions and disposals

No acquisitions or disposals were made in the year under review.

## Research and Development

The Group continues to devote effort and resources to research and development of new technologies. Further details can be found on pages 24 and 25 of the Research and Development section of this Report. Costs of £5.5m have been charged to the income statement during the year.

## Greenhouse gas emissions/environmental reporting data

All emissions data and sources required under the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013 are reported on pages 28 and 29 of the Strategic Report.

## Board of Directors

The current directors of the Company at the date of this Report appear on pages 40 and 41. Terry Morgan CBE was appointed to the Board on 2 January 2014.

All other directors held office throughout the financial year under review.

In November 2013, the Company announced that immediately following the 2014 Annual General Meeting, Michael Harper would retire from the Board as Chairman and Terry Morgan CBE would be appointed as Chairman in his place.

## Directors' interest in shares

Directors' interests in shares and share options are contained at pages 68 to 70 of the Directors' Remuneration Report.

## Directors' indemnities

The Company has entered into deeds of indemnity in favour of each of its directors under which the Company agrees to indemnify each director against liabilities incurred by that director in respect of acts or omissions arising in the course of their office or otherwise by virtue of their office.

Where such deeds are for the benefit of directors they are qualifying third party indemnity provisions as defined by s.309B of the Companies Act 1985 or s.234 of the Companies Act 2006, as

applicable. Throughout the financial year, and at the date of this Report, these indemnities are therefore in force for the benefit of all the current directors of the Company.

On 30 June 2014, Ricardo UK Limited and Ricardo-AEA Limited, subsidiaries of the Company, entered into qualifying third party indemnity provisions as defined by s.234 of the Companies Act 2006 in favour of their directors, under which each director is indemnified against liabilities incurred by that director in respect of acts or omissions arising in the course of their office or otherwise by virtue of their office and such provisions remain in force as at the date of this Report.

## Employee information

The Company provides employees with various opportunities to obtain information on matters of concern to them and to improve awareness of the financial and economic factors that affect the performance of the Company. These include bi-annual "Pulse" presentations to all members of staff, department and team briefings, and meetings with Works Council Representatives that take place throughout the year.

All companies within the Group strive to operate fairly at all times and this includes not permitting discrimination against any employee or applicant for employment on the basis of race, religion or belief, colour, gender, disability, national origin, age, military service, veteran status, sexual orientation or marital status. This includes giving full and fair consideration to suitable applications for employment from disabled persons and making appropriate accommodations so that if existing employees become disabled they can continue to be employed, wherever practicable, in the same job or, if this is not practicable, making every effort to find suitable alternative employment and to provide relevant training.

## Change of control provisions

There are a number of agreements that take effect, alter or terminate upon a change of control of the Company following a takeover bid, such as commercial contracts, bank facility agreements, property lease arrangements and employees' share plans. None of these are considered to be significant in terms of their likely impact on the business of the Group as a whole.

## Management report

The management report required by the provisions of the Disclosure and Transparency Rules is included within the Strategic Report and has been prepared in consultation with management.

## Suppliers' payment policy

In view of the international nature of the Group's operations



## Substantial shareholders

	Number of shares at 30 June 2014	% of issued share capital	Number of shares at 31 August 2014	% of issued share capital
JP Morgan Asset Management	5,029,386	9.62	4,951,711	9.47
Delta Lloyd Asset Management	4,287,963	8.20	4,274,716	8.18
Schroder Investment Management	4,247,923	8.13	4,200,072	8.03
Standard Life Investments	3,830,865	7.33	3,582,500	6.85
Baillie Gifford & Co Limited	3,065,099	5.86	3,034,107	5.80
Royal London Asset Management	3,032,425	5.80	3,066,825	5.87
Legal & General Investment Management	3,028,707	5.79	2,374,416	4.54
Hargreave Hale	2,248,010	4.30	2,201,799	4.21
UBS AG London	< 3%	< 3%	1,852,711	3.54

there is no specific Group-wide policy in respect of payments to suppliers. Relationships with suppliers are governed by the Group's policy commitment to long-term relationships founded on trust and mutual advantage. Within this overall policy, individual operating companies are responsible for agreeing terms and conditions for their business transactions and ensuring that suppliers are aware of the terms of payment.

### Share capital

As at 10 September 2014 the Company's share capital is divided solely into 52,272,885 ordinary shares of 25 pence each, all of which are fully paid. The ordinary shares are listed on the London Stock Exchange.

All ordinary shares rank equally for all dividends and distributions that may be declared on such shares. At general meetings of the Company, each member who is present (in person, by proxy or by representative) is entitled to one vote on a show of hands and, on a poll, to one vote per share.

With respect to shares held on behalf of participants in the all employee Share Incentive Plan, the trustees are required to vote as the participants direct them to do so in respect of their plan shares. There are no restrictions on voting rights and no securities carry special voting rights with regard to the control of the Company.

Awards granted under the Company's share plans are satisfied either by shares held in the employee benefit trusts or by the issue of new shares when awards vest. The Remuneration Committee monitors the number of awards made under the various share plans and their potential impact on the relevant dilution limits recommended by the Association of British Insurers. Based on the Company's issued share capital as at 30 June 2014, these were in respect of the limit of 10% in any rolling 10 year period for all plans (4.15%) and in respect of the limit of 5% in any rolling 10 year period for discretionary share plans (3.70%).

The Company was given authority to purchase up to 15% of its existing ordinary share capital at the 2013 Annual General Meeting (AGM). That authority will expire at the conclusion of the AGM in 2014 unless renewed. Accordingly a special resolution to renew the authority will be proposed at the forthcoming AGM.

The existing authority for directors to allot ordinary shares

will expire at the conclusion of the 2014 AGM. Accordingly an ordinary resolution to renew this authority will be proposed at the forthcoming AGM.

Details of these resolutions are included with the Notice of AGM enclosed with this Report.

### Resolutions at the Annual General Meeting

The Company's AGM will be held on 29 October 2014.

Accompanying this Report is the Notice of AGM which sets out the resolutions to be considered and approved at the meeting, together with some explanatory notes. The resolutions cover such routine matters as the renewal of authority to allot shares, to disapply pre-emption rights and to purchase own shares.

### Substantial shareholdings

The Company has been notified, as at 30 June and 31 August 2014, of the above material interests in the voting rights of the Company under the provisions of the Disclosure and Transparency Rules.

### Donations

During the year the Group made various charitable donations which are disclosed in the Corporate Social Responsibility Report on page 33. The Group made no political donations during the year to 30 June 2014.

### Auditor

A resolution to reappoint PricewaterhouseCoopers LLP as auditor of the Company will be proposed at the AGM.

### Going concern

The Group's business activities together with the factors likely to affect its future development, performance and position are set out in the Strategic Report on pages i to 37. The financial position of the Group, its cash flows and liquidity position are presented on pages 84 and 85. In addition, note 21 of the Consolidated Financial Statements includes the Group's objectives, policies and processes for managing its capital; its financial risk management objectives; details of its financial instruments and hedging activities; and its exposure to credit

risk and liquidity risk. The Group's committed borrowing facilities are also detailed in note 21 of the Financial Statements.

The Groups' forecasts and projections, taking account of reasonably possible changes in trading performance, show that the Group should be able to operate within the level of its current facilities in the foreseeable future.

The principal risks and uncertainties affecting the forecasts and projections to which the Group is exposed relate to customers and markets, contract performance, people, technology, compliance with laws and regulations, defined benefit pension scheme and financing. Further details of these risks and uncertainties are provided on pages 52 and 53.

The directors have carried out a critical review of the Group's 2014/15 budget and medium term plans, with due regard for the risks and uncertainties to which the Group is exposed and

the impact that these could have on trading performance. The key assumptions used in constructing the budget related to:

- Management's assessment of revenue from the year end order book and weighted opportunity pipeline;
- Expected growth based on past experience and future market trends;
- Management's assessment of the level of costs required to deliver the planned revenue.

The directors have a reasonable expectation that the Company and the Group have adequate resources to continue in operational existence for the foreseeable future. Thus they continue to adopt the going concern basis of accounting in preparing the annual financial statements.



This Directors' Report, from pages 38 to 73, was approved by the Board on 10 September 2014 and signed on its behalf by:

**Patricia Ryan**  
 Group General Counsel & Company Secretary  
 10 September 2014

# FINANCIAL STATEMENTS

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# Statement of Directors' responsibilities

in respect of the Annual Report and financial statements

The directors are responsible for preparing the Annual Report, the Directors' Remuneration 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 prepared the Group and Parent Company financial statements in accordance with International Financial Reporting Standards (IFRSs) as adopted by the EU. 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 of the Group and the Company and of the profit or loss of the Company and Group for that period. In preparing these 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 as adopted by the EU 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 Company will continue in business.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and the Group and to enable them to ensure that the financial statements and the Directors' Remuneration report comply with the Companies Act 2006 and, as regards the Group financial statements, Article 4 of the IAS Regulation.

They are also responsible for safeguarding the assets of the Company and the Group and hence 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 Company's website. Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

## Disclosure of information to auditor

In accordance with Section 418 of the Companies Act 2006, each director confirms that, so far as he is aware, there is no relevant audit information of which the Company's auditors are unaware and that each director has taken all the steps that he ought to have taken as a director to make himself aware of any relevant audit information and to establish that the Company's auditors are aware of that information.

## Responsibility statement of the Directors in respect of the Annual Report

Each of the directors, whose names and functions are listed on the Board of Directors page, confirms that, to the best of their knowledge:

- The Group financial statements, which have been prepared in accordance with IFRSs as adopted by the EU, give a true and fair view of the assets, liabilities, financial position and profit of the Group; and
- The Strategic Report contained in this report includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal risks and uncertainties that it faces.

The directors have concluded that the Annual Report and Accounts, taken as a whole, is fair, balanced and understandable and provides the information necessary for shareholders to assess Ricardo's performance, business model and strategy.



**Dave Shemmans**  
(Chief Executive Officer)  
10 September 2014



**Ian Gibson**  
(Chief Financial Officer)

# Independent auditors' report

to the members of Ricardo plc

## Report on the financial statements

### Our opinion

In our opinion:

- The financial statements, defined below, give a true and fair view of the state of the Group's and of the Parent Company's affairs as at 30 June 2014 and of the Group's profit and the Group's and the Parent Company's cash flows for the year then ended;
- The Group financial statements have been properly prepared in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union;
- The Parent Company financial statements have been properly prepared in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union and as applied in accordance with the provisions of the Companies Act 2006; and
- The financial statements have been prepared in accordance with the requirements of the Companies Act 2006 and, as regards the Group financial statements, Article 4 of the IAS Regulation.

This opinion is to be read in the context of what we say in the remainder of this report.

### What we have audited

The Group financial statements and Parent Company financial statements (the "financial statements"), which are prepared by Ricardo plc, comprise:

- The Consolidated and Parent Company statements of financial position as at 30 June 2014;
- The Consolidated income statement for the year then ended;
- The Consolidated statement of comprehensive income for the year then ended;
- The Group and Parent Company statements of changes in equity for the year then ended;
- The Consolidated and Parent Company statements of cash flow for the year then ended; and
- The notes to the financial statements, which include a summary of significant accounting policies and other explanatory information.

The financial reporting framework that has been applied in their preparation is applicable law and IFRSs as adopted by the European Union and, as regards the Parent Company financial statements, as applied in accordance with the provisions of the Companies Act 2006.

### What an audit of financial statements involves

We conducted our audit in accordance with International Standards on Auditing (UK and Ireland) ("ISAs (UK & Ireland)"). An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of:

- Whether the accounting policies are appropriate to the Group's and the Parent Company's circumstances and have been consistently applied and adequately disclosed;
- The reasonableness of significant accounting estimates made by the directors; and
- The overall presentation of the financial statements.

In addition, we read all the financial and non-financial information in the Annual Report & Accounts (the "Annual Report") to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by us in the course of performing the audit. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

### Overview of our audit approach

#### Materiality

We set certain thresholds for materiality. These helped us to determine the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the Group financial statements as a whole to be £1,250,000. This represents approximately 5% of profit before tax before amortisation of acquired intangibles and acquisition costs. We chose this because, as a reasonable reflection of the Group's underlying performance, it is an appropriate and consistent benchmark for our audit.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above £62,000 as well as misstatements below that amount that, in our view, warranted reporting for qualitative reasons.

### Overview of the scope of the audit

The Group is structured by division, with significant reporting units in the UK, Germany and the US, and further smaller reporting

units in locations across Asia and Europe. The Group financial statements are a consolidation of 30 reporting units, comprising the Group's operating businesses and centralised functions.

In establishing the overall approach to the Group audit, we determined the type of work that needed to be performed at the reporting units by us as the Group engagement team, or by component auditors within PwC UK and by other PwC network firms operating under our instruction. Where the work was performed by component auditors, we determined the level of involvement we needed to have in the audit work at those reporting units to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the Group financial statements as a whole. Accordingly, we determined that audits of the complete financial information were required for five reporting units, with procedures on specific balances at one further reporting unit. As a result audit procedures have been conducted at reporting units representing 90% of the Group's profit before tax before amortisation of acquired intangibles and acquisition costs and 94% of revenue.

### Areas of particular audit focus

In preparing the financial statements, the directors made a number of subjective judgements, for example in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. We focused our work in these areas by assessing the directors' judgements against available evidence, forming our own judgements, and evaluating the disclosures in the financial statements.

In our audit, we tested and examined information, using sampling and other auditing techniques, to the extent we considered necessary to provide a reasonable basis for us to draw conclusions. We obtained audit evidence through testing the effectiveness of controls, substantive procedures or a combination of both.

We considered the following areas to be those that required particular focus in the current year. This is not a complete list of all risks or areas of focus identified by our audit. We discussed these areas of focus with the Audit Committee. Their report on those matters that they considered to be significant issues in relation to the financial statements is set out on pages 49 and 50.

Area of focus	How the scope of our audit addressed the area of focus
<p><b>Revenue recognition</b></p> <p>ISAs (UK &amp; Ireland) require that we consider this. Much of the Group's revenue is generated through long-term contracts, and the complexity and judgement involved in accounting for these could lead to an under or overstatement of revenue and profit, intentionally or in error. This is particularly the case in the Technical Consulting part of the business.</p> <p>For the Performance Products revenue stream, there is a particular risk that sales may not have been included in the correct period, or may not have occurred.</p>	<p>We evaluated the accounting policies for all revenue streams and tested key controls over the revenue cycle and also carried out the procedures set out below.</p> <p>For the revenue generated from Technical Consulting, we conducted review meetings with project managers and engineers. These review meetings included discussion and evaluation of the key estimates used in the long-term contract accounting calculations, such as costs to complete and contingencies. Where appropriate we obtained the relevant contracts and other supporting information to validate the data included in the calculations, and challenged management's assumptions for costs to complete based on the contractual requirements.</p> <p>For the Performance Products revenue stream, we performed data auditing techniques for transactions during the year and tested back to supporting documentation whether a sample of sales transactions around the year end had occurred and had been recorded in the appropriate period.</p> <p>Manual journals with a material impact on revenue were also tested.</p>
<p><b>Carrying value of German assets</b></p> <p>There is £12.5m of goodwill, £7.0m of fixed assets and a deferred tax asset of £3.6m in respect of the German business on the Group balance sheet. Due to the historic performance of the German business, as described in note 11, there is a risk that these assets may be impaired.</p> <p>As required, management tests the carrying value of the goodwill and other assets of the business using a discounted cash flow model. This requires estimates of future results and, where appropriate, includes an assessment of the likelihood of the assets being recoverable.</p>	<p>We evaluated the directors' future cash flow forecasts, and the process by which they were drawn up, including comparing them to the latest Board approved budgets, and testing the underlying calculations. We challenged:</p> <ul style="list-style-type: none"> <li>the directors' key assumptions, in particular the assumptions included for profits both in the short and long term by comparing these to historical results and by assessing the achievability of the related Board approved business plans; and</li> <li>the discount rate, by assessing the cost of capital for the company and other comparable organisations.</li> </ul> <p>We undertook sensitivity analysis by assessing the extent to which changes in the discount rate or level of revenue growth (both in the short and long term) would impact the conclusions of the impairment review. Having ascertained the extent of change in those assumptions that either individually or collectively would be required for the goodwill and assets to be impaired, we considered the likelihood of such a movement in those key assumptions arising. We also assessed how the cash flow forecasts related to the forecast utilisation of the German deferred tax assets.</p>

Area of focus	How the scope of our audit addressed the area of focus
<p><b>Capitalisation of research and development costs</b></p> <p>The Group has increased its focus on research and development activities and during the year £3m of development cost has been capitalised in respect of ongoing development projects.</p> <p>The capitalised costs must comply with the criteria set out in IAS 38. In particular there may be a risk that such projects will not generate sufficient economic benefit in the future to support the current carrying value and management must capitalise only costs that are directly attributable to the projects.</p>	<p>We tested that the capitalised development costs were capitalised in accordance with the requirements of the accounting framework and were properly attributable to the relevant projects by obtaining supporting documentation such as invoices and time records and checking the nature of each cost incurred.</p> <p>We obtained project plans and other evidence to support management's assessment of the future returns that will be generated.</p>
<p><b>Provisions for uncertain contract outcomes, litigation exposures and product warranties</b></p> <p>Provisions are held on the balance sheet to cover expected costs arising from uncertain contract outcomes, litigation exposures and product warranties. These provisions are inherently subjective and changes in these could have an impact on the profitability of the Group.</p>	<p>We considered the appropriateness of judgemental contract and litigation related provisions and reviewed the evidence provided in support of these, including correspondence with third parties.</p> <p>We also examined the methodology for, and calculation of, product warranty provisions to ensure that these accurately reflect anticipated future warranty costs. The key assumptions were based on actual costs per unit incurred in warranty claims and the level of production to date.</p> <p>We tested the utilisation and release of provisions to validate the year-end position on each.</p>
<p><b>Management override of internal controls</b></p> <p>ISAs (UK &amp; Ireland) require that we consider this.</p>	<p>We assessed the overall control environment of the Group, including the arrangements for staff to "whistle-blow" inappropriate actions, and interviewed senior management and the Group's internal audit function. We examined the significant accounting estimates and judgements relevant to the financial statements for evidence of bias by the directors that may indicate a risk of material misstatement due to fraud. We tested manual journal entries based on their risk profile and performed unpredictable audit procedures as part of our work.</p>

### Going concern

Under the Listing Rules we are required to review the directors' statement, set out on pages 72 and 73, in relation to going concern. We have nothing to report having performed our review.

As noted in the directors' statement, the directors have concluded that it is appropriate to prepare the financial statements using the going concern basis of accounting. The going concern basis presumes that the Group and Parent Company have adequate resources to remain in operation, and that the directors intend them to do so, for at least one year from the date the financial statements were signed. As part of our audit we have concluded that the directors' use of the going concern basis is appropriate.

However, because not all future events or conditions can be predicted, these statements are not a guarantee as to the Group's and Parent Company's ability to continue as a going concern.

### Opinions on other matters prescribed by the Companies Act 2006

In our opinion:

- 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 part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006.



### Other matters on which we are required to report by exception

#### Adequacy of accounting records and information and explanations received

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not received all the information and explanations we require for our audit; or
- 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 and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.

#### Directors' remuneration

Under the Companies Act 2006 we are required to report to you if, in our opinion, certain disclosures of directors' remuneration specified by law are not made. We have no exceptions to report arising from this responsibility.

#### Corporate governance statement

Under the Listing Rules we are required to review the part of the Corporate Governance Statement relating to the Parent Company's compliance with nine provisions of the UK Corporate Governance Code ("the Code"). We have nothing to report having performed our review.

On page 76 of the Annual Report, as required by the Code Provision C.1.1, the directors state that they consider the Annual Report taken as a whole to be fair, balanced and understandable and provides the information necessary for members to assess the Group's and Parent Company's performance, business model and strategy. On pages 49 and 50, as required by C.3.8 of the Code, the Audit Committee has set out the significant issues that it considered in relation to the financial statements, and how they were addressed. Under ISAs (UK & Ireland) we are required to report to you if, in our opinion:

- the statement given by the directors is materially inconsistent with our knowledge of the Group and Parent Company acquired in the course of performing our audit; or
- the section of the Annual Report describing the work of the Audit Committee does not appropriately address matters communicated by us to the Audit Committee.

We have no exceptions to report arising from this responsibility.

### Other information in the Annual Report

Under ISAs (UK & Ireland) we are required to report to you if, in our opinion, information in the Annual Report is:

- materially inconsistent with the information in the audited financial statements; or
- apparently materially incorrect based on, or materially inconsistent with, our knowledge of the Group and Parent Company acquired in the course of performing our audit; or
- is otherwise misleading.

We have no exceptions to report arising from this responsibility.

### Responsibilities for the financial statements and the audit

#### Our responsibilities and those of the directors

As explained more fully in the Statement of Directors' Responsibilities set out on page 76, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view.

Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and ISAs (UK & Ireland). Those standards require us to comply with the Auditing Practices Board's Ethical Standards for Auditors.

This report, including the opinions, has been prepared for and only for the Company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.



#### Andrew Paynter (Senior Statutory Auditor)

for and on behalf of PricewaterhouseCoopers LLP  
Chartered Accountants and Statutory Auditors  
Gatwick

10 September 2014

## Consolidated income statement

for the year ended 30 June 2014

	Notes	Year ended 30 June 2014			Year ended 30 June 2013		
		Underlying £m	Specific adjusting items <sup>(2)</sup> £m	Total £m	Underlying Restated <sup>(1)</sup> £m	Specific adjusting items <sup>(2)</sup> £m	Total Restated <sup>(1)</sup> £m
Revenue	2 & 3	236.2	-	236.2	229.7	-	229.7
Cost of sales		(142.6)	-	(142.6)	(134.3)	-	(134.3)
Gross profit		93.6	-	93.6	95.4	-	95.4
Administration expenses		(68.5)	(1.1)	(69.6)	(72.0)	(2.0)	(74.0)
Other income		0.5	-	0.5	0.5	-	0.5
Operating profit	2 & 4	25.6	(1.1)	24.5	23.9	(2.0)	21.9
Net finance costs	6	(1.0)	-	(1.0)	(1.2)	-	(1.2)
<b>Profit before taxation</b>		<b>24.6</b>	<b>(1.1)</b>	<b>23.5</b>	<b>22.7</b>	<b>(2.0)</b>	<b>20.7</b>
Taxation	7	(4.5)	0.2	(4.3)	(4.4)	0.5	(3.9)
<b>Profit for the year</b>		<b>20.1</b>	<b>(0.9)</b>	<b>19.2</b>	<b>18.3</b>	<b>(1.5)</b>	<b>16.8</b>
<b>Earnings per ordinary share</b>							
Basic	9			<b>36.9p</b>			32.5p
Diluted	9			<b>36.4p</b>			32.1p

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

(2) Specific adjusting items comprise amortisation of acquired intangible assets and acquisition costs

## Consolidated statement of comprehensive income

for the year ended 30 June 2014

	<i>Notes</i>	<b>Year ended 30 June 2014</b>	Year ended 30 June 2013 Restated <sup>(1)</sup>
		<b>£m</b>	£m
Profit for the year		<b>19.2</b>	16.8
Other comprehensive income:			
Currency translation on foreign currency net investments	28	<b>(3.0)</b>	1.7
Total items that may be reclassified subsequently to profit or loss		<b>(3.0)</b>	1.7
Remeasurements on the defined benefit scheme	22	<b>(3.2)</b>	(2.7)
Deferred tax on items taken directly to equity	23	<b>0.7</b>	0.3
Total items that will not be reclassified to profit or loss		<b>(2.5)</b>	(2.4)
Total other comprehensive loss for the year (net of tax)		<b>(5.5)</b>	(0.7)
<b>Total comprehensive income for the year</b>		<b>13.7</b>	16.1

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

## Statements of changes in equity

for the year ended 30 June 2014

Group	Notes	Share capital £m	Share premium £m	Other reserves £m	Retained earnings £m	Total equity £m
At 1 July 2013		13.0	14.0	6.4	66.5	99.9
Profit for the year		-	-	-	19.2	19.2
Other comprehensive income for the year		-	-	(3.0)	(2.5)	(5.5)
Share-based payments	26	-	-	-	1.2	1.2
Proceeds from shares issued	27	0.1	0.2	-	-	0.3
Ordinary share dividends	8	-	-	-	(7.5)	(7.5)
<b>At 30 June 2014</b>		<b>13.1</b>	<b>14.2</b>	<b>3.4</b>	<b>76.9</b>	<b>107.6</b>
At 1 July 2012		13.0	13.9	4.7	58.2	89.8
Profit for the year - restated <sup>(1)</sup>		-	-	-	16.8	16.8
Other comprehensive income for the year - restated <sup>(1)</sup>		-	-	1.7	(2.4)	(0.7)
Share-based payments	26	-	-	-	0.5	0.5
Proceeds from shares issued	27	-	0.1	-	-	0.1
Ordinary share dividends	8	-	-	-	(6.6)	(6.6)
At 30 June 2013		13.0	14.0	6.4	66.5	99.9

Company		Share capital £m	Share premium £m	Other reserves £m	Retained earnings £m	Total equity £m
At 1 July 2013		13.0	14.0	-	70.2	97.2
Profit for the year		-	-	-	15.0	15.0
Other comprehensive income for the year		-	-	-	(2.5)	(2.5)
Share-based payments	26	-	-	-	1.2	1.2
Proceeds from shares issued	27	0.1	0.2	-	-	0.3
Ordinary share dividends	8	-	-	-	(7.5)	(7.5)
<b>At 30 June 2014</b>		<b>13.1</b>	<b>14.2</b>	<b>-</b>	<b>76.4</b>	<b>103.7</b>
At 1 July 2012		13.0	13.9	-	39.5	66.4
Profit for the year - restated <sup>(1)</sup>		-	-	-	39.0	39.0
Other comprehensive income for the year - restated <sup>(1)</sup>		-	-	-	(2.2)	(2.2)
Share-based payments	26	-	-	-	0.5	0.5
Proceeds from shares issued	27	-	0.1	-	-	0.1
Ordinary share dividends	8	-	-	-	(6.6)	(6.6)
At 30 June 2013		13.0	14.0	-	70.2	97.2

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)



## Consolidated and parent company statements of financial position

as at 30 June 2014

	Notes	Group		Company	
		30 June 2014 £m	30 June 2013 £m	30 June 2014 £m	30 June 2013 £m
<b>Assets</b>					
<b>Non-current assets</b>					
Goodwill	11	25.1	25.9	-	-
Other intangible assets	12	16.7	15.6	4.9	5.1
Property, plant and equipment	13	48.3	48.2	7.8	8.0
Investments	14	-	-	68.3	68.3
Deferred tax assets	23	10.9	13.4	5.3	5.9
		<b>101.0</b>	<b>103.1</b>	<b>86.3</b>	<b>87.3</b>
<b>Current assets</b>					
Inventories	15	7.9	7.7	-	-
Trade and other receivables	16	66.6	54.9	49.4	46.9
Current tax assets		1.1	1.3	-	-
Cash and cash equivalents	31	12.6	6.8	0.5	0.6
		<b>88.2</b>	<b>70.7</b>	<b>49.9</b>	<b>47.5</b>
<b>Total assets</b>		<b>189.2</b>	<b>173.8</b>	<b>136.2</b>	<b>134.8</b>
<b>Liabilities</b>					
<b>Current liabilities</b>					
Bank loans and overdrafts	19	-	(0.7)	-	(0.5)
Trade and other payables	18	(56.3)	(47.3)	(12.0)	(16.0)
Current tax liabilities		(3.2)	(3.0)	(0.5)	(0.8)
Provisions	24	(0.7)	(0.4)	-	-
		<b>(60.2)</b>	<b>(51.4)</b>	<b>(12.5)</b>	<b>(17.3)</b>
<b>Net current assets</b>		<b>28.0</b>	<b>19.3</b>	<b>37.4</b>	<b>30.2</b>
<b>Non-current liabilities</b>					
Retirement benefit obligations	22	(19.5)	(19.7)	(19.5)	(19.7)
Deferred tax liabilities	23	(0.5)	(0.6)	(0.5)	(0.6)
Provisions	24	(1.4)	(2.2)	-	-
		<b>(21.4)</b>	<b>(22.5)</b>	<b>(20.0)</b>	<b>(20.3)</b>
<b>Total liabilities</b>		<b>(81.6)</b>	<b>(73.9)</b>	<b>(32.5)</b>	<b>(37.6)</b>
<b>Net assets</b>		<b>107.6</b>	<b>99.9</b>	<b>103.7</b>	<b>97.2</b>
<b>Shareholders' equity</b>					
Share capital	25	13.1	13.0	13.1	13.0
Share premium	27	14.2	14.0	14.2	14.0
Other reserves	28	3.4	6.4	-	-
Retained earnings	29	76.9	66.5	76.4	70.2
<b>Total equity</b>		<b>107.6</b>	<b>99.9</b>	<b>103.7</b>	<b>97.2</b>

The financial statements of Ricardo plc (registered number 222915) on pages 81 to 115 were approved by the Board of Directors on 10 September 2014 and signed on its behalf by:



**Dave Shemmans**  
(Chief Executive Officer)



**Ian Gibson**  
(Chief Financial Officer)

## Consolidated and parent company statements of cash flow

for the year ended 30 June 2014

	Notes	Group		Company	
		Year ended 30 June 2014 £m	Year ended 30 June 2013 Restated <sup>(1)</sup> £m	Year ended 30 June 2014 £m	Year ended 30 June 2013 Restated <sup>(1)</sup> £m
<b>Cash flows from operating activities</b>					
Cash generated/(used) by operations	30	23.3	30.0	(5.8)	(13.4)
Net finance income		-	-	0.7	0.3
Tax paid		(1.7)	(0.7)	-	-
Net cash generated/(used) by operating activities		21.6	29.3	(5.1)	(13.1)
<b>Cash flows from investing activities</b>					
Acquisition of business	10	-	(18.0)	-	-
Proceeds from sale of property, plant and equipment		0.1	4.0	-	-
Purchase of intangible assets		(4.2)	(2.1)	(0.7)	(0.9)
Purchase of property, plant and equipment		(6.3)	(10.3)	(0.2)	(0.1)
Government grants received in respect of property, plant and equipment	13	1.5	1.6	-	-
Purchase of investments in subsidiary undertakings		-	-	-	(18.5)
Net cash used by investing activities		(8.9)	(24.8)	(0.9)	(19.5)
<b>Cash flows from financing activities</b>					
Net proceeds from issue of ordinary share capital		0.3	0.1	0.3	0.1
Net proceeds from issue of new bank loan		-	10.0	-	10.0
Repayment of borrowings		-	(12.0)	-	(10.0)
Dividends paid to shareholders	8	(7.5)	(6.6)	(7.5)	(6.6)
Dividends received from subsidiaries		-	-	13.6	38.4
Net cash (used)/generated by financing activities		(7.2)	(8.5)	6.4	31.9
Effect of exchange rate changes		1.0	0.3	-	-
<b>Net increase/(decrease) in cash and cash equivalents</b>		<b>6.5</b>	<b>(3.7)</b>	<b>0.4</b>	<b>(0.7)</b>
Cash and cash equivalents at 1 July		6.1	9.8	0.1	0.8
<b>Net cash and cash equivalents at 30 June</b>		<b>12.6</b>	<b>6.1</b>	<b>0.5</b>	<b>0.1</b>
<b>At 1 July</b>					
Cash and cash equivalents	31	6.8	10.2	0.6	0.8
Bank overdrafts	31	(0.7)	(0.4)	(0.5)	-
	31	6.1	9.8	0.1	0.8
<b>At 30 June</b>					
Cash and cash equivalents	31	12.6	6.8	0.5	0.6
Bank overdrafts	31	-	(0.7)	-	(0.5)
	31	12.6	6.1	0.5	0.1

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

## Notes to the financial statements

### 1 Accounting policies

The principal accounting policies adopted in the preparation of these financial statements are set out below. These policies have been consistently applied to the years ended 30 June 2013 and 30 June 2014, except for the amendment to IAS 19 Employee Benefits described in section 1 (a) below. Ricardo plc is incorporated and domiciled in the UK.

#### (a) Basis of preparation

These financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") and International Financial Reporting Standards Interpretations Committee ("IFRS-IC") interpretations adopted by the European Union ("EU") and with those parts of the Companies Act 2006 applicable to companies reporting under IFRS.

The financial statements have been prepared on a going concern basis under the historical cost convention, as modified by financial assets and financial liabilities (including derivative instruments) which are measured at fair value.

The preparation of financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It requires management to exercise its judgement in the process of applying the Group's accounting policies, as described in note 1(c).

#### Changes in accounting policies

In the year, the Group adopted the following amendments and interpretations to published standards:

IFRS 10 Consolidated Financial Statements

IAS 27 Separate Financial Statements

IFRS 11 Joint Arrangements

IAS 28 Investment in Associates and Joint Ventures

IFRS 12 Disclosure of Interests in Other Entities

IFRS 1 First Time Adoption

IFRS 13 Fair Value Measurement

IFRS 7 Financial Instruments: Disclosures

2011 Annual Improvements to IFRSs

IFRIC 20 Stripping Costs in the Production Phase of a Surface Mine

IAS 19 (revised 2011) Employee Benefits

None of these standards or interpretations have had any significant impact on these financial statements, with the exception of IAS 19 (revised 2011) Employee Benefits described below and IFRS 7 Financial Instruments: Disclosures (see note 20). New, revised or amended standards and interpretations that are not yet effective have not been early adopted and are disclosed in note 1(v).

IAS 19 (revised 2011) Employee Benefits replaces interest cost and expected return on plan assets with a net finance cost on the pension deficit. The net finance cost is calculated using the rate currently used to discount defined benefit pension liabilities. The discount rate is lower than the expected return on plan assets, increasing net finance costs recognised in the income statement and correspondingly reducing remeasurements recognised in other comprehensive income. In addition, certain costs associated with the administration of the Group's pension schemes are now reported within administration expenses rather than finance costs. The net pension deficit is unchanged as a result of this amendment.

These changes have been applied retrospectively to the comparative financial information for the year ended 30 June 2013 and have had the following impact on the current year and comparative financial information compared with the previous version of IAS 19:

	Group Year ended 30 June 2014 £m	Company Year ended 30 June 2014 £m	Group Year ended 30 June 2013 £m	Company Year ended 30 June 2013 £m
Administration expenses	(0.3)	(0.3)	(0.2)	(0.2)
Operating profit	(0.3)	(0.3)	(0.2)	(0.2)
Net finance costs	(0.5)	(0.5)	(0.1)	(0.1)
<b>Decrease in profit before taxation</b>	<b>(0.8)</b>	<b>(0.8)</b>	<b>(0.3)</b>	<b>(0.3)</b>
Taxation	0.2	0.2	0.1	0.1
<b>Decrease in profit for the year</b>	<b>(0.6)</b>	<b>(0.6)</b>	<b>(0.2)</b>	<b>(0.2)</b>
Remeasurements on the defined benefit scheme	0.8	0.8	0.3	0.3
Deferred tax on items that will not be reclassified to profit or loss	(0.2)	(0.2)	(0.1)	(0.1)
<b>Total comprehensive income for the year</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Earnings per ordinary share</b>	<b>pence</b>		<b>pence</b>	
Basic	(1.2)		(0.4)	
Diluted	(1.1)		(0.4)	
<b>Underlying earnings per ordinary share</b>	<b>pence</b>		<b>pence</b>	
Basic	(1.2)		(0.4)	
Diluted	(1.1)		(0.4)	

## 1 Accounting policies (continued)

### (b) Basis of consolidation

The consolidated financial statements comprise the financial statements of Ricardo plc ("the Company") and all of its subsidiaries (together "the Group") made up to the end of the financial year. Businesses acquired are accounted for as acquisitions with effect from the date control passes. All intra group transactions and balances are eliminated on consolidation. Where necessary, adjustments are made to the financial statements of subsidiaries to bring the accounting policies used into line with those used by the Group.

The Group applies the acquisition method of accounting to account for business combinations. The consideration transferred for an acquisition is the fair values of the assets transferred and the liabilities incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. Acquisition-related costs are expensed as incurred.

### (c) Management judgements and key accounting estimates

In preparing the financial statements, management is required to exercise judgement in making estimates and assumptions that affect reported amounts and disclosures. Actual results could differ from those estimates. The following accounting policies have been identified as being particularly sensitive to complex or subjective judgements or estimates.

#### *Revenue recognition for fixed price contracts*

The Group derives revenue from the supply of professional services under contracts, most of which are normally fixed price contracts that may extend for a significant period of time. Where the outcome can be estimated reliably, contract revenue is recognised to the extent that the services have been performed. Performance is measured based on costs incurred to date as a percentage of total expected costs. However, unforeseen future events may adversely impact the accuracy of those estimates. Further details are given in note 17.

#### *Retirement benefit costs*

The Group operates a defined benefit pension scheme that provides benefits to a number of current and former employees. This scheme is closed to new entrants and the accrual of future benefits for active members ceased at the end of February 2010. The value of the deficit is particularly sensitive to the market value of the scheme's assets, discount rates and actuarial assumptions related to mortality. Further details are given in note 22.

#### *Current and deferred taxation*

Legislation related to taxation is complex and its impact on the Group may be uncertain. In preparing the Group's financial statements management estimates its taxation net of any taxation liability credits relating to research and development having taken appropriate professional advice. Determination of an agreed amount of taxation payable may take several years, and the final amount paid may differ from the liabilities recorded in these financial statements. The recognition of assets and liabilities related to deferred taxation also requires the exercise of management judgement, in particular the extent to which assets should be recognised. Further details of these are given in note 23.

#### *Goodwill*

The Group carries out an impairment review of goodwill on an annual basis or more frequently if events or changes in circumstances indicate a potential impairment. This requires estimation of the value in use of the

cash generating units to which the goodwill is allocated. Estimating the value in use requires the Group to make an estimate of the expected future cash flows from the cash generating units and also to choose a suitable discount rate in order to calculate the present value of those cash flows. Further details are given in note 11.

#### *Acquisition-related intangible assets*

Other intangible assets include customer contracts and relationships, and other acquisition-related intangible assets as described in note 10. The relative size of these makes the judgements regarding initial recognition and useful economic lives significant to the Group's financial position and performance. The fair value of these assets is determined by use of appropriate valuation techniques, including the excess earnings and royalty relief method. The use of different assumptions for the expectation of future cash flows and the discount rate could change the value of the intangible assets. Management also utilises judgement in estimating the lives of these assets and in considering whether any indicators of impairment have arisen.

#### *Development costs*

Certain directly attributable costs which are incurred in the development of an intangible asset are capitalised. These costs are recognised as an asset once the Group has determined that it has the intention and the necessary resources to complete the relevant project, it is probable that the resulting asset will generate economic benefits for the Group and the attributable expenditure can be measured reliably. Determining whether it is probable that the resulting asset will generate economic benefits requires management judgement.

#### *Provisions*

A provision is required when the Group has a present legal or constructive obligation at the reporting date as a result of a past event, and it is probable that settlement will be required of an amount that can be reliably estimated. Provisions for warranty costs are recognised at the date of sale of the relevant products, at the directors' best estimate of the expenditure required to settle the Group's liability. These estimates are reviewed each year and updated as necessary.

### (d) Segmental reporting

An operating segment is identified by IFRS 8 as a component of an entity that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses relating to transactions with other components of the same entity; whose operating results are reviewed regularly by the entity's Chief Operating Decision Maker in order to allocate resources and assess its performance; and for which discrete financial information is available.

### (e) Revenue

The Group principally earns revenue through the supply of professional services and products to customers. Revenue is stated net of value added and other sales taxes.

#### *Technical Consulting*

The majority of the Group's revenue is earned from Technical Consulting contracts for professional services.

Technical Consulting contracts are typically awarded on a fixed price basis. Where the outcome can be estimated reliably, contract revenue is recognised to the extent that the services have been performed. Performance is measured based on costs incurred to date as a percentage of total expected costs.

Profit is not recognised on a contract, and revenue is not recognised in



**1 Accounting policies (continued)**

excess of recoverable costs, unless its outcome can be estimated reliably. It is deemed possible to reliably estimate the outcome of a contract when the Group is in possession of hardcopy documentation from a customer that is on terms and conditions acceptable to the Group and, subject to the successful execution of the contract, can be invoiced against and paid for. A loss on a fixed price contract is recognised immediately when it becomes probable that the contract cost will exceed the total contract revenue. Monthly reviews of contracts by local management, in conjunction with Group level reviews of contracts deemed to be of higher risk, ensure that the Group identifies and recognises expected losses on fixed price contracts immediately.

Revenue from contract variations closely linked to underlying fixed price contracts is recognised based on performance under the contract as a whole, but only to the extent that it can be reliably measured and it is probable that the customer will approve both the variation and the amount of additional revenue. Contract variations not closely linked to underlying fixed price contracts are treated as separate contracts.

Assets arising from the recognition of revenue are recorded in trade and other receivables, initially as amounts recoverable on contracts and transferred to trade receivables when invoiced. Amounts received from customers for services not yet recognised as revenue are initially classified as payments received in advance on contracts within trade and other payables.

Certain contracts may be awarded on a time and materials basis. For these contracts revenue recognition is based on the expected sales value of the time worked and costs incurred to date.

Royalty income is recognised on an accruals basis in accordance with the substance of the relevant agreements.

*Performance Products*

Within Performance Products, Group revenues are principally derived from the sale of high-performance products produced from assembly operations.

Revenue from the sale of goods is measured at the fair value of the consideration and is recognised when the Group has transferred the significant risks and rewards of ownership of the goods to the buyer, when the amount of revenue can be measured reliably and when it is probable that the economic benefits associated with the transaction will flow to the Group. This is typically on delivery of goods to the customer.

Performance Products also includes revenues derived from the sale of software licences. The Group's software products are standard version controlled products available for general sale. Normally there are no substantive obligations to fulfil following sale and revenue is recognised on delivery. Revenue derived from the supply of software-related services is recognised on a straight-line basis over the period during which the service is supplied.

**(f) Research and development**

Research and development expenditure is recognised as an expense in the income statement in the period in which it is incurred as disclosed in note 4, other than where the activity is performed for customers, in which case it is included within the contract accounting, or when development expenditure meets the criteria for recognition as an intangible asset as described in note 1(o), and includes all directly attributable costs.

**(g) Government grants**

The Group receives income-related grants from various national and supranational government agencies, principally as part funding of research and development projects but also as part funding for a capital project. A grant is not recognised in the income statement until there is reasonable assurance that the Group will comply with its conditions and that the grant will be received. Grants are presented in the income statement as a deduction from the related expenses. Grants contributing to the cost of an asset are deducted from the asset's cost and reflected in the depreciation throughout the useful life of the asset.

Grants are not normally received until after qualification conditions have been met and the related expenditure has been incurred. Where this is not the case, they are recorded within trade and other payables either as a payment in advance on contracts or as accruals and deferred income.

**(h) Retirement benefit costs**

The Group operates one defined benefit and several defined contribution retirement benefit schemes. Payments to defined contribution schemes are charged as an expense as they fall due. Differences between contributions payable in the year and contributions actually paid are shown as either accruals or prepayments in the statement of financial position. Payments to state-managed schemes are dealt with as payments to defined contribution schemes as the Group's obligations under the schemes are similar in nature.

For the defined benefit retirement benefit scheme, the cost of providing benefits is determined using the Projected Unit Credit method, with actuarial valuations being carried out at each reporting date. Actuarial gains and losses are recognised in the consolidated statement of comprehensive income except where they result from settlements or curtailments, in which case they are reported in the income statement.

Past service cost is recognised immediately to the extent that the benefits are already vested, and otherwise is amortised on a straight-line basis over the average period until the benefits become vested. The retirement benefit obligations recognised in the statement of financial position represent the present value of the defined benefit obligations as adjusted for unrecognised past service cost, and as reduced by the fair value of scheme assets. Any asset resulting from this calculation is limited to past service cost, plus the present value of available refunds and reductions in future contributions to the plan.

The expected return on the scheme's assets and the increase during the year in the present value of the schemes' liabilities arising from the passage of time are included in finance costs.

**(i) Share-based payments**

Equity-settled share-based payments are measured at fair value at the date of grant. The fair value determined at the grant date is expensed on a straight-line basis over the vesting period. The amount expensed is adjusted over the vesting period for changes in the estimate of the number of shares that will eventually vest, save for changes resulting from any market-related performance conditions.

Cash-settled share-based payments are measured at fair value at the date of grant and expensed over the period until the vesting date with the recognition of a corresponding liability. The liability is remeasured to fair value at each reporting date up to and including the settlement date, with changes in fair value recognised in profit or loss for the year. The amount expensed is adjusted over the vesting period for changes in the estimate of the number of shares that will eventually vest.

Fair value is measured by using the Monte Carlo model as explained in note 26. The expected life used in the model is adjusted for the effects of exercise restrictions and behavioural considerations.

## 1 Accounting policies (continued)

### (j) Leases

The costs of operating leases and amortisation of operating lease incentives are charged to the income statement on a straight-line basis over the period of the lease.

### (k) Foreign currency

#### Transactions

The functional currency of the Company and the presentation currency of the Group is pounds sterling. The functional currency of each subsidiary is determined by its individual circumstances. Transactions in currencies other than the functional currency are recorded at the rates of exchange prevailing on the dates of the transactions. At each reporting date, monetary assets and liabilities denominated in foreign currencies are retranslated at the rates prevailing on the reporting date. Non-monetary assets and liabilities denominated in foreign currencies are translated at the rates prevailing at the date when the transaction occurred. Gains and losses arising on retranslation and settlements are included in the income statement for the year.

#### Consolidation

On consolidation, the assets and liabilities of foreign operations, including goodwill and fair value adjustments are translated at exchange rates prevailing on the reporting date. Income and expense items are translated at the average exchange rates of the year unless exchange rates fluctuate significantly. Exchange differences arising from 1 July 2004, the date of transition to IFRS, are classified as equity and recognised in the translation reserve. Exchange differences arising before that date are not separately reported. On disposal of an operation, or part thereof, the related cumulative translation differences are recognised in the income statement as a component of the gain or loss arising on disposal.

### (l) Taxation

Income tax on the profit or loss for the year comprises current and deferred tax. Income tax is recognised in the income statement except to the extent that it relates to items recognised directly in equity, in which case it is recognised in equity.

Current tax is the expected tax payable on the taxable income for the year, using rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred tax is provided in full, using the liability method, on temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. The following temporary differences are not provided for: goodwill not deductible for tax purposes, the initial recognition of assets or liabilities that affect neither accounting nor taxable profit, and differences relating to investments in subsidiaries to the extent that they will probably not reverse in the foreseeable future. The amount of deferred tax provided is based on the expected manner of realisation or settlement of the carrying amount of assets and liabilities, using tax rates enacted or substantively enacted at the reporting date. A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the asset can be utilised. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

### (m) Dividends

Dividends are recognised as a liability in the year in which they are fully authorised. Interim dividends are recognised when paid.

### (n) Goodwill

Goodwill arising on consolidation represents the excess of the cost of acquisition over the Group's interest in the fair value of the identifiable assets and liabilities acquired. As permitted by IFRS, goodwill arising on acquisitions prior to 1 July 2004 has not been restated, but is retranslated using exchange rates prevailing at each reporting date.

Goodwill is recognised as an asset, and is carried at cost less accumulated impairment losses. It is not subject to amortisation, but is reviewed for impairment at least annually. The recoverable amount is evaluated as the higher of the net realisable value and the value in use. Estimating the value in use requires the Group to make an estimate of the expected future cash flows from the cash generating unit and also to choose a suitable discount rate in order to calculate the present value of those cash flows. Cash generating units are typically business units which are separately managed, for which financial results are individually reported and which generate cash flows that are largely independent. Any impairment is recognised immediately in the income statement and is not subsequently reversed. On disposal of an operation, the attributable amount of goodwill is included in the determination of the gain or loss on disposal.

### (o) Other intangible assets

#### Acquisition-related intangible assets

Acquisition-related intangible assets that are either separable or arising from contractual rights are recognised at fair value at the date of acquisition, and subsequently at amortised cost. Such intangible assets include customer contracts and relationships, trademarks and software. The fair value of acquired intangible assets is determined by use of appropriate valuation techniques, including the excess earnings and royalty relief method.

#### Software

The cost of a purchased intangible asset is the purchase price plus any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended.

#### Development costs

Certain directly attributable costs which are incurred in the development of an intangible asset are capitalised. These costs are recognised as an asset once the Group has determined that it has the intention and the necessary resources to complete the relevant project, it is probable that the resulting asset will generate economic benefits for the Group and the attributable expenditure can be measured reliably. These criteria have been met for the development costs of certain products, which have finite useful lives.

#### Amortisation

Amortisation is provided to write off the amortisable amount (being cost less residual value estimated at the latest balance sheet date) of intangible assets on a straight-line basis over estimated useful lives as follows:

- Customer contracts and relationships	8 years
- Other acquisition-related intangibles, consisting of trademarks and software	Between 3 and 8 years
- Software	Between 2 and 10 years
- Capitalised development costs	Between 2 and 5 years

1 Accounting policies (continued)

**(p) Property, plant and equipment**

The gross carrying amounts of property, plant and equipment are measured using the historic cost basis.

The cost of an item of property, plant and equipment is the purchase price and any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended. Grants contributing to the cost of an asset are deducted from the asset's cost and reflected in the depreciation throughout the useful life of the asset.

Depreciation is provided to write off the depreciable amount (being cost less residual value estimated at the latest balance sheet date) of items of property, plant and equipment on a straight-line basis over estimated useful lives as follows:

- Freehold buildings Between 25 and 50 years
- Short leasehold property Over the term of the lease
- Plant and machinery Between 4 and 10 years
- Fixtures, fittings and equipment Between 2 and 10 years
- Freehold land is not depreciated

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

Assets under construction are carried at cost, less any impairment in value, and are included in the relevant asset category. Depreciation of these assets commences when they are ready for their intended use.

**(q) Investments**

Investments in subsidiaries are stated at cost less any impairment in value.

**(r) Impairment of non-current assets**

Goodwill arising is allocated to the cash-generating units expected to benefit from the business combination. Its carrying value is tested annually, regardless of whether there is any indication of impairment, as part of the impairment testing of the cash generating unit to which it belongs.

Impairment losses arising on goodwill are not reversed. Where an impairment loss on other assets subsequently reverses, the carrying amount of the asset is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised in prior years.

Other intangible assets with finite useful lives and items of property, plant and equipment are tested whenever there is an indication that its carrying value may exceed its recoverable amount. The Group assesses at each reporting date whether there is any indication of impairment or reversal of impairments recognised in prior years. Where assets do not generate cash flows independently from other assets, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. The recoverable amount is the higher of fair value less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted. If the recoverable amount of an asset or cash generating unit is estimated to be less than its carrying amount, the carrying amount of the asset or cash generating unit is reduced to its recoverable amount.

**(s) Inventories**

Inventories are stated at the lower of cost, including attributable overheads, and net realisable value. Cost is calculated using the weighted average method in the Technical Consulting segment and using the first-in, first-out method in the Performance Products segment. Work in progress is stated at cost, including attributable overheads, less any foreseeable losses and progress payments received and receivable.

**(t) Financial instruments**

*Non-derivative financial instruments*

The Group's non-derivative financial instruments comprise trade receivables, trade payables, cash and cash equivalents and bank loans. In the statements of cash flow, cash and cash equivalents comprise cash balances and deposits with maturities of three months or less at inception and bank overdrafts repayable on demand. In the statements of financial position, bank overdrafts are shown within bank loans and overdrafts in current liabilities.

Trade receivables and payables are measured initially at fair value, and subsequently at amortised cost. Trade receivables are stated net of allowances for irrecoverable amounts. Evidence of impairment of trade receivables include indications that the debtors are experiencing significant financial difficulty or have significantly overdue balances.

Bank loans are recognised initially at fair value less directly attributable transaction costs and subsequently at amortised cost using the effective interest rate method. Differences between initial value and redemption value are recorded in the income statement over the period of the loan.

The fair values of non-derivative financial instruments other than loans due for repayment after more than one year are approximately equal to their book values. The fair value of loans due for repayment after more than one year is estimated by discounting the future contractual cash flows at the current market interest rate available to the Group for similar financial instruments.

*Derivative financial instruments and hedge accounting*

Derivative financial instruments are initially recognised and measured at fair value on the date a derivative contract is entered into and subsequently measured at fair value. The gain or loss on re-measurement is taken to the income statement except where the derivative is designated as a cash flow hedging instrument as described below.

The Group employs derivative financial instruments, including forward foreign exchange contracts, to mitigate currency exposures on trading transactions. The Group does not hedge forecast transactions that will result in the recognition of a non-financial asset or liability. Fair values of derivative financial instruments are based on the market values of similar instruments at the balance sheet date.

*Hedge accounting*

Gains or losses on cash flow hedges that are highly effective instruments for hedging the hedged items are recognised in equity. When the hedged item is recognised in the financial statements, the accumulated gains and losses recognised in equity are recycled to the income statement.

The ineffective portion of any hedges is recognised immediately in the income statement. Where a hedge no longer meets the effectiveness criteria, any gains or losses previously deferred in equity are only transferred to the income statement when the committed or forecasted transaction is recognised in the income statement.

Where hedge accounting has been applied to a cash flow hedge for a forecasted or committed transaction that is no longer expected to occur, then the cumulative gain or loss that has been recorded in equity is transferred to the income statement. When a hedging instrument expires or is sold, any cumulative gain or loss existing in equity at the time remains in equity and is recognised when the forecast transaction is ultimately recognised in the income statement.

## 1 Accounting policies (continued)

### (u) Provisions

A provision is required when the Group has a present legal or constructive obligation at the balance sheet date as a result of a past event, and it is probable that settlement will be required of an amount that can be reliably estimated. Provisions for warranty costs are recognised at the date of sale of the relevant products, at the directors' best estimate of the expenditure required to settle the Group's liability. These estimates are reviewed each year and are updated as necessary.

### (v) New standards and interpretations

At 30 June 2014, the International Accounting Standards Board and IFRS-IC had issued the standards and interpretations, shown below, that subject to adoption by the EU, are effective after the current year end and have not been early adopted by the Group.

Issued standards and interpretations not yet effective	Effective date (periods commencing)	Endorsed by EU
<i>International Financial Reporting Standards</i>		
IFRS 9 Financial Instruments	01-Jan-18	No
IFRS 14 Regulatory Deferral Accounts	01-Jan-16	No
IFRS 15 Revenue from Contracts with Customers	01-Jan-17	No
<i>Amendments to International Financial Reporting Standards</i>		
IAS 32 Financial Instruments: Presentation	01-Jan-14	Yes
IAS 36 Impairment of Assets	01-Jan-14	Yes
IAS 39 Financial Instruments: Recognition and Measurement	01-Jan-14	Yes
2012 Annual Improvements to IFRSs	01-Jul-14	No
2013 Annual Improvements to IFRSs	01-Jul-14	No
IAS 19 Employee Benefits	01-Jul-14	No
IFRS 11 Joint Arrangements	01-Jan-16	No
IAS 16 Property, Plant and Equipment	01-Jan-16	No
IAS 38 Intangible Assets	01-Jan-16	No
IAS 41 Agriculture	01-Jan-16	No
<i>International Financial Reporting Interpretations</i>		
IFRIC 21 Levies	01-Jan-14	Yes

It is not expected that the implementation of any of these standards and interpretations will have a significant impact on the Group's accounting or disclosures, with the exception of IFRS 15 Revenue from Contracts with Customers, which may impact upon the timing of revenue being recognised in future periods.



**2 Segmental reporting**

The Group's operating segments are being reported based on the financial information provided to the Chief Operating Decision Maker who is the Chief Executive Officer. The reportable segments are Technical Consulting and Performance Products. These were identified by evaluating the following factors: products and services, processes, types of customers and delivery methods.

- Technical Consulting provides services in relation to the development and implementation of engineering and environmental projects and in relation to management and operational consultancy.
- Performance Products generates income from manufacturing, assembly, software sales and related services.

Inter-segment revenue is eliminated on consolidation. Transactions are entered into on an arm's length basis in a manner similar to transactions with third parties.

Management monitors the operating results of its strategic business units separately for the purpose of making decisions about allocating resources and assessing performance. Segment performance is measured based on operating profit. Included within the Head Office and consolidation adjustments column in the tables below are functions managed by a central division (including the costs of running the public company).

**Year ended 30 June 2014**

	Technical Consulting	Performance Products	Head Office and consolidation adjustments	Total
	£m	£m	£m	£m
Revenue from external customers	180.8	55.4	-	236.2
Inter-segment revenues	1.5	1.3	-	2.8
<b>Total revenues</b>	<b>182.3</b>	<b>56.7</b>	<b>-</b>	<b>239.0</b>
Revenues carried out by other segments	(1.3)	(1.5)	-	(2.8)
<b>Revenue earned</b>	<b>181.0</b>	<b>55.2</b>	<b>-</b>	<b>236.2</b>
Underlying operating profit	17.8	7.9	(0.1)	25.6
Amortisation of acquired intangible assets	(1.1)	-	-	(1.1)
<b>Operating profit</b>	<b>16.7</b>	<b>7.9</b>	<b>(0.1)</b>	<b>24.5</b>
Net finance costs	-	-	(1.0)	(1.0)
<b>Profit before taxation</b>	<b>16.7</b>	<b>7.9</b>	<b>(1.1)</b>	<b>23.5</b>
<b>Total assets per financial statements</b>	<b>143.2</b>	<b>27.1</b>	<b>18.9</b>	<b>189.2</b>
<b>Total liabilities per financial statements</b>	<b>41.8</b>	<b>14.4</b>	<b>25.4</b>	<b>81.6</b>
Depreciation and amortisation	7.1	1.1	1.3	9.5
Capital expenditure - intangible assets	2.7	0.9	0.6	4.2
Capital expenditure - property, plant and equipment	6.3	1.6	0.2	8.1

## 2 Segmental reporting (continued)

Year ended 30 June 2013 - restated <sup>(1)</sup>

	Technical Consulting £m	Performance Products £m	Head Office and consolidation adjustments £m	Total £m
Revenue from external customers	181.7	48.0	-	229.7
Inter-segment revenues	0.4	2.0	-	2.4
Total revenues	182.1	50.0	-	232.1
Revenues carried out by other segments	(2.0)	(0.4)	-	(2.4)
<b>Revenue earned</b>	<b>180.1</b>	<b>49.6</b>	<b>-</b>	<b>229.7</b>
Underlying operating profit	18.5	6.1	(0.7)	23.9
Amortisation of acquired intangible assets	(0.7)	-	-	(0.7)
Acquisition costs	(1.0)	-	(0.3)	(1.3)
Operating profit	16.8	6.1	(1.0)	21.9
Net finance costs	-	-	(1.2)	(1.2)
<b>Profit before taxation</b>	<b>16.8</b>	<b>6.1</b>	<b>(2.2)</b>	<b>20.7</b>
<b>Total assets per financial statements</b>	<b>133.1</b>	<b>22.1</b>	<b>18.6</b>	<b>173.8</b>
<b>Total liabilities per financial statements</b>	<b>36.1</b>	<b>10.2</b>	<b>27.6</b>	<b>73.9</b>
Depreciation and amortisation	7.3	0.9	1.1	9.3
Capital expenditure - Intangible assets	1.2	-	0.9	2.1
Capital expenditure - Property, plant and equipment	6.5	2.0	0.2	8.7

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

Revenues from one customer represent approximately £27.2m (2013: £24.3m) of the Group's external revenue, of which £3.7m (2013: £6.7m) is reported in the Technical Consulting segment and £23.5m (2013: £17.6m) in the Performance Products segment. In the prior year revenues from another customer within the Technical Consulting segment represented approximately £36.3m of the Group's external revenue.

### Non-current assets by geographical location (excluding deferred tax assets)

Asset location	2014 £m	2013 £m
UK	62.8	59.7
US	7.2	7.8
Germany	19.4	21.2
Rest of the World	0.7	1.0
	<b>90.1</b>	<b>89.7</b>

## 3 Revenue

### a) Revenue by category

	2014 £m	2013 £m
Rendering of services	186.0	186.3
Sale of goods	50.2	43.4
<b>Total revenue</b>	<b>236.2</b>	<b>229.7</b>

**3 Revenue (continued)**
**b) Revenue by customer location**

	2014	2013
	£m	£m
UK	97.4	116.5
Germany	27.1	16.2
Rest of Europe	27.7	21.4
Europe total	152.2	154.1
US	38.0	36.4
China	14.0	8.0
Japan	17.0	18.3
Rest of Asia	13.9	11.6
Asia total	44.9	37.9
Rest of the World	1.1	1.3
<b>Total revenue</b>	<b>236.2</b>	<b>229.7</b>

**4 Operating profit**

	2014	2013
	£m	£m
The following items have been charged/(credited) in arriving at operating profit:		
Amortisation of intangible assets (note 12)	3.0	2.2
Depreciation of property, plant and equipment (note 13)	6.5	7.1
Cost of inventories recognised as expense	24.5	20.0
Operating lease rentals payable	5.1	5.0
Repairs and maintenance on property, plant and equipment	3.1	2.9
Other income - rental	(0.5)	(0.5)
Redundancy and termination costs	0.7	0.6
Profit on disposal of property, plant and equipment	-	(0.1)
Trade receivables impairment (note 16)	(0.2)	1.0
Foreign exchange losses/(gains)	0.5	(0.2)

	2014	2013
	£m	£m
With respect to the Group research and development activities the following items have been charged/(credited) in arriving at operating profit:		
Research and development expenditure in the year	5.5	9.0
Government grant income received in respect of part of this expenditure	(1.3)	(1.2)
	<b>4.2</b>	<b>7.8</b>

	2014	2013
	£m	£m
During the year the Group obtained the following services from the Group's auditors and network firms:		
Fees payable to the parent company's auditor for the audit of the parent company and consolidated financial statements	0.1	0.1
Fees payable to the parent company's auditor and its associates for other assurance services:		
The audit of the parent company's subsidiaries, pursuant to legislation	0.2	0.2
Audit-related assurance services	0.1	0.1
Other non-audit services	-	0.2
	<b>0.4</b>	<b>0.6</b>

Fees payable to the parent company's auditor comprised £139,000 (2013: £113,000) for the audit of the parent company and consolidated financial statements, £187,000 (2013: £242,000) for the audit of the parent company's subsidiaries and £46,000 (2013: £45,000) for audit-related assurance services, which related to the interim review.

Fees payable to the parent company's auditor for other non-audit services of £4,000 (2013: £151,000) comprised £nil (2013: £107,000) for due diligence in respect of the AEA acquisition and £4,000 (2013: £44,000) for other services.

**5 Employees**

	2014	2013
	£m	£m
Staff costs		
Wages and salaries	99.3	95.0
Social security costs	11.6	10.3
Other pension costs (note 22)	5.4	4.3
Share-based payments (note 26)	1.6	0.7
	<b>117.9</b>	<b>110.3</b>

	2014	2013
	Number	Number
Average monthly number of employees (including executive directors) during the year		
Technical Consulting	1,787	1,693
Performance Products	248	241
Head Office	40	40
	<b>2,075</b>	<b>1,974</b>

	2014	2013
	£m	£m
Key management compensation		
Short-term employee benefits	3.6	3.7
Share-based payments	0.8	0.2
Post-employment benefits	0.2	0.2
Termination benefits	-	0.2
	<b>4.6</b>	<b>4.3</b>

The key management personnel are the Board of Directors and the Managing Directors within the UK, US, Germany and Asia.

**6 Net finance costs**

	2014	2013
	£m	Restated <sup>(1)</sup> £m
Finance income:		
Bank interest receivable	0.2	0.2
	<b>0.2</b>	<b>0.2</b>
Finance costs:		
Interest payable on bank borrowings	0.2	0.2
Defined benefit pension financing costs (note 22)	1.0	1.2
	<b>1.2</b>	<b>1.4</b>
<b>Net finance costs</b>	<b>(1.0)</b>	<b>(1.2)</b>

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)



**7 Taxation**

	2014	2013 Restated <sup>(1)</sup>
	£m	£m
Current tax:		
UK corporation tax	1.1	-
Foreign corporation tax	1.0	1.4
Total current tax	2.1	1.4
Deferred tax:		
Charge for year relating to temporary differences	2.1	2.8
Adjustment in respect of prior years	0.1	(0.3)
Total deferred tax	2.2	2.5
<b>Taxation</b>	<b>4.3</b>	<b>3.9</b>
Tax on items recognised directly in equity	(0.7)	(0.3)

Tax on items recognised directly in equity relates to the tax impact of remeasurements on the defined benefit scheme.

The Finance Act 2013 included legislation to reduce the main rate of UK corporation tax from 23% to 21% with effect from 1 April 2014 and by a further 1% to 20% on 1 April 2015. As these changes had been substantively enacted at the reporting date, closing deferred tax balances in the UK have therefore been valued at 20%.

The tax charge for the year is lower (2013: lower) than the standard rate of corporation tax in the UK. The differences are set out below.

	2014	2013 Restated <sup>(1)</sup>
	£m	£m
Profit for the year before tax	23.5	20.7
Profit for the year multiplied by rate of corporation tax in the UK of 22.5% (2013: 23.75%)	5.3	4.9
Effects of:		
Germany losses not recognised	1.2	1.4
Expenses not deductible for tax purposes	0.1	0.4
Government tax incentives <sup>(2)</sup>	(2.6)	(3.4)
Irrecoverable overseas tax <sup>(3)</sup>	0.8	0.6
Adjustments to taxation in respect of prior years	(0.2)	(0.1)
Other differences in tax rate/other	(0.3)	0.1
<b>Total taxation</b>	<b>4.3</b>	<b>3.9</b>

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

(2) Mainly relates to R&D tax credits

(3) Mainly relates to withholding taxes

**8 Dividends**

	2014	2013
	£m	£m
Final paid 10.0p per share (2013: 8.7p)	5.2	4.5
Interim paid 4.3p per share (2013: 4.0p)	2.3	2.1
<b>Equity dividends paid</b>	<b>7.5</b>	<b>6.6</b>

The directors are proposing a final dividend in respect of the financial year ended 30 June 2014 of 10.9p per share which will absorb £5.6m of retained earnings. It will be paid on 14 November 2014 to shareholders who are on the register of members at the close of business on 24 October 2014, subject to approval at the Annual General Meeting on 29 October 2014.

## 9 Earnings per share

Basic earnings per share is calculated by dividing the earnings attributable to ordinary shareholders by the weighted average number of shares outstanding during the year, excluding those held by an employee benefit trust for the LTIP and by the Share Incentive Plan for the free share scheme which are treated as cancelled for the purposes of the calculation.

For diluted earnings per share, the weighted average number of ordinary shares in issue is adjusted to assume conversion of all dilutive potential ordinary shares. These include potential awards of LTIP shares and options granted to employees where the exercise price is less than the market price of the Company's ordinary shares at year end.

Reconciliations of the earnings and the weighted average number of shares used in the calculations are set out below. Underlying earnings per share is also shown because the directors consider that this provides a more useful indication of underlying performance and trends over time.

	2014	2013
		Restated <sup>(1)</sup>
	£m	£m
<b>Earnings</b>	<b>19.2</b>	16.8
Add back amortisation of acquired intangible assets (net of tax)	0.9	0.5
Add back acquisition costs (net of tax)	-	1.0
<b>Underlying earnings</b>	<b>20.1</b>	18.3
	<b>Number of shares millions</b>	Number of shares millions
<b>Basic weighted average number of shares in issue</b>	<b>52.0</b>	51.7
Effect of dilutive potential shares	0.8	0.6
<b>Diluted weighted average number of shares in issue</b>	<b>52.8</b>	52.3
<b>Earnings per share</b>	<b>pence</b>	pence
Basic	<b>36.9</b>	32.5
Diluted	<b>36.4</b>	32.1
<b>Underlying earnings per share</b>	<b>pence</b>	pence
Basic	<b>38.7</b>	35.4
Diluted	<b>38.1</b>	35.0

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

## 10 Acquisition of business

On 8 November 2012 the Group acquired the business and certain operating assets of AEA Europe for total cash consideration of £18.0m.

The following table sets out the consideration paid for AEA Europe, together with the fair value of assets acquired and liabilities assumed.

	£m
Total consideration	18.0
Fair value of identifiable assets acquired and liabilities assumed	
Customer contracts and relationships (included in intangibles)	8.5
Other acquisition-related intangible assets	0.3
Property, plant and equipment	0.5
Trade and other receivables	7.2
Trade and other payables	(8.1)
Provisions	(0.3)
Total identifiable net assets	8.1
Goodwill	9.9
Total	18.0

Adjustments were made to identifiable assets and liabilities on acquisition to reflect their fair value. These included the recognition of customer-related intangible assets amounting to £8.5m and other acquisition-related intangible assets amounting to £0.3m. The goodwill arising on acquisition can be ascribed to the existence of a skilled, active workforce, developed expertise and processes and the opportunities to obtain new contracts and develop the business. None of these meet the criteria for recognition as intangible assets separable from goodwill. All of the goodwill recognised is expected to be deductible for tax purposes. Fair values were finalised during the year ended 30 June 2014 with no changes from those recorded at 30 June 2013.

**11 Goodwill**

Group	£m
At 1 July 2012	15.3
Acquisition of business (note 10)	9.9
Exchange adjustments	0.7
At 30 June 2013	25.9
Exchange adjustments	(0.8)
<b>At 30 June 2014</b>	<b>25.1</b>

Goodwill acquired in a business combination is allocated to the cash generating units (CGUs) which are expected to benefit from that business combination. The Group carries out an impairment review on goodwill on an annual basis or more frequently if there is an indication of impairment. The Group's impairment review compares the carrying value of each CGU to its recoverable amount. Recoverable amount is determined by a value in use calculation, which is derived from discounted cash flow calculations. An impairment is deemed to have occurred where the recoverable amount of a CGU is less than its carrying value.

Discounted cash flow calculations include pre-tax cash flows for a five year period. The five year cash flow forecasts are based on the budget for the following year (year one), the business plans for years two and three (the three year plan), and operating profit projections for years four and five, with an 85% operating cash flow conversion rate. The three year plan is prepared by management, reviewed and approved by the Board, and reflects past experience, management's assessment of the current contract portfolio, contract wins, contract retention, price increases, gross margin, as well as future expected market trends. Operating profit projections for years four and five, and cash flows beyond year five are projected into perpetuity at the lower of the planned growth rate in year three and the external forecast of the economic growth rate for the economies in which the CGU operates. Apart from operating cash flows and economic growth rates, the other key assumption is the pre-tax discount rate, which is derived from externally sourced data and reflects the current market assessment of the Group's time value of money and risks specific to the CGU.

The carrying value of goodwill and key assumptions for each CGU are as follows:

	Goodwill		Pre-tax discount rate		Into perpetuity growth rate	
	2014 £m	2013 £m	2014 %	2013 %	2014 %	2013 %
Ricardo UK *	<b>2.7</b>	2.7	<b>8.1</b>	8.2	<b>4.3</b>	3.3
Germany Technical Consulting	<b>12.5</b>	13.3	<b>7.8</b>	8.4	<b>3.1</b>	3.1
Ricardo-AEA	<b>9.9</b>	9.9	<b>8.1</b>	8.2	<b>4.3</b>	3.3
At 30 June 2013	<b>25.1</b>	25.9				

\* Goodwill relates to two businesses which have been fully integrated into Ricardo UK Limited (Gemini and Tarragon)

During the year ended 30 June 2014, the Group's operations in Germany experienced delays in order placement. The German business had a difficult start to the year, although improved financial performance was delivered in the second half of the year. The key assumptions within the German three year plans at 30 June 2014 were management's assessment of revenue from the year end order book and weighted opportunity pipeline; expected growth based on past experience and future market trends; and management's assessment of the level of costs required to deliver the planned revenue. The 30 June 2014 year end order book represents approximately 7 months of revenue.

The resulting trading forecasts and consequent cash flows support the carrying value of the goodwill at 30 June 2014. The recoverable amounts of the remaining CGUs are also in excess of the carrying values, and so no impairment has arisen in the year (2013: £nil). In considering sensitivities, no reasonable change in any of the above key assumptions would cause the recoverable amount to fall below the carrying value of the CGUs. These sensitivities include a 20% reduction in planned operating profit, a 5% reduction in planned revenue and a 1% increase in the pre-tax discount rate.

## 12 Other intangible assets

Group	Customer contracts and relationships £m	Other acquisition-related intangible assets £m	Software £m	Development costs £m	Total £m
<b>Cost</b>					
At 1 July 2012	-	-	15.1	1.2	16.3
Acquisition of business (note 10)	8.5	0.3	-	-	8.8
Additions	-	-	1.4	0.7	2.1
Disposals	-	-	(1.1)	-	(1.1)
Exchange rate adjustments	-	-	0.2	-	0.2
At 30 June 2013	8.5	0.3	15.6	1.9	26.3
Additions	-	-	1.2	3.0	4.2
Disposals	-	-	(0.1)	-	(0.1)
Exchange rate adjustments	-	-	(0.4)	-	(0.4)
<b>At 30 June 2014</b>	<b>8.5</b>	<b>0.3</b>	<b>16.3</b>	<b>4.9</b>	<b>30.0</b>
<b>Accumulated amortisation</b>					
At 1 July 2012	-	-	9.2	0.3	9.5
Charge for the year	0.7	-	1.3	0.2	2.2
Disposals	-	-	(1.1)	-	(1.1)
Exchange rate adjustments	-	-	0.1	-	0.1
At 30 June 2013	0.7	-	9.5	0.5	10.7
Charge for the year	1.1	-	1.5	0.4	3.0
Disposals	-	-	(0.1)	-	(0.1)
Exchange rate adjustments	-	-	(0.3)	-	(0.3)
<b>At 30 June 2014</b>	<b>1.8</b>	<b>-</b>	<b>10.6</b>	<b>0.9</b>	<b>13.3</b>
<b>Net book amounts</b>					
<b>At 30 June 2014</b>	<b>6.7</b>	<b>0.3</b>	<b>5.7</b>	<b>4.0</b>	<b>16.7</b>
At 30 June 2013	7.8	0.3	6.1	1.4	15.6
At 30 June 2012	-	-	5.9	0.9	6.8

Company	Software £m
<b>Cost</b>	
At 1 July 2012	5.7
Additions	0.9
At 30 June 2013	6.6
Additions	0.7
<b>At 30 June 2014</b>	<b>7.3</b>
<b>Accumulated amortisation</b>	
At 1 July 2012	0.7
Charge for the year	0.8
At 30 June 2013	1.5
Charge for the year	0.9
<b>At 30 June 2014</b>	<b>2.4</b>
<b>Net book amounts</b>	
<b>At 30 June 2014</b>	<b>4.9</b>
At 30 June 2013	5.1
At 30 June 2012	5.0

Software for both Group and the Company primarily comprises external purchase costs and internal costs that have been capitalised in respect of an ERP system. Software for both the Group and the Company includes £0.3m (2013: £0.4m) in respect of assets under construction which are not being amortised.

Development costs include £2.8m (2013: £0.3m) in respect of assets under construction which are not being amortised.

The amortisation charge of £3.0m (2013: £2.2m) is included within administration expenses in the Consolidated Income Statement.



**13 Property, plant and equipment**

Group	Land and buildings £m	Plant and machinery £m	Fixtures, fittings and equipment £m	Total £m
<b>Cost</b>				
At 1 July 2012	23.7	100.2	16.3	140.2
Acquisition of business (note 10)	-	0.2	0.3	0.5
Additions	3.0	4.0	1.7	8.7
Disposals	(0.2)	(6.1)	(1.9)	(8.2)
Exchange rate adjustments	0.2	1.4	0.3	1.9
At 30 June 2013	26.7	99.7	16.7	143.1
Additions	3.6	3.2	1.3	8.1
Disposals	-	(0.4)	(0.2)	(0.6)
Exchange rate adjustments	(0.4)	(3.5)	(0.7)	(4.6)
<b>At 30 June 2014</b>	<b>29.9</b>	<b>99.0</b>	<b>17.1</b>	<b>146.0</b>
<b>Accumulated depreciation</b>				
At 1 July 2012	6.0	76.6	12.0	94.6
Charge for the year	0.8	4.7	1.6	7.1
Disposals	(0.2)	(6.0)	(1.9)	(8.1)
Exchange rate adjustments	0.1	1.0	0.2	1.3
At 30 June 2013	6.7	76.3	11.9	94.9
Charge for the year	0.8	3.8	1.9	6.5
Disposals	-	(0.3)	(0.2)	(0.5)
Exchange rate adjustments	(0.2)	(2.6)	(0.4)	(3.2)
<b>At 30 June 2014</b>	<b>7.3</b>	<b>77.2</b>	<b>13.2</b>	<b>97.7</b>
<b>Net book amounts</b>				
<b>At 30 June 2014</b>	<b>22.6</b>	<b>21.8</b>	<b>3.9</b>	<b>48.3</b>
At 30 June 2013	20.0	23.4	4.8	48.2
At 30 June 2012	17.7	23.6	4.3	45.6

The carrying value of assets under construction included in property, plant and equipment amounts to £7.3m (2013: £4.4m). This includes £5.3m (2013: £2.1m) in respect of the Vehicle Emissions Research Centre in the UK, which is made up of £8.4m (2013: £3.7m) additions less £3.1m (2013: £1.6m) of government grants received.

At 30 June 2014, contracts had been placed for future capital expenditure, which have not been provided for in the financial statements, amounting to £4.5m (2013: £4.5m) net of government grants received.

Company	Land and buildings £m	Fixtures, fittings and equipment £m	Total £m
<b>Cost</b>			
At 1 July 2012	11.7	0.2	11.9
Additions	-	0.1	0.1
At 30 June 2013	11.7	0.3	12.0
Additions	-	0.2	0.2
<b>At 30 June 2014</b>	<b>11.7</b>	<b>0.5</b>	<b>12.2</b>
<b>Accumulated depreciation</b>			
At 1 July 2012	3.7	-	3.7
Charge for the year	0.3	-	0.3
At 30 June 2013	4.0	-	4.0
Charge for the year	0.3	0.1	0.4
<b>At 30 June 2014</b>	<b>4.3</b>	<b>0.1</b>	<b>4.4</b>
<b>Net book amounts</b>			
<b>At 30 June 2014</b>	<b>7.4</b>	<b>0.4</b>	<b>7.8</b>
At 30 June 2013	7.7	0.3	8.0
At 30 June 2012	8.0	0.2	8.2

A contingent liability of up to £2.8m which is associated with a guarantee provided to the Ricardo Group Pension Fund in July 2013 (see note 34) is secured on specific land and buildings.

## 14 Investments

Company	Shares in subsidiaries
At 1 July 2012	49.8
Additions	18.5
<b>At 30 June 2013 and at 30 June 2014</b>	<b>68.3</b>

Details of the principal operating subsidiaries are shown in note 35.

The directors consider that the fair value of investments is not less than the carrying value.

## 15 Inventories

Group	2014 £m	2013 £m
Raw materials and consumables	5.5	5.3
Work in progress	2.4	2.4
	<b>7.9</b>	<b>7.7</b>

During the year £0.2m of inventory was written back and included as a credit in cost of sales in the Consolidated Income Statement. In the prior year £0.3m of inventory was written down as a cost.

## 16 Trade and other receivables

	Group		Company	
	2014 £m	2013 £m	2014 £m	2013 £m
Trade receivables	40.2	35.2	-	-
Less provision for impairment of receivables	(0.5)	(0.9)	-	-
Trade receivables - net	39.7	34.3	-	-
Amounts recoverable on contracts (note 17)	20.2	14.6	-	-
Amounts owed by Group undertakings	-	-	48.6	46.0
Prepayments and accrued income	4.2	4.1	0.8	0.8
Other receivables	2.5	1.9	-	0.1
	<b>66.6</b>	<b>54.9</b>	<b>49.4</b>	<b>46.9</b>

Trade and other receivables analysis by category:

Current assets	66.6	54.9	49.4	46.9
	<b>66.6</b>	<b>54.9</b>	<b>49.4</b>	<b>46.9</b>

Provision for impairment of receivables:

At 1 July	(0.9)	(0.3)	-	-
Income statement credit/(charge)	0.2	(1.0)	-	-
Amounts utilised	0.2	0.4	-	-
<b>At 30 June</b>	<b>(0.5)</b>	<b>(0.9)</b>	<b>-</b>	<b>-</b>

In respect of the Company, amounts owed by Group undertakings are interest-bearing at normal commercial rates, unsecured and repayable on demand.

The provision for impairment of receivables has been calculated based on past experience and is in relation to specific customers.

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### 17 Contracts in progress

Group	2014 £m	2013 £m
Amounts due from contract customers:		
Amounts expected to be recovered within 12 months (note 16)	20.2	14.6
Amounts due to contract customers:		
Amounts expected to be settled within 12 months (note 18)	(14.4)	(13.3)
Net amounts due from contract customers	5.8	1.3
Analysed as:		
Contract costs incurred plus recognised profits less recognised losses to date	290.3	294.0
Less progress billings	(284.5)	(292.7)
Contracts in progress at reporting date	5.8	1.3
IAS 11 contract revenue	175.4	178.1

### 18 Trade and other payables

	Group		Company	
	2014 £m	2013 £m	2014 £m	2013 £m
Trade payables	15.7	4.9	0.3	0.2
Tax and social security payable	3.8	3.1	0.3	0.3
Amounts owed to Group undertakings	-	-	6.0	8.2
Accruals and deferred income	18.5	22.1	3.0	5.3
Payments received in advance on contracts (note 17)	14.4	13.3	-	-
Other payables	3.9	3.9	2.4	2.0
	56.3	47.3	12.0	16.0

In respect of the Company, amounts owed to Group undertakings are interest-free, have no fixed repayment date and no security has been given.

### 19 Bank loans and overdrafts

	Group		Company	
	2014 £m	2013 £m	2014 £m	2013 £m
Bank overdrafts	-	0.7	-	0.5
Total current borrowings	-	0.7	-	0.5

The Group has banking facilities for its UK companies which together have a net overdraft limit. The balances are shown gross in the financial statements as cash and cash equivalents and bank overdrafts.

## 20 Fair value of financial assets and liabilities

There are no differences between the fair value of financial assets and liabilities and their carrying value:

	Group		Company	
	2014	2013	2014	2013
	£m	£m	£m	£m
Assets as per statements of financial position				
Loans and receivables:				
Trade receivables	39.7	34.3	-	-
Amounts owed by Group undertakings	-	-	48.5	46.0
Cash and cash equivalents	12.6	6.8	0.5	0.6
	<b>52.3</b>	41.1	<b>49.0</b>	46.6
Liabilities as per statements of financial position				
Other financial liabilities at amortised cost:				
Bank loans and overdrafts	-	0.7	-	0.5
Trade payables	15.7	4.9	0.3	0.2
Amounts owed to Group undertakings	-	-	6.0	8.2
	<b>15.7</b>	5.6	<b>6.3</b>	8.9

Derivative financial instruments of £nil (2013: £nil) relate to forward foreign exchange contracts (see note 21 (g)), which are level 2 derivative financial instruments under the IFRS 13 fair value hierarchy.

### Summary of methods and assumptions:

Short-term borrowings and deposits -	The fair value of short-term deposits, loans and overdrafts approximates to the carrying amount because of the short maturity of these instruments.
Long-term borrowings -	The fair value of bank loans approximates to the carrying value in the statement of financial position as they are mainly floating rate loans where payments are reset to market rates at regular intervals.
Derivatives -	Derivative financial instruments are initially recognised and measured at fair value on the date a derivative contract is entered into and subsequently measured at fair value. Fair value is estimated by discounting expected future contractual cash flows using prevailing interest rate curves. Amounts denominated in foreign currencies are valued at the exchange rate prevailing at the reporting date (Level 2 as defined by IFRS 13 Fair Value Measurement).

During the year the following net foreign exchange gains and losses were recognised:

	2014	2013
	£m	£m
Net exchange (losses)/gains		
(Loss)/profit:		
On loans and receivables	(2.4)	1.4
On other financial assets and liabilities	1.9	(1.2)
	<b>(0.5)</b>	0.2

## 21 Financial risks

### (a) Objectives, policies and strategies

The financial risks faced by the Group, and the Company, comprise capital risk, liquidity risk, credit risk and market risk, interest rate risk and foreign exchange risk. The Board reviews and agrees policies for managing each of these risks. The Group and the Company have no material exposure to commodity price fluctuations, and this situation is not expected to change in the foreseeable future.

The Group's financial instruments comprise floating rate borrowings, the main purpose of which is to raise finance for the Group's operations and forward foreign exchange contracts used to manage currency risks. The Company's financial instruments comprise floating rate borrowings.

### (b) Capital risk

The objectives when managing capital are to safeguard the ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

Capital is monitored on the basis of the gearing ratio. This ratio is calculated as net debt divided by total capital. Net debt is calculated as bank loans less cash and cash equivalents. Total capital is calculated as equity as shown in the balance sheet plus net debt.

	Group		Company	
	2014	2013	2014	2013
	£m	£m	£m	£m
Gearing ratio				
Net (funds)/debt (note 31)	(12.6)	(6.1)	(0.5)	(0.1)
Total equity	107.6	99.9	103.7	97.2
Total capital	95.0	93.8	103.2	97.1
<b>Gearing ratio</b>	-	-	-	-



**21 Financial risks (continued)**
**(c) Liquidity risk**

The Group and Company policy towards managing their liquidity risks is to maintain a mix of short and medium-term borrowing facilities with their bankers. Short-term flexibility is provided by bank overdraft facilities. In addition, the Group and Company maintain term borrowing facilities in order to provide the appropriate level of finance to support the current and future requirements. As the cash profile on large contracts can vary significantly, the Group seeks committed facilities that provide substantial headroom against forecast requirements to mitigate its exposure.

At the year end, the Group held total facilities of £49.2m (2013: £52.1m). This included committed facilities of £35.0m (2013: £35.0m). No committed facilities were drawn at 30 June 2014 or 30 June 2013. Of the committed facilities, a £15.0m facility is available for the period to November 2015 and £20.0m is available until December 2016. In addition the Group had uncommitted facilities including overdrafts of £14.2m at 30 June 2014 (2013: £17.1m), which mature throughout the year to June 2015 and are renewable annually.

	Group		Company	
	2014	2013	2014	2013
	£m	£m	£m	£m
Maturity of trade payables				
Maturing				
Within 1 month	(10.0)	(2.6)	(0.3)	(0.2)
After 1 month and within 3 months	(4.9)	(2.0)	-	-
After 3 months and within 12 months	(0.8)	(0.3)	-	-
	(15.7)	(4.9)	(0.3)	(0.2)

**(d) Credit risk**

The Group is exposed to credit risk in respect of its trade receivables, which are stated net of provision for impairment. Exposure to this risk is mitigated by careful evaluation of the granting of credit and the use of credit insurance where practicable.

Concentrations of credit risk with respect to trade receivables are limited due to the Group's customer base being large and unrelated.

	2014	2013
	£m	£m
Ageing of net trade receivables		
Not overdue and not impaired	28.6	22.9
Overdue but not impaired:		
0 - 90 days overdue	8.9	9.6
91 - 180 days overdue	1.8	1.5
Over 180 days overdue	0.4	0.3
	39.7	34.3

Our customers include the world's major transportation original equipment manufacturers, supply chain organisations, energy companies, financial institutions and governments. Revenue by customer location is disclosed within note 3 (b). Trade receivables that are neither past due nor impaired are derived from these customer groups and locations. Net trade receivables of £28.6m (2013: £22.9m) that are neither past due nor impaired consist of £19.8m (2013: £16.6m) relating to the UK businesses, £2.0m (2013: £1.3m) relating to the German business, £5.2m (2013: £4.3m) relating to the US business and £1.6m (2013: £0.7m) relating to the China business. We have very limited experience of bad debts with any of these customers. £18.6m of the total net trade receivables balance was received in July 2014. Due to these factors the directors believe there is no further credit risk provision required in excess of any existing provision for impairment.

	Group		Company	
	2014	2013	2014	2013
	£m	£m	£m	£m
Maximum exposure to bank counterparty risk				
Cash at bank and in hand	12.6	6.8	0.5	0.6
	12.6	6.8	0.5	0.6

Cash at bank and in hand of £12.6m (2013: £6.8m) consists of £6.0m (2013: £2.0m) held in the UK, £1.0m (2013: £0.7m) held in Germany, £2.9m (2013: £1.1m) held in the US, £1.2m (2013: £2.1m) held in China and £1.5m (2013: £0.9m) held in the rest of the world.

In addition, the Group is exposed to bank credit risk in respect of money held on deposit and certain derivative hedging transactions entered into with banks. Exposure to this form of risk is mitigated as material transactions are only undertaken with bank counterparties that have high credit ratings assigned by international credit-rating agencies. The Group further limits risk in this area by setting an overall credit limit for all transactions with each bank counterparty in accordance with the institution's credit standing.

The Company's exposure to credit risk comprises receivables from related parties, money held on deposit and certain derivative hedging transactions entered into with banks. Exposure to this form of risk is mitigated as material transactions are only undertaken with bank counterparties that have high credit ratings assigned by international credit-rating agencies. The Company further limits risk in this area by setting an overall credit limit for all transactions with each bank counterparty in accordance with the institution's credit standing.

## 21 Financial risks (continued)

### (e) Market risk

#### Interest rate risk

The Group and Company borrowings and cash balances at floating interest rates are exposed to cash flow interest rate risk. This exposure to interest rate movements is not currently hedged, either by the Group or the Company, as its exposures are relatively small, although the policy is reviewed on an ongoing basis.

	Group		Company	
	2014	2013	2014	2013
Financial assets and liabilities by interest type	£m	£m	£m	£m
Floating rate financial liabilities	-	(0.7)	-	(0.5)
No interest financial liabilities	(15.7)	(4.9)	(6.3)	(8.4)
Floating rate financial assets	7.6	4.4	48.5	46.0
No interest financial assets	44.7	36.7	0.5	0.6
	<b>36.6</b>	<b>35.5</b>	<b>42.7</b>	<b>37.7</b>

#### Foreign exchange risk

The Group faces currency exposures on trading transactions undertaken by its subsidiaries in foreign currencies and balances arising therefrom, and on the translation of profits earned in and net assets of overseas subsidiaries, primarily in the US and in Germany.

The carrying amounts of the Group's foreign currency denominated monetary assets and liabilities are:

	Assets		Liabilities	
	2014	2013	2014	2013
	£m	£m	£m	£m
US Dollar	9.9	8.2	(1.3)	(0.1)
Euro	5.8	4.9	(3.8)	(1.0)

It is the Group's policy not to undertake any speculative currency transactions.

The Group hedges transactional exposures relating to its foreign currency exposures on contracts by taking out forward foreign exchange contracts or other derivative financial instruments.

The Company faces currency risk on its euro and US dollar denominated receivables from related parties.

### (f) Analysis of sensitivity of financial instruments to market risk

#### Exchange rate sensitivity

A 10% change in the value of either the US dollar or euro would have an insignificant impact on the value of financial instruments at the year end, where the financial instruments are not in the functional currency of the entity that holds them.

#### Interest rate sensitivity

A 1% change in either the euro, US dollar or sterling interest rates would have an insignificant impact on the value of the Group's floating rate financial instruments at the year end.

**21 Financial risks (continued)**
**(g) Hedges and hedge accounting**

	2014	2013
	£m	£m
Fair values of hedging instruments at 30 June		
Cash flow hedges	-	-
<b>Total</b>	<b>-</b>	<b>-</b>

*Cash flow hedges*

The Group uses forward sales of foreign currencies designated as cash flow hedges to hedge the exposure arising from orders in foreign currencies that could affect the income statement. The risk being hedged is the euro/sterling and the US dollar/sterling spot and interest rate differential exchange rate risk arising from orders in foreign currencies. The spot and interest rate differential component of the forward contracts taken out is designated as a hedge of the change in fair value of the cash flows on the firm orders in foreign currencies that are attributable to movements in the euro/sterling and US dollar/sterling spot and interest rates. Provided the hedge is effective, changes in the fair value of the hedging instrument are initially recognised in the hedging reserve in equity. They are recycled to the income statement and included within administration expenses when the hedged transaction affects profit or loss. The ineffective portion of the change in the fair value of the instrument (if any) is recognised directly in profit or loss.

	2014	2013
	£m	£m
Amounts relating to cash flow hedges in the year		
Recognised in equity	-	-
Removed from equity and included in profit and loss	-	-

	2014	2013
	£m	£m
Cash flows expected to occur and affect profit and loss		
Within 3 months	18.4	15.3
After 3 months and within 12 months	-	-
	<b>18.4</b>	<b>15.3</b>

**22 Retirement benefit obligations**
**Group and Company**
*Defined contribution and benefit schemes*

The Group operates various defined contribution pension schemes, the assets of which are held in separately administered funds. The Group also operates a defined benefit pension scheme, the Ricardo Group Pension Fund ("RGPF"), which closed to future accrual on 28 February 2010. The pension costs relating to the RGPF are assessed in accordance with the advice of Mercer, qualified actuaries, using the Projected Unit Credit method. Responsibility for the governance of the RGPF lies with the Board of Trustees. The Board of Trustees must be composed of representatives of the Group and RGPF participants in accordance with the RGPF's regulations.

The last completed triennial valuation of the RGPF was at 5 April 2011. At that date, the assets of the fund had a market value of £75.8 million and were sufficient to cover 81% of the benefits that had accrued to members, after allowing for expected future increases in earnings. Contributions expected to be paid to the plan during the year ending 30 June 2015 are £4.3m. The next triennial valuation is due on 5 April 2014, and this process is expected to complete in the year ending 30 June 2015.

The IAS 19 'Employee Benefits' valuation was completed as at 30 June 2014 by Mercer, qualified actuaries. The post-retirement mortality assumptions used in both years are the standard SAPS Normal series tables with 100% multiplier for males and 97% multiplier for females, and with future improvements in line with the Continuous Mortality Investigation ("CMI") core projection model with 1.25% long-term trend (based upon each member's year of birth). Under these mortality assumptions the expected future lifetime from age 65 is:

Age	2014		2013	
	Males	Females	Males	Females
65 in 20 years	24.4	27.1	24.3	27.0
65	22.6	25.2	22.5	25.1

## 22 Retirement benefit obligations (continued)

The other major assumptions made were:

	At 30 June 2014	At 30 June 2013
Discount rate	4.35%	4.65%
Inflation	3.35%	3.30%
Rate of increase in pensionable salaries	3.35%	3.30%
Rate of increase in pensions in payment:		
Pre 1 July 2002 accrual	3.55%	3.50%
Post 1 July 2002 accrual	3.20%	3.15%
Rate of increase in pension in deferment	2.35%	2.30%
Percentage of pension to be commuted for a lump sum at retirement	25.00%	25.00%

Scheme assets are comprised as follows:

	2014			2013		
	Quoted £m	Unquoted £m	Total £m	Quoted £m	Unquoted £m	Total £m
Equities	26.8	-	26.8	22.7	-	22.7
Bonds	46.6	-	46.6	43.4	-	43.4
Cash	-	0.1	0.1	-	0.6	0.6
Property	-	5.5	5.5	-	4.9	4.9
Diversified Growth Funds	19.2	-	19.2	18.1	-	18.1
<b>Total assets</b>	<b>92.6</b>	<b>5.6</b>	<b>98.2</b>	<b>84.2</b>	<b>5.5</b>	<b>89.7</b>

The actual return on the scheme assets during the year was £8.2m (2013: £8.1m). Movements in the fair value of scheme assets and present value of defined benefit obligations were as follows:

	2014			2013		
	Fair Value of Plan Assets £m	Present Value of Obligation £m	Net total £m	Fair Value of Plan Assets £m	Present Value of Obligation £m	Net total £m
At 1 July	89.7	(109.4)	(19.7)	81.1	(101.5)	(20.4)
Current service cost	-	-	-	-	-	-
Interest income/(expense)	4.2	(5.1)	(0.9)	3.7	(4.6)	(0.9)
Credit/(charge) to the income statement	4.2	(5.1)	(0.9)	3.7	(4.6)	(0.9)
Return on plan assets, excluding amounts included in interest income	4.0	-	4.0	4.4	-	4.4
Loss from change in financial assumptions	-	(7.2)	(7.2)	-	(7.1)	(7.1)
Total remeasurements in other comprehensive income	4.0	(7.2)	(3.2)	4.4	(7.1)	(2.7)
Contributions from sponsoring companies	4.3	-	4.3	4.3	-	4.3
Benefits paid	(4.0)	4.0	-	(3.8)	3.8	-
Total movements	8.5	(8.3)	0.2	8.6	(7.9)	0.7
<b>At 30 June</b>	<b>98.2</b>	<b>(117.7)</b>	<b>(19.5)</b>	<b>89.7</b>	<b>(109.4)</b>	<b>(19.7)</b>



**22 Retirement benefit obligations (continued)**

The sensitivity of the defined benefit obligation to changes in the principal assumptions is:

	Change in assumption	Impact on defined benefit obligation
Decrease in discount rate	0.25%	Increase by £5.6m
Increase in inflation rate	0.25%	Increase by £3.7m
Increase in life expectancy	1 year	Increase by £3.2m

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice this is unlikely to occur and changes in some of the assumptions may be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions, the same method has been applied as when calculating the pension liability recognised within the statement of financial position. The methods and types of assumptions used in preparing the sensitivity analysis did not change when compared to the previous period.

The Group is exposed to a number of risks from the RGPF, the most significant of which are described below:

Asset volatility	The plan liabilities are calculated using a discount rate set with reference to corporate bond yields. If plan assets underperform this yield, the deficit will increase. The plan holds a significant proportion of equities and diversified growth funds, which are expected to outperform corporate bonds in the long-term while providing volatility and risk in the short-term. The Group believes that, due to the long-term nature of the plan liabilities and the strength of the supporting Group, this is an appropriate strategy to manage the plans efficiently.
Changes in bond yields	A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plan's bond holdings.
Inflation risk	Although there are some caps in place to protect the plan against extreme inflation, increases in the level of inflation will lead to higher liabilities.
Life expectancy	The plan provides benefits for the life of the members, so increases in the life expectancy will result in an increase in the plan's liabilities.

The weighted average duration of the defined benefit obligation is 18 years.

Expected maturity analysis of undiscounted pension benefits:

	<b>2014</b>
	<b>£m</b>
Less than a year	<b>3.7</b>
Between 1-2 years	<b>3.8</b>
Between 2-5 years	<b>12.1</b>
Next 5 years	<b>23.0</b>

	<b>2014</b>	2013
	<b>£m</b>	Restated <sup>(1)</sup>
	<b>£m</b>	£m
Amounts charged in the income statement in respect of pensions		
In respect of defined contribution schemes	<b>5.4</b>	4.3
In respect of defined benefit schemes	<b>1.0</b>	1.2
	<b>6.4</b>	5.5
Included within:		
Staff costs	<b>5.4</b>	4.3
Finance costs	<b>1.0</b>	1.2
	<b>6.4</b>	5.5

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

## 23 Deferred tax

## (a) Deferred tax analysis by category

	Group		Company	
	2014	2013	2014	2013
	£m	£m	£m	£m
Non-current deferred tax assets	10.9	13.4	5.3	5.9
Non-current deferred tax liabilities	(0.5)	(0.6)	(0.5)	(0.6)
<b>Net deferred tax asset</b>	<b>10.4</b>	<b>12.8</b>	<b>4.8</b>	<b>5.3</b>

## (b) Movements in net deferred tax assets and liabilities

	Accelerated capital allowances	Retirement benefit obligations	Tax losses and credits	Unrealised capital gains	Other	Total
Group	£m	£m	£m	£m	£m	£m
At 1 July 2012	(3.4)	4.9	12.7	(0.7)	1.2	14.7
(Charged)/credited to the income statement- restated <sup>(1)</sup>	(0.3)	(0.8)	(2.2)	0.1	0.7	(2.5)
Credited/(charged) to statement of comprehensive income - restated <sup>(1)</sup>	-	0.5	-	-	(0.2)	0.3
Exchange rate adjustments	-	-	0.3	-	-	0.3
At 30 June 2013	(3.7)	4.6	10.8	(0.6)	1.7	12.8
(Charged)/credited to the income statement	(0.3)	(0.9)	(0.8)	0.1	(0.3)	(2.2)
Credited/(charged) to statement of comprehensive income	-	0.3	-	-	0.4	0.7
Exchange rate adjustments	0.1	(0.1)	(0.8)	-	(0.1)	(0.9)
<b>At 30 June 2014</b>	<b>(3.9)</b>	<b>3.9</b>	<b>9.2</b>	<b>(0.5)</b>	<b>1.7</b>	<b>10.4</b>

At 30 June 2014 and 30 June 2013 there were no temporary differences associated with undistributed earnings of subsidiaries for which deferred tax liabilities have been recognised. No liability would be recognised in respect of these differences because the Group is in a position to control the timing of the reversal of the temporary differences and it is probable that such differences will not reverse in the foreseeable future.

Due to a legislative restriction in Germany on the utilisation of tax losses in any one year, a deferred tax asset has not been recognised for the German current year tax losses. In addition, a deferred tax asset was not recognised for the German tax losses in the year ended 30 June 2013. The deferred tax asset not recognised in respect of these German tax losses at 30 June 2014 amounts to £2.6m. The carrying amount at 30 June 2014 of the deferred tax asset in Germany that was recognised in previous years is £3.7m. The year end order book, weighted pipeline of opportunities, three year business plan and strategy, and the resulting profit projections support the recoverability of this asset.

	Retirement benefit obligations	Tax losses and credits	Unrealised capital gains	Other	Total
Company	£m	£m	£m	£m	£m
At 1 July 2012	4.9	0.9	(0.7)	0.6	5.7
(Charged)/credited to the income statement- restated <sup>(1)</sup>	(0.9)	(0.5)	0.1	0.3	(1.0)
Credited to statement of comprehensive income - restated <sup>(1)</sup>	0.6	-	-	-	0.6
At 30 June 2013	4.6	0.4	(0.6)	0.9	5.3
(Charged)/credited to the income statement	(1.0)	(0.1)	0.1	(0.2)	(1.2)
Credited to statement of comprehensive income	0.3	-	-	0.4	0.7
<b>At 30 June 2014</b>	<b>3.9</b>	<b>0.3</b>	<b>(0.5)</b>	<b>1.1</b>	<b>4.8</b>

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

## FINANCIAL STATEMENTS

### 24 Provisions

Group	Warranty provision £m	Onerous lease provision £m	Dilapidation provision £m	Total provisions £m
At 1 July 2012	1.7	-	-	1.7
Arising on acquisition	-	0.2	0.1	0.3
Charged to income statement	1.1	-	-	1.1
Utilised in year	(0.2)	(0.2)	-	(0.4)
Released in year	(0.1)	-	-	(0.1)
At 30 June 2013	2.5	-	0.1	2.6
Charged to income statement	1.0	-	0.1	1.1
Utilised in year	(0.2)	-	-	(0.2)
Released in year	(1.4)	-	-	(1.4)
<b>At 30 June 2014</b>	<b>1.9</b>	<b>-</b>	<b>0.2</b>	<b>2.1</b>

The warranty provision reflects the directors' best estimate of the cost needed to fulfil the Group's warranty obligations within a number of contracts. This is expected to unwind over the periods of the warranty obligations, which are less than five years.

The dilapidation provision reflects the directors' best estimate of future obligations relating to the maintenance of leasehold properties arising from events such as lease renewals or terminations.

	2014 £m	2013 £m
Analysis of total provisions		
Non-current	1.4	2.2
Current	0.7	0.4
<b>Total</b>	<b>2.1</b>	<b>2.6</b>

### 25 Called up share capital

Group and Company	2014 Number	2013 Number	2014 £m	2013 £m
Allotted, called up and fully paid ordinary shares of 25p each				
At 1 July	52,005,432	51,846,929	13.0	13.0
Allotted under share option schemes	80,000	30,654	-	-
Allotted under LTIP scheme	187,453	127,849	0.1	-
<b>At 30 June</b>	<b>52,272,885</b>	<b>52,005,432</b>	<b>13.1</b>	<b>13.0</b>

The consideration received for shares allotted under the share option schemes, LTIP and Share Incentive Plan during the year ended 30 June 2014 was £0.3m (2013: £0.1m).

Dividends were paid at the reduced rate of 0.01p per share for interim and final dividends in respect of shares held by an employee benefit trust in relation to the LTIP. There were 3,224 such shares at 30 June 2014 (2013: 3,224 shares).

## 26 Share-based payments

The Group operates the following share-based schemes: 2004 Ricardo plc Executive Share Option Plan (the "2004 Plan"), together with the equity-settled Executive Share Options; Deferred Share Bonus Plan; Equity-settled Long Term Incentive Plan ("LTIP"); Equity-settled Share Incentive Plan ("SIP") and Cash-settled International Notional Share Plan ("INSP").

The general terms and conditions, including vesting requirements and performance conditions, for the 2004 Plan, Deferred Share Bonus Plan, LTIP and the All Employee Share Plans ("SIP" and "INSP") are described in the Directors' Remuneration Report.

The Equity-settled Executive Share Options, the LTIP and the SIP require shareholder approval for the issue of shares, whereas the Deferred Share Bonus Plan acquires shares in the market to settle the obligation.

The share-based payments charge of £1.6m (2013: £0.7m) disclosed in note 5 comprises £1.2m (2013: £0.5m) in respect of equity-settled schemes and £0.4m (2013: £0.2m) in respect of the cash-settled scheme.

### Equity-settled Executive Share Options

	2014		2013	
	Number	Weighted average share price	Number	Weighted average share price
Outstanding at 1 July	89,895	271p	120,549	278p
Exercised	(80,000)	268p	(30,654)	300p
Outstanding at 30 June	9,895	305p	89,895	271p
Exercisable at the end of the year	9,895	305p	89,895	271p

The outstanding options had a weighted average contractual life of 4.3 years (2013: 2.1 years). The remaining options are exercisable at 305p.

During the years ended 30 June 2014 and 30 June 2013, no equity-settled executive share options were awarded.

### Equity-Settled Long Term Incentive Plan ("LTIP")

The current LTIP is described in the Directors' remuneration report. Awards are forfeited if the employee leaves the Group before the awards vest, unless they are considered 'good leavers'.

	2014 Shares Allocated <sup>(1)</sup>	2013 Shares Allocated <sup>(1)</sup>
Outstanding at 1 July	756,992	977,814
Awarded	231,169	340,178
Lapsed	(55,369)	(235,886)
Forfeited	(16,372)	(182,031)
Vested	(187,453)	(143,083)
<b>Outstanding at 30 June</b>	<b>728,967</b>	<b>756,992</b>

(1) Shares allocated excludes dividend roll up

The outstanding LTIP awards had a weighted average contractual life of 1.4 years (2013: 1.4 years). The weighted average exercise price in both 2014 and 2013 was £nil.

For the LTIP plan cycles outstanding at the start of the year where the performance criteria are based on the Group's Total Shareholder Return ("TSR") performance relative to the comparator group, as the TSR is dependent on the future market price of shares, the charge to the income statement has been calculated using the Monte Carlo model, using the following assumptions for the plan cycles commencing in these years:

	2014	2013
Weighted average share price at date of award	595p	363p
Expected volatility	26.4%	27.8%
Expected life	3 yrs	3 yrs
Risk free rate	0.8%	0.3%
Dividend yield	2.4%	3.3%
Possibility of ceasing employment before vesting	10%	10%
Weighted average fair value per LTIP as a % of a share at date of award	61.5%	55.1%

Expected volatility was determined by calculating the historical volatility of the Company's share price over the three financial years preceding the date of award.

26 Share-based payments (continued)

**Deferred Share Bonus Plan**

The Deferred Share Bonus Plan is described in the Directors' remuneration report.

	2014 Number of deferred shares	2013 Number of deferred shares
Outstanding at 1 July	284,996	175,945
Awarded	145,086	206,622
Forfeited	(11,991)	(96,306)
Dividend shares awarded in the year	7,006	8,960
Vested	(11,510)	(10,225)
<b>Outstanding at 30 June</b>	<b>413,587</b>	<b>284,996</b>

The outstanding deferred bonus plans had a weighted average contractual life of 1.5 years (2013: 1.9 years). The weighted average exercise price in both 2014 and 2013 was £nil.

For the matching shares awarded where the performance criteria are based on the Group's Total Shareholder Return ("TSR") performance relative to the comparator group, as the TSR is dependent on the future market price of shares, the charge to the income statement has been calculated using the Monte Carlo model and the same assumptions described in the LTIP section above.

**Equity-settled Share Incentive Plan**

The Share Incentive Plan is described in the Directors' remuneration report.

	2014 Number of deferred shares	2013 Number of deferred shares
Outstanding at 1 July	217,074	232,580
Awarded	-	-
Forfeited	(25,415)	(22,040)
Dividend shares awarded in the year	3,846	6,534
Vested	-	-
<b>Outstanding at 30 June</b>	<b>195,505</b>	<b>217,074</b>

The outstanding share incentive plan had a weighted average contractual life of 0.3 years (2013: 1.3 years). The weighted average exercise price in both 2014 and 2013 was £nil.

**Cash-settled International Notional Share Plan**

The International Notional Share Plan is described in the Directors' remuneration report.

	2014 Number of deferred shares	2013 Number of deferred shares
Outstanding at 1 July	161,460	190,530
Awarded	-	-
Forfeited	(18,837)	(30,378)
Dividend shares awarded in the year	2,826	4,860
Vested	(1,794)	(3,552)
<b>Outstanding at 30 June</b>	<b>143,655</b>	<b>161,460</b>

The outstanding international notional share plan had a weighted average contractual life of 0.3 years (2013: 1.3 years). The weighted average exercise price in both 2014 and 2013 was £nil.



## 27 Share premium

	Group and Company £m
At 1 July 2012	13.9
Arising on shares issued in 2013	0.1
At 30 June 2013	14.0
Arising on shares issued in 2014	0.2
<b>At 30 June 2014</b>	<b>14.2</b>

## 28 Other reserves

Group	Merger reserve £m	Translation reserve £m	Hedging reserve £m	Total £m
At 1 July 2012	1.0	6.1	(2.4)	4.7
Exchange rate adjustments	-	1.7	-	1.7
At 30 June 2013	1.0	7.8	(2.4)	6.4
Exchange rate adjustments	-	(3.0)	-	(3.0)
Transfer between reserves	-	(2.4)	2.4	-
<b>At 30 June 2014</b>	<b>1.0</b>	<b>2.4</b>	<b>-</b>	<b>3.4</b>

The merger reserve represents the amount by which the fair value of the shares issued as consideration for acquisitions exceeded their nominal value, offset by the goodwill on these acquisitions. The translation reserve comprises foreign currency differences arising from the translation of financial statements of foreign operations. The hedging reserve represents the net fair value loss on cash flow hedges and net investment hedges. The transfer between reserves relates to hedges which have been closed out.

## 29 Retained earnings

	Group £m	Company £m
At 1 July 2012	58.2	39.5
Profit for the year - restated <sup>(1)</sup>	16.8	39.0
Remeasurements on the defined benefit scheme - restated <sup>(1)</sup>	(2.7)	(2.7)
Tax on items recognised directly in equity - restated <sup>(1)</sup>	0.3	0.5
Dividends paid	(6.6)	(6.6)
Share-based payments	0.5	0.5
At 30 June 2013	66.5	70.2
Profit for the year	19.2	15.0
Remeasurements on the defined benefit scheme	(3.2)	(3.2)
Tax on items recognised directly in equity	0.7	0.7
Dividends paid	(7.5)	(7.5)
Share-based payments	1.2	1.2
<b>At 30 June 2014</b>	<b>76.9</b>	<b>76.4</b>

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

The Company has not presented its own income statement and statement of comprehensive income as permitted by Section 408 of the Companies Act 2006.

## FINANCIAL STATEMENTS

### 30 Cash generated/(used) by operations

	Group		Company	
	2014	2013 Restated <sup>(1)</sup>	2014	2013 Restated <sup>(1)</sup>
	£m	£m	£m	£m
Profit before tax	23.5	20.7	13.2	37.0
Adjustments for:				
Share-based payments	1.2	0.5	1.2	0.5
Cash flow hedges	-	(0.1)	-	-
Dividends received from subsidiaries	-	-	(13.6)	(38.4)
Net finance costs	1.0	1.2	0.3	0.9
Profit on disposal of property, plant and equipment	-	(0.1)	-	-
Depreciation and amortisation	9.5	9.3	1.3	1.1
Operating cash flows before movements in working capital	35.2	31.5	2.4	1.1
(Increase)/decrease in inventories	(0.3)	0.3	-	-
(Increase)/decrease in trade and other receivables	(13.5)	11.7	-	(0.2)
(Increase)/decrease in intercompany balances	-	-	(4.8)	(13.5)
Increase/(decrease) in payables	6.9	(9.6)	(1.7)	1.0
(Decrease)/increase in provisions	(0.5)	0.7	-	-
Defined benefit obligation payments	(4.5)	(4.6)	(1.7)	(1.8)
<b>Cash generated/(used) by operations</b>	<b>23.3</b>	<b>30.0</b>	<b>(5.8)</b>	<b>(13.4)</b>

(1) On adoption of revised International Accounting Standard 19 Employee Benefits - see note 1 (a)

### 31 Net funds

Net funds is defined by the Group as net cash and cash equivalents less bank loans.

	Group		Company	
	2014	2013	2014	2013
	£m	£m	£m	£m
At year end				
Cash and cash equivalents (current assets)	12.6	6.8	0.5	0.6
Bank overdrafts (current liabilities)	-	(0.7)	-	(0.5)
Net cash and cash equivalents	12.6	6.1	0.5	0.1
Bank loans maturing within one year	-	-	-	-
<b>Net funds</b>	<b>12.6</b>	<b>6.1</b>	<b>0.5</b>	<b>0.1</b>

	Group		Company	
	2014	2013	2014	2013
	£m	£m	£m	£m
Movements in year				
Net funds at start of year	6.1	7.9	0.1	0.8
Net increase/(decrease) in cash and cash equivalents	6.5	(3.7)	0.4	(0.7)
Add back net repayment of bank loans	-	2.0	-	-
Effect of exchange rate changes on bank loans	-	(0.1)	-	-
<b>Net funds at end of year</b>	<b>12.6</b>	<b>6.1</b>	<b>0.5</b>	<b>0.1</b>

### 32 Operating leases

By date of commitments:		2014	2013
Group		£m	£m
Future aggregate minimum lease payments under non-cancellable operating leases falling due:			
Within one year		4.5	4.2
Between one and five years		13.8	12.0
After five years		12.2	11.8
		<b>30.5</b>	<b>28.0</b>
By nature of commitments:		2014	2013
Group		£m	£m
Future aggregate minimum lease payments under non-cancellable operating leases:			
Land and buildings		29.7	26.9
Other		0.8	1.1
		<b>30.5</b>	<b>28.0</b>

### 33 Contingent liabilities

The Group is involved in various disputes or litigation in the normal course of business. Whilst the result of such disputes cannot be predicted with certainty, the directors of the Company believe that the ultimate resolution of these disputes will not have a material effect on the Group's financial position or results.

In July 2013 a guarantee was provided to the Ricardo Group Pension Fund of £2.8m in respect of certain contingent liabilities that may arise. In the directors' opinion, after taking appropriate legal advice, the outcome of this matter is not expected to give rise to any material cost to the Group.

### 34 Related party transactions

	2014 £m	2013 £m
The Company had the following transactions with Group undertakings:		
Sale of services	11.3	13.5
Finance income	0.8	0.5
Finance costs	(0.1)	(0.2)
Dividend income	13.6	38.4
The Company had the following year end balances with related parties:		
Amounts owed by Group undertakings	48.6	46.0
Amounts owed to Group undertakings	(6.0)	(8.2)

All transactions with Group undertakings, which are disclosed in note 35, occurred on an arm's length basis.

Transactions with the Ricardo Group Pension Fund are disclosed in note 22. £0.4m of outstanding contributions were due by the Company as at 30 June 2014 (2013: £0.4m).

In July 2013 a guarantee was provided to the Ricardo Group Pension Fund in respect of certain contingent liabilities that may arise. The contingent liabilities associated with this guarantee of £2.8m have been secured on specific land and buildings (see note 13). In the directors' opinion, after taking appropriate legal advice, the outcome of this matter is not expected to give rise to any material cost to the Group.

### 35 Principal operating subsidiaries

The Company owns directly(\*), or indirectly, 100% of the issued share capital of the following principal operating subsidiaries which are included in the consolidated financial statements:

Subsidiary	Principal activities	Country of incorporation
Ricardo UK Limited*	Technical, Strategic Consulting and Performance Products	Great Britain (and registered in England and Wales)
Ricardo-AEA Limited*	Environmental Consulting	Great Britain (and registered in England and Wales)
Ricardo, Inc.*	Technical, Strategic Consulting and Performance Products	US
Ricardo Deutschland GmbH	Technical Consulting	Germany
Ricardo Strategic Consulting GmbH	Strategic Consulting	Germany
Ricardo Prague S.R.O.*	Technical Consulting and Performance Products	Czech Republic
Ricardo Shanghai Company Limited*	Technical Consulting and Business Development	China
Ricardo Japan K.K.*	Technical Consulting and Business Development	Japan
Ricardo India Private Limited*	Technical Consulting and Business Development	India
Ricardo Asia Limited*	Technical Consulting and Business Development	Great Britain (and registered in England and Wales)

A full list of subsidiary undertakings will be annexed to the Company's next annual return.

# CASE STUDIES

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## AGRICULTURAL &amp; INDUSTRIAL VEHICLES

## Energy storage: Ricardo TorqStor offers a highly practical fuel and CO<sub>2</sub> saving solution

At a time when governments and businesses strive for improved levels of fuel and energy efficiency and consequent reductions in the carbon footprint of operations, an award-winning energy storage innovation from Ricardo is attracting widespread attention – and serious commercial interest – from the international off-highway industry.

The capture and storage of energy that would otherwise be wasted in the duty cycle of heavy equipment and vehicles is a natural area of focus for the construction, mining and materials handling industries. Harvesting kinetic energy from objects that have been accelerated or potential energy from those that have been raised as part of their duty cycle, and then re-using that energy for subsequent operation is an obvious way of cutting fuel consumption. Given that fuel is one of the main elements of operational cost, such savings could be a key determinant of commercial success for off-highway vehicle and equipment applications.

While electric hybridisation of vehicles is now commonplace in the automotive sector, electrical energy storage in the form of ultra-capacitors and battery systems can be prohibitive in terms of cost, reduce machine resale values, challenging from a packaging standpoint, and can introduce a complexity that is impractical in many heavy



Testing of an earlier version of Ricardo's flywheel technology



duty applications. Given the challenging environment in which construction and mining equipment in particular operate, these can be significant drawbacks. However, a more pragmatic and cost-effective energy saving solution can be provided in the form of high-speed flywheel technology, such as the patented Ricardo TorqStor system.

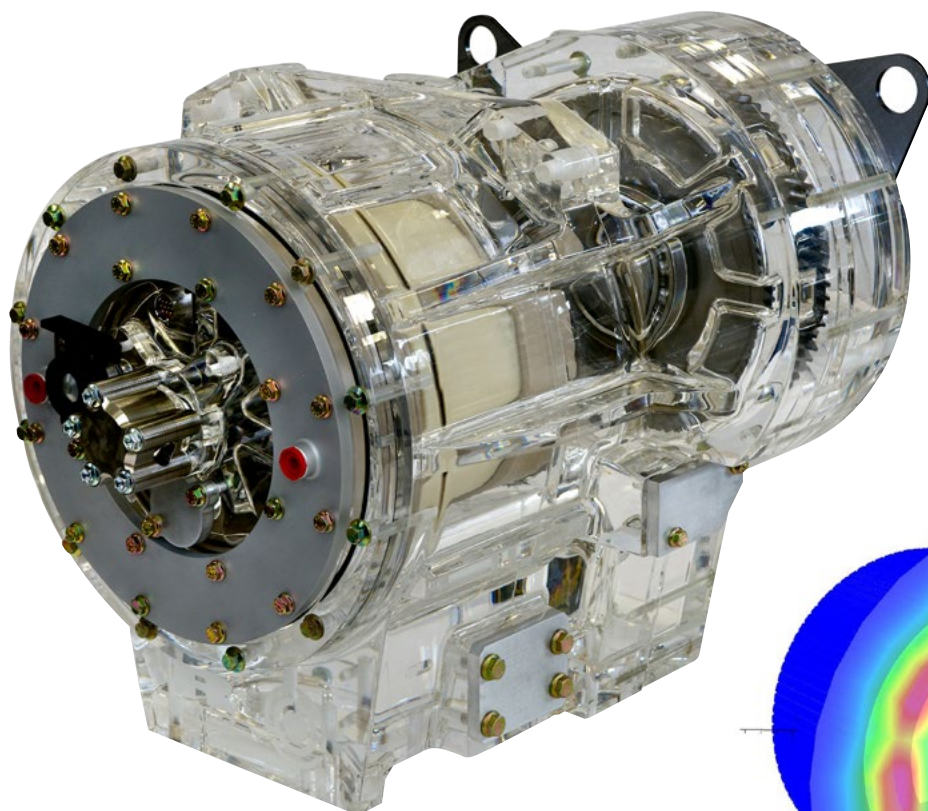
**Ricardo innovation**

TorqStor is a highly advanced and self-contained flywheel energy storage system comprising a high efficiency, carbon-fibre composite flywheel operating in a sealed vacuum chamber. The research effort that led to its creation found its inspiration in the earlier development by Ricardo of concepts for Kinetic Energy Recovery Systems (KERS) for use in motorsport. The system operates at speeds of up to 45,000 rev/min to store energy, and a highly innovative magnetic gear coupled to a fixed ratio mechanical gear train provides for a scalable range of energy storage capacities for different equipment applications. TorqStor's magnetic gear also provides a path for torque through the vacuum chamber wall – which can consequently be sealed between service intervals – and is linked to a simple conventional gear train, that is simple and robust, and can be specifically matched to each application.

TorqStor is inherently low maintenance, with the critical components being easily exchangeable should

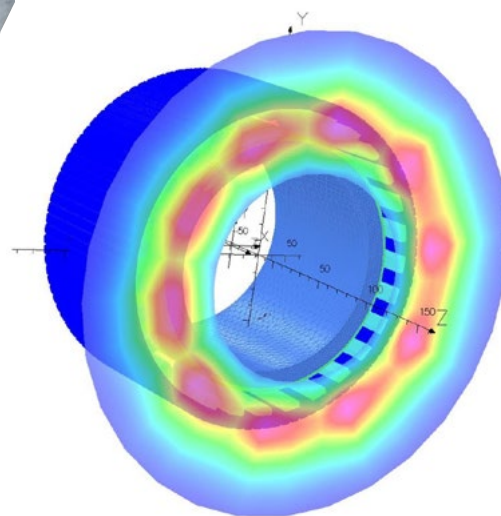


the need arise. It is highly compact too, with a package volume in the current pre-production prototype version of less than 220 litres, and a weight of under 100 kg, excluding the interfacing hydraulic pump/motor. The prototype provides a peak power rating of 100 kW based on an internal flywheel speed of up to 45,000 rev/min with external output geared down by a ratio of 22:1. TorqStor is ideally suited to applications involving regular and repeated movements or speed changes, such as



Display model of a 200 kJ capacity TorqStor unit comprised of genuine machined parts fitted in a transparent casing enabling visibility of the highly innovative internal workings of the system (identical to those of the preproduction prototypes currently being prepared for delivery to key OEM and Tier 1 customers)

Below, a 3D CAE model of TorqStor's magnetic gear



excavators and wheel loaders, and other vehicles with a repetitive duty cycle. For applications in which weight is an issue, this too can be further optimised if required.

### Proof of concept testing

In order to demonstrate the potential of the high-speed flywheel hybridisation of construction equipment, Ricardo built and tested its high efficiency 17 tonne excavator concept, HFX, over a repeated materials handling cycle at a range of different engine speeds. The results showed that the flywheel-based system incorporated in HFX – an earlier version of the technology now incorporated in TorqStor – had the ability to recover half of the total potential energy used in the excavator application. Owing to the use of an existing production machine, integration with the hydraulics systems was limited on HFX, but taken across all engine speeds the results indicated a fuel saving of in the region of 10 percent. A fully integrated Ricardo TorqStor device would be expected to considerably exceed this level of fuel saving. This is potentially a very significant and commercially attractive proposition for construction equipment applications, and comes without the requirement for any significant increase in machine complexity or maintenance requirements.

Following a highly successful launch of the Ricardo TorqStor system at the international construction equipment show, CONEXPO, held in Las Vegas in

March 2014, Ricardo is currently discussing a range of applications with a number of OEM and Tier-1 partners. In addition it is offering a small number of pre-production prototypes for the purposes of evaluation and product integration on a commercial basis.

### Award-winning technology

As well as being one of the highlights of the CONEXPO show, TorqStor was also centre of attention at the SAE World Congress held in Detroit in April 2014 where it achieved significant recognition by this respected international professional engineering body. From the many technologies and innovations on display from around the world, SAE experts selected the system as one of five recipients of the 'SAE Tech Award', in recognition of engineering innovation, potential for real-world production application, and potential benefit for industrial customers and end users. Having demonstrated the benefits of TorqStor in prototype form, Ricardo now aims to work with its partners to deliver on that potential in production product programmes – bringing environmental benefits to off-highway industry customers in the form of a commercially attractive innovation.



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## DEFENCE

## Mission critical: providing world-class defence vehicle technology and support

As the current period of western military engagement in Afghanistan draws to a close, defence planners are now beginning to consider the future development of returning vehicle fleets – an area in which Ricardo is ideally placed to assist, building upon its reputation as one of the world's leading defence vehicle innovators.

Ricardo is well known around the world for its ability to understand the exacting requirements of defence vehicles, and for its skill in deploying the latest available technology in ground-breaking innovations that set new standards in performance and crew protection. In doing so, it also provides the taxpayer with exceptional value. Ricardo was, for example, responsible for the initial design and development of the revolutionary Foxhound vehicle, which entered active service with the British Army in 2012 to widespread acclaim from its frontline users; in addition, the company manufactured all 376 Foxhounds ordered to date.

Ricardo also pioneered the original development of the WMIK (Weapons Mount Installation Kit) conversion of a Land Rover Defender platform for light attack and peacekeeping roles. The company was later given prime contractor responsibility by the Ministry of Defence for the comprehensive upgrade of the WMIK fleet to RWMIK+ specification, which incorporated



With the draw-down of forces from Afghanistan, Ricardo is working on the Cougar Post-Design Service programme which will involve support of the 600 strong fleet including Cougar, Ridgback, Wolfhound and Mastiff (right and page 120). Other vehicles to have seen active service with UK Forces include the Ricardo pioneered WMK Land Rover (left)



comprehensive repowering, enhanced crew protection and a wide range of capability improvements; this work extended to the upgrade of other Defender-based vehicles to the similarly capable Vixen specification.

In North America, as we reported in a 2012 Report & Accounts Feature, Ricardo was responsible for the development of the Fuel-Efficient Ground Vehicle Demonstrator (FED) for the US Army Tank Automotive Research, Development and Engineering Center (TARDEC). A year later, when testing of this highly innovative Ricardo-engineered demonstrator vehicle was complete, the results showed that when compared to the US military's regularly outfitted M1151 HMMWV, the FED showed a 72 percent improvement in fuel economy while meeting or exceeding operational requirements. More recently, Ricardo was selected by the United States Defense Advanced Research Projects Agency (DARPA) to stage the FANG Challenge – a series of three competitions designed to produce the Fast, Adaptable, Next-Generation Ground (FANG) vehicle. FANG is a new heavy, amphibious infantry fighting vehicle with functional requirements intended to mirror the US Marine Corps' Amphibious Combat Vehicle (ACV). The project is expected to complete towards the end of 2014.

**A new era brings new requirements**

With the planned draw-down of forces from Afghanistan now well in train, a new requirement for the long term support and future development of UK defence vehicle fleets has emerged. Ricardo is again playing a leading role in this work as a partner to prime contractor Morgan Advanced Materials,



The Ricardo-developed Fuel-Efficient Ground Vehicle Demonstrator (FED-Alpha), produced for the US Army Tank Automotive Research, Development and Engineering Center (TARDEC)

together with a third UK partner, Ultra Electronics. The Cougar Post-Design Service programme, which covers the Mastiff, Ridgback and Wolfhound vehicles fleets, could be extended for as long as seven years.

The programme will see Ricardo, Morgan and Ultra deliver an annual service contract, under which they will provide a team of experts around the clock to offer technical and project management services to support the in-service Cougar family vehicle fleet. Of particular



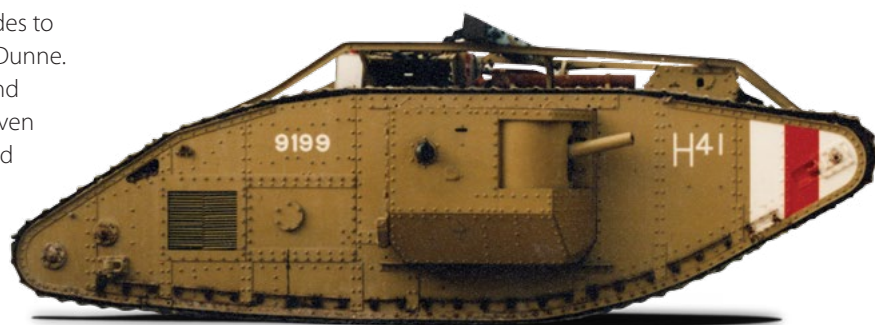


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importance to the programme will be the optimisation of safety on the platforms, in addition to configuration management, legal compliance and standardisation of the platforms by rationalising the component supply chain. The Ricardo team won the bid against strong competition by best meeting the key criteria specified by the Ministry of Defence such as quality, software, safety, environmental impact and vehicle integration, as well as the ability to provide a truly sustainable support solution. The contract will cover a fleet of more than 600 vehicles, comprising in excess of 20 variants.

“As we bring our battle-winning vehicles back from Afghanistan our focus turns to how best we benefit from these life-saving assets in decades to come,” commented Defence Minister Philip Dunne. “Our Cougar, Mastiff, Ridgback and Wolfhound fleet, comprising over 600 vehicles, have proven themselves time and again on operations and will now support a more efficient Army. This investment, which is set to be worth up to £20 million over the first two years of the contract, will not only ensure our vehicles are adapted to their new roles, but will sustain the livelihoods of highly-skilled employees at three British-based companies.”

As Ricardo has demonstrated over many decades – indeed, from as far back as the development of the world’s first purpose-designed battle-tank engine nearly a century ago – it is more than capable of delivering the latest technologies to meet the requirements of new and existing defence vehicle fleets. In doing so Ricardo is able to create innovatory products that are capable of fulfilling their role and protecting lives, while providing governments and military planners with exceptional performance and value.



Our first significant military project was to provide a new engine design for the British Mk V tank









## AGRICULTURAL &amp; INDUSTRIAL VEHICLES

# Off-highway emissions compliance: creating the next generation of super-clean engines

Successive rounds of increasingly stringent exhaust emissions regulations have come into force in the international off-highway equipment sector, leading to the need for more sophisticated engine and aftertreatment technologies – an area in which Ricardo leads the way with class-leading Ricardo clean combustion technology.

For the latest US Tier 4 Final emissions regulation – the toughest ever to apply to the off-highway sector and set to provide the benchmarks for other international markets – the upper limit for nitrogen oxides has been reduced to just one fifth of its previous level. For this reason heavy duty engine manufacturers are looking at combinations of technologies including cooled exhaust gas recirculation (EGR), selective catalytic reduction (SCR), and diesel particulate filters (DPFs) as well as clean combustion systems that tackle emissions at source.

Korea's Doosan Infracore, which plans to be one of the world's top three construction equipment and machine tool companies by 2020, took the decision to work together with Ricardo's heavy duty engines group to develop its existing DL06 engine for compliance with





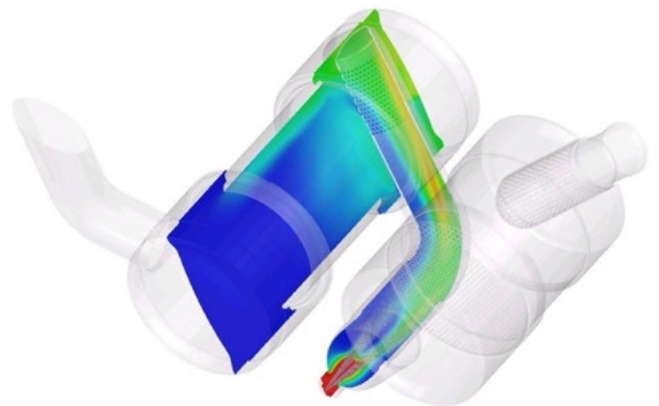
the new Tier 4 Final regulations. Ricardo's approach to meeting this challenge meant adopting innovative technologies and demonstrating alternative approaches to the traditional route taken to achieve the new targets. The most important differences were the deletion of the DPF – yielding potentially significant cost and packaging savings – and the adoption of Ricardo's patented ultra-low soot Twin Vortex Combustion System (TVCS).

"The DL06 Tier 4 Final engine is applied in the primary excavator models of Doosan Infracore," explains Seyoung Kwak, senior vice president, corporate R&D division, engine development of Doosan Infracore. "It is used to power, for example, our 14-25 tonne excavator and wheel loader ranges and our 10-15 tonne fork lift products. As a 6-litre class engine, the DL06 is the main force of our engine business, and we are targeting the biggest markets for construction equipment in the world; it will be sold in North America and Europe as well as the Korean and other overseas markets."

### Applying clean combustion technology

The Ricardo approach in upgrading the Doosan engine to Tier 4 Final compliance was initially to go in what might be seen as the 'wrong' direction, by removing the DPF; something that was possible only because of the adoption of an ultra-clean combustion strategy. This led to the emissions levels initially going up, but with the addition of a reduced EGR rate and the TVCS low-soot combustion system, dramatic reductions in particulate matter were achieved. Finally, a high-efficiency SCR system was introduced to achieve the

The Doosan DL06 Tier 4 final engine (left) is used to power a range of the company's construction equipment products; in addition to its use in combustion system development, Ricardo's VECTIS product was also used to develop the engine's high efficiency SCR system (below)



NOx (oxides of nitrogen) target. The end result was achievement of the Tier 4 final emissions targets with a good engineering margin and improvement in fuel consumption compared to the previous generation.

In order to provide a low-cost solution, the majority of the base engine components were left relatively unchanged from the previous engine, with just small alterations to the rated speed and load. What Ricardo did change, however, made a big difference in the performance and emissions of the unit. While many competitors would have assumed compliance required an increase in common-rail system pressure to 2000 or 2400 bar, the Doosan engine with its Ricardo clean combustion technology achieves this at 1800 bar, significantly reducing the cost of the upgrade.





### Twin Vortex: core technology

Ricardo's TVCS is called 'Twin Vortex' because it takes the fuel spray and – unlike conventional systems which have re-entrant bowls – splits the combustion chamber into an upper and lower vortex. This gives a more uniform air-fuel ratio mixture for the whole combustion space, and a much lower particulate output from the engine.

Essential to the success of the programme were Ricardo CAE tools used on the Doosan engine project, with 3D CFD models of combustion chamber, aftertreatment and mixing helping to deliver right-first-time design and so avoid expensive development time and costs. Extensive use of the Ricardo VECTIS package was made in the development of the TVCS bowl design, for example, specifically when the team was seeking to increase the swirl ratio. Elsewhere, the company's WAVE performance simulation software was crucial in supporting the specification of a revised turbocharger, lower capacity EGR system and the high efficiency SCR system.

At the conclusion of the project the team was able to deliver Tier 4 Final emissions levels for the new Doosan engine with a combination of TVCS and an efficient SCR strategy, but saving complication by avoiding the need for a DPF. Ricardo now plans to continue to develop its patent-pending TVCS technology further, in order to achieve even lower engine-out emissions, while still maintaining the original or required power outputs.

Doosan, meanwhile, was delighted with the programme, and is now on track to reach its goal of becoming one of the market leaders in its field: "Achieving the Tier 4 Final emission standard without



DPF was a challenging task in non-road heavy duty engine," says Doosan Infracore's Seyoung Kwak. "We reduced PM with the Ricardo Twin Vortex Combustion System and the successful collaboration between the Doosan and Ricardo team met the Tier 4 Final emission standard target with only an SCR system. Furthermore, the outstanding fuel efficiency and performance of the DL06 engine have received favourable customer reviews."

Doosan is one of a growing number of leading international off-highway equipment brands that are using Ricardo's TVCS clean combustion technology in the latest ultra-clean products. These include Bobcat, JCB, Lombardini and many more whose use of the technology remains confidential.









## GOVERNMENT &amp; ENVIRONMENTAL

## Helping industry and governments manage resources for sustainability and profit

With rising commodity prices and increasing competition for available raw materials, industry and governments worldwide are adapting to a new and more holistic model of resource management in which waste is viewed as a potentially valuable feedstock to supply the future needs of production. Ricardo-AEA's Resource Efficiency and Waste Management practice helps customers in this process – boosting commercial returns while also delivering environmental benefits.

The pattern of steadily decreasing raw material prices, as seen by the industrialised world throughout much of the twentieth century, is now clearly a thing of the past. Almost as if triggered by the start of the new millennium, prices of commodities that form the basis of industrial production – from the crude oil feedstock of the energy sector to the rare earth elements required for the manufacture of so many of today's consumer electronics products – have been on a generally increasing upward trajectory, albeit with wide fluctuations. Additionally, with geopolitical influences giving rise to concerns over the long-term reliability and security of energy supply and of access to many key raw materials, the need for industry to strategically manage its resources to secure future supply has never been more critical.





For most of the organisation's 40-year history the work of Ricardo-AEA's Resource Efficiency and Waste Management practice has been driven by hard economics. The practice helps industrial companies, municipal governments and waste processors to improve and optimise their use of materials by helping them to analyse their entire business process, from what raw materials they buy to what comes out in the form of waste. From this analysis the practice can make recommendations and assist with implementation plans that aim to create products whose design, manufacturing processes and even business models are configured both for efficiency and to ensure effective end-of-life reuse of resources, while also minimising waste and improving the level of recycling.

The main motivation of the Resource Efficiency and Waste Management practice's industrial customers is quite simple and commercially hard-headed: to improve margins and secure their future resources. The issue of compliance – in terms of current and future legislative requirements – is, however, an important driver too and, since this is the main focus of Ricardo-AEA's consulting activity across the board, the company is ideally placed to assist. Typically, in the public sector the focus of waste management clients is more squarely on managing the processing of waste to achieve recycling targets, but the commercial imperative to do so while maximising income and minimising costs is equally important.

### Strategic support to the city of Riyadh

In 2013 Ricardo-AEA was appointed by the ArRiyadh Development Authority to deliver a comprehensive integrated waste management strategy and associated implementation plans for the city of Riyadh. The strategy developed by the project will be delivered through evidence-based policies and implemented in a sustainable way. It will seek to reduce or mitigate the risk of adverse impacts of waste generation within the city through waste prevention, reuse and recycling. This will divert increasing amounts of waste from landfill, whilst improving the resource efficiency of the commercial, industrial and municipal sectors within Riyadh, offering inherent economic opportunities from re-use of materials and energy recovery. Not only will the project deliver a world class strategy for Riyadh, it will also build significant capacity within the city's leadership, stakeholder groups and industry sectors, ensuring the project leaves a legacy for the future of waste management well beyond the life of the programme.

### The Essex Waste Partnership

The UK county of Essex comprises rural as well as medium-sized town and city environments. The aim of the Essex Waste Partnership is to reduce and reuse as much waste as is physically possible.





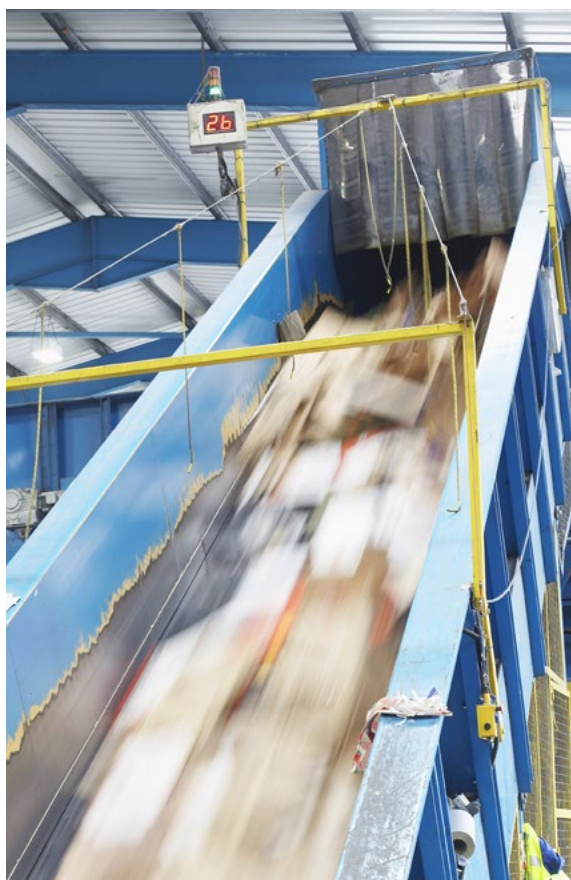
In an area with a strong anti-incineration policy, the Partnership sought a more innovative technical solution that would address its environmental and recycling requirements while also being politically acceptable.

Ricardo-AEA assisted with the specification and design of a mechanical-biological treatment process to treat kerbside-collected residual waste, trade waste collected by the local Essex authorities, street sweepings, and all non-recycled waste from recycling centres for household waste across the Partnership area. A new facility is currently under construction in Basildon and will be capable of treating up to 417,000 tonnes of municipal waste a year. The output of this facility will include fuel pellet production which can be subsequently used in industrial processes to offset fossil-fuel-derived energy, hence further reducing the system's carbon footprint.

### Helping Johnson Matthey with sustainable procurement

Ricardo-AEA has worked with Johnson Matthey (JM) for a number of years on the development of its carbon management programme, including the establishment of a carbon policy and management strategy. JM felt that an opportunity for more focused activity on sustainable procurement presented itself and was something that would fit well with the organisation's broader sustainability programme, which included in-house training and mentoring activities.

A bespoke workshop event was developed to engage the Johnson Matthey procurement team and empower them to deliver on their commitment to the company's Sustainability 2017 Vision. The workshop was divided into four thematic areas: sustainability and the role of procurement in driving forward this agenda; drivers,

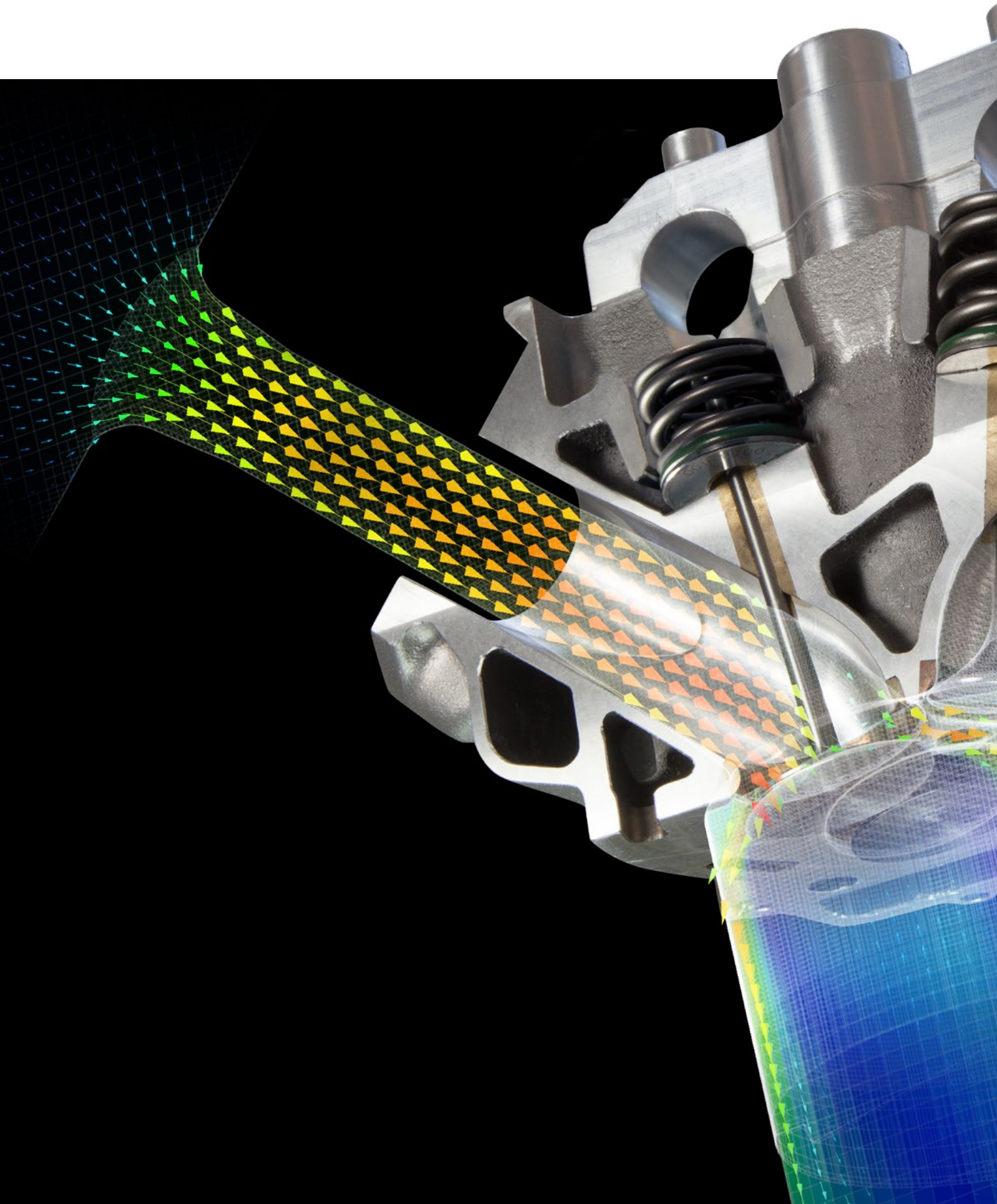


Recycling is becoming an increasingly industrialised process, as companies, governments and local authorities seek to realise maximum value, secure future material resources, and minimise residual wastes

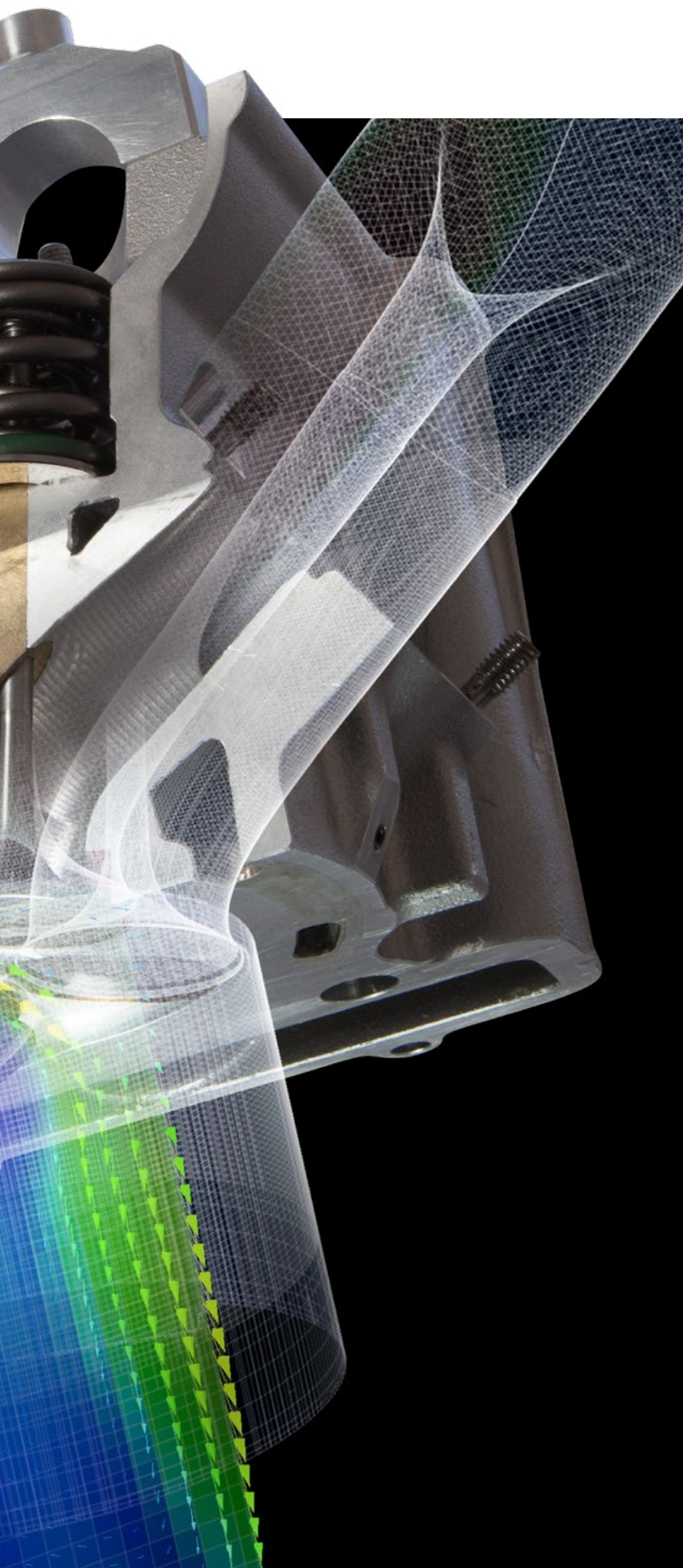
impacts and actions; prioritising for improvement; and, finally, action planning. At the conclusion of the workshop a list of key actions was drawn up from ideas developed and presented during the day. The actions covered local site-specific actions as well as those to be progressed more strategically within the company.

### Increasing demand

With recycling targets beginning to bite at a European level and with commercial companies increasingly focused on the need to secure the resources they require to continue operations in the medium and long term, the services of Ricardo-AEA's Resource Efficiency and Waste Management practice are much in demand. True economic sustainability can only be delivered for a commercial enterprise through a strategy that secures the resources required to continue its operations, while for a local authority, it must come through ensuring that recycling targets are met and fines avoided. Through its consulting services, this Ricardo-AEA practice helps customers develop and implement such strategies. In doing so it also helps its customers serve the wider goal of protecting the environment and conserving the world's resources for generations to come.







## SOFTWARE

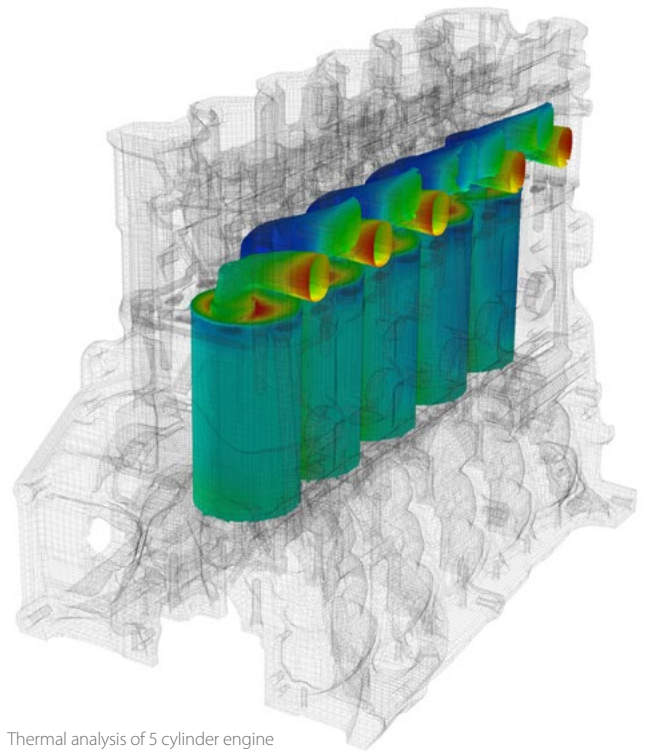
## Virtually proven: creating the software technology that enables next- generation vehicle development

Originally developed from the company's core powertrain technology business, Ricardo Software has been extremely successful in creating advanced simulation technology that enables engineers – both at Ricardo and at its many software licensees around the world – to bring robust, better performing, and more fuel-efficient engine and vehicle products to market faster than ever before.

The need to increase the fuel efficiency of modern cars, trucks, passenger transport fleets and off-highway equipment is an imperative well understood by governments and regulators globally. At the same time, industry is tasked through regulation to strive for ever lower emissions levels, in order to reduce the environmental impact of its products and improve the quality of air that we all breathe.

The development of the increasingly sophisticated new products that meet these exacting criteria requires significantly more intensive engineering content than would have been typical in previous years. In the context





Thermal analysis of 5 cylinder engine using Ricardo VECTIS software

of increasing global competition, however, costs and resources need to be managed effectively in reaching these more challenging goals. The automotive industry has long recognised the need to achieve, as far as is possible, right-first-time design. A particular enabler in this respect is the use of Computer Aided Engineering (CAE) technologies that allow the optimisation of designs at the earliest possible stage in product development and ensure that expensive prototype testing programmes are focused more upon final refinement, confirmation and certification than upon basic development. This, in effect, is the mission of Ricardo Software: to create advanced simulation technology that enables new product innovations to be developed, optimised and matured predominantly in a virtual environment.

### Early WAVE of success

One of the first CAE software products marketed by Ricardo over twenty years ago was the WAVE engine performance and gas dynamics simulation package. Developed extensively over the intervening years and now one of the global leaders in its field, WAVE is used by many of the world's leading automakers and is the mainstay of Ricardo Software's academic grant programme, with 1900 active licences at 171 research and teaching institutions around the world. This helps to ensure that industry is equipped with new graduate engineers and technicians who are already conversant



with the use of Ricardo Software products; it also provides a highly competitive test bed of research applications that stretch the software development team and help ensure that the company's CAE software remains at the leading edge of technology.

Over the years, new CAE products have been added to the Ricardo Software portfolio, reflecting the emerging requirements in particular of the automotive, truck and off-highway industries. The products themselves have also been developed to become increasingly integrated and capable of 'co-simulation' – in effect the process by which two inter-dependent physical processes are modelled in parallel such that the outcomes of the one can influence the parameters of the other. Potentially, this capability not only increases the accuracy and resolution of simulation capability, but makes the engineering process much faster too – a critical consideration in today's extremely competitive vehicle markets.

### New level of vehicle simulation

One of the most recent Ricardo Software innovations has been the IGNITE product, which takes simulation technology to the level of the full vehicle. Launched in 2013, this complete vehicle system modelling and simulation product features embedded design and optimisation tools – a first for this type of application – and a comprehensive powertrain library for simulation, built on the deep engineering expertise of Ricardo. The breadth and flexibility of this library gives users unmatched capability for the comprehensive modelling of the entire vehicle and includes systems-level engine, transmission, driveline, vehicle, tyre, hybrid-electric, controller and powertrain accessory modelling

objects. In addition to creating advanced new products such as this, the company is also making its entire portfolio available via cloud computing applications, extending the reach and flexibility of the service to clients.

### Virtual engineering, tangible performance

While Ricardo Software's focus is on the development of the latest CAE simulation technology based on world-leading research and product development, its performance is impressive too from a business perspective. It currently has 131 unique commercial clients around the world, ranging from automakers, motorcycle, off-highway equipment and truck manufacturers, racing teams, and an extremely wide range of supply chain organisations. Although it accounts for a comparatively small part of the overall Ricardo business, Ricardo Software plays a key role in establishing and supporting the technological development agenda of the world's vehicle and powertrain design departments, while extending the reach and added value to customers of the Ricardo brand.



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A pdf version of this  
Report and Accounts can  
be downloaded from the  
Investors page of our website.

## Key Dates

Final Dividend Record Date	24 October 2014
Annual General Meeting	29 October 2014
Final Dividend Payment Date	14 November 2014

## Shareholder Services

Capita Registrars provide a share portal service, which allows shareholders to access a variety of services online, including viewing shareholdings, buying and selling shares online, registering change of address details and bank mandates to have dividends paid directly into your bank account. Any shareholder who wishes to register with Capita to take advantage of this service should visit [www.capitaregistrars.com/shareholders](http://www.capitaregistrars.com/shareholders).

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# Emissions legislation

Global tailpipe and CO<sub>2</sub> emissions legislation adherence are “must haves” in the development budget of many of our clients

	2010	2015	2020	2025	
Passenger car, LCV & HPV	Europe	Euro 5	Euro 6 Pass Car 130 g/km	Euro 7 Pass Car 95 g/km	
	US (49 States)	Tier 2 27.5/23.5 mpg Cars/LCVs	Tier 3 37.8/28.8 mpg Cars/LCVs	54.5 mpg Fleet (Combined Cars & LCVs)	
	California	LEV II (2009) 27.6/20.3 mpg Fleet/LCVs	LEV III 43.4/26.8 mpg Fleet/Trucks	54.5 mpg Fleet (Combined Cars & LCVs)	
	China	Euro 4 18-45 mpg	Euro 5 24-50 mpg weight classed	56 mpg Fleet Average	
	Japan	Post New Long Term 39.5/35.8 mpg Cars/LCVs		57/63 mpg Gasoline/Diesel	
	Europe	Euro 3	Euro 4	Euro 5	Euro 6
Motorcycles & Personal transportation	US (49 States)	Classes I, II & III	Harmonisation with California		
	California	Tier 2			
	China	Stage III	WMTC likely to be adopted with new emission limits		
	Japan	ISO 6460 Limits 0 - 125cc / > 125 cc	WMTC likely to be adopted with new emission limits		
	Taiwan	13.1-48.2 km/litre			
	Europe	Euro V	Euro VI	Euro VII	
Commercial vehicles (medium & heavy duty truck)	US (49 States)	EPA 10	Federal CO <sub>2</sub> emissions standards		
	California	CARB 10	Federal CO <sub>2</sub> emissions standards		
	China	Euro III Euro IV Euro V	Fuel economy standards in place		
	Japan	Post New Long Term (decreasing NOx limits in stages) World's first heavy duty fuel economy legislation			
	Europe	Stage IIIA	Stage IIIB	Stage IV	
	US	Tier 4 Interim	Tier 4 Final		
Agricultural & industrial vehicles	China	Stage II	Stage III	Stage IV	
	Japan	S.I./Diesel Standards	New Standards Similar to Euro IIIB		
	EU & Russia	Stage IIIA	Stage IIIB		
	US	Tier 2	Tier 3	Tier 4 Switch & Line Haul Locomotives	
	India	Planning adoption of US Tier 2 regulations			
	Australia	Not yet regulated			



Delivering Excellence Through Innovation & Technology

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