Ricardo plc

Annual Report & Accounts 2013

Delivering Value Through Innovation & Technology

What we do

World class engineering and product development from concept through to production including prototype build, test/validation and niche product manufacture and assembly.

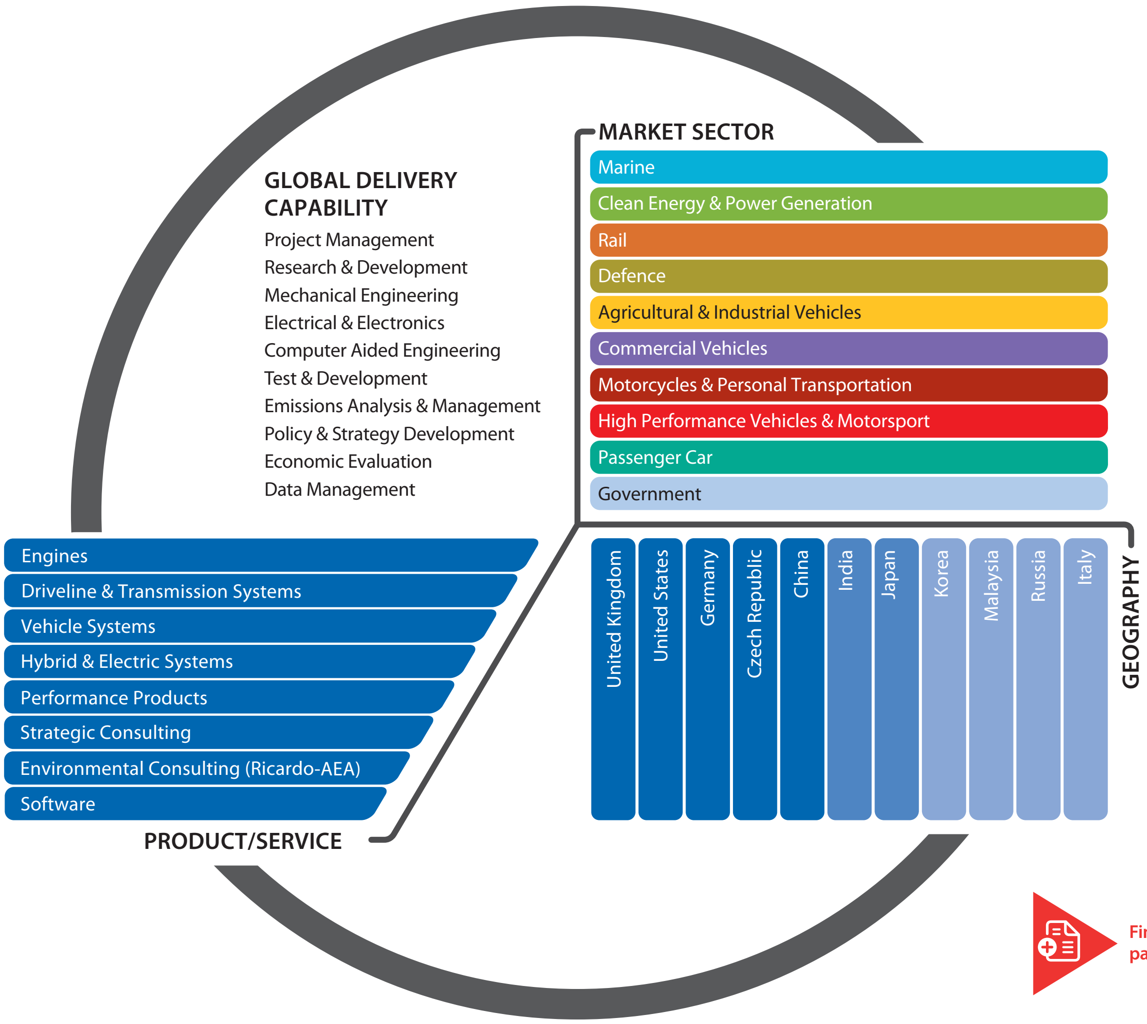
Environmental consulting focused on air and environmental quality, chemical risk, energy and climate change, resource efficiency/waste management and sustainable transport.

Management consulting services, addressing high-impact strategic issues and solving operational problems at every stage of the value chain across the automotive and transportation sectors.

Investment in world class R&D dedicated to the efficient use of resources and a sustainable future and the realisation of IP exploitation opportunities.

How we deliver

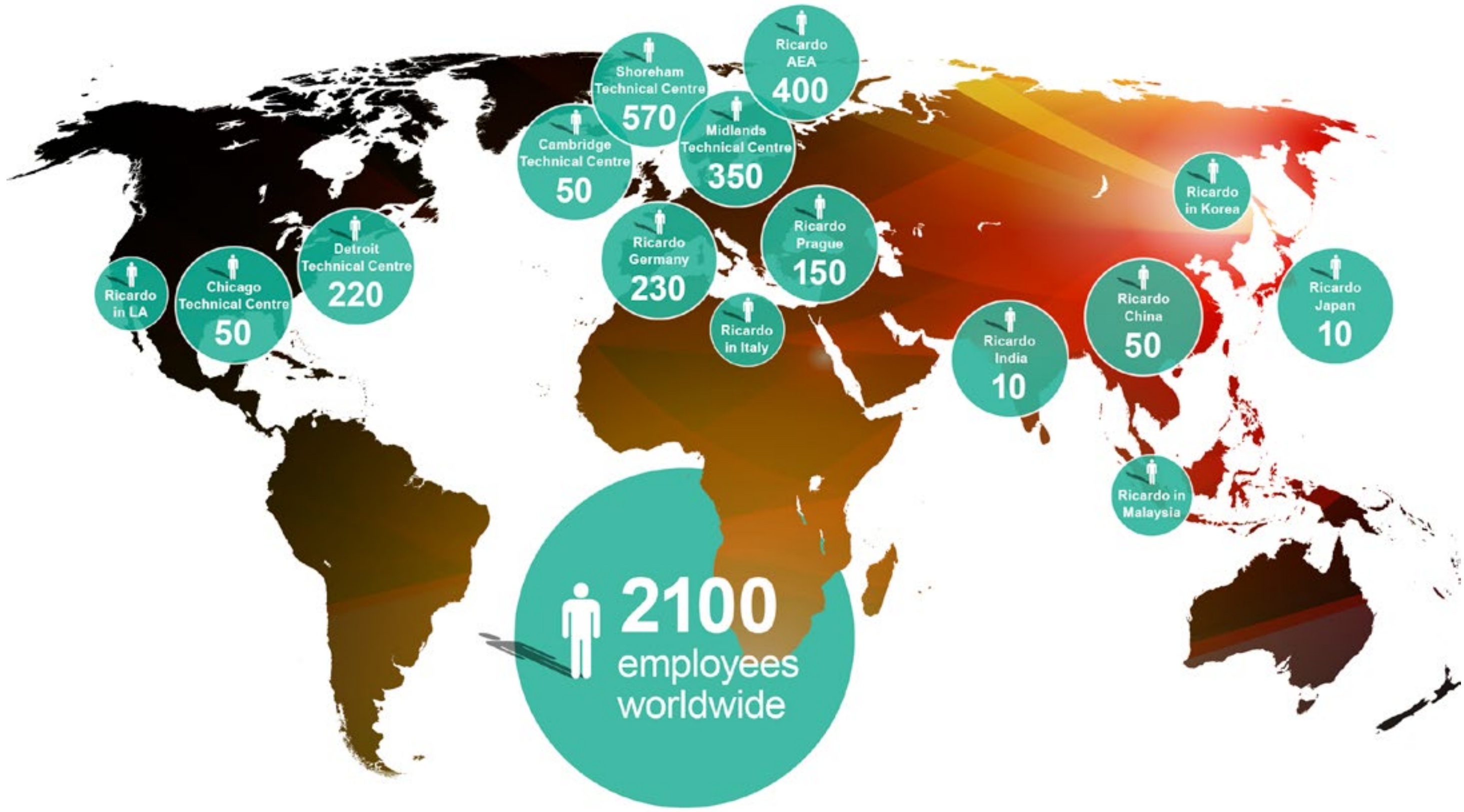
Ricardo is a global, world class, multi-industry consultancy for engineering, technology, innovation, strategy and environment.



Find out more on pages 18 to 25

Who we are

Outstanding people committed to client satisfaction and knowledge transfer through flexible business relationships. Our values of Respect, Integrity, Creativity and Innovation, and Passion drive us forward as an organisation and bind us together as a community.



Our strategy

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

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

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

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

Find out more on pages 16 to 17

Highlights

Established strategic partner to Jaguar Land Rover for the last 3 years

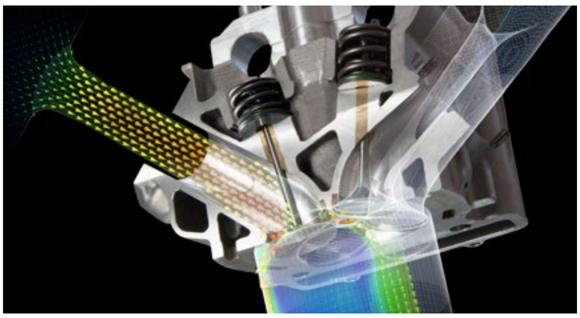
647 cc scooter defines new market segment for BMW

Find out more on pages 130 to 133

3000+ McLaren supercar engines manufactured to date

300+ Foxhound vehicles delivered to date

2150 software licences issued worldwide



Operational:

- Acquisition in November 2012 of the business and certain operating assets of AEA Technology plc, to form Ricardo-AEA
- Ricardo-AEA now fully integrated into the Group
- Capital programme underway to construct a Vehicle Emissions Research Centre within the UK

Financial:

- Solid closing order book at £121m, £94m excluding Ricardo-AEA (30 June 2012: £107m)
- Group revenue £229.7m, £204.3m excluding Ricardo-AEA (30 June 2012: £197.4m)
- Underlying* profit before tax up 31% to £23.0m, £20.2m excluding Ricardo-AEA (30 June 2012: £17.6m)
- Underlying* basic earnings per share up 22% to 35.8p (30 June 2012: 29.3p)
- Full year dividend up 13% to 14.0p per share (30 June 2012: 12.4p)
- Net funds of £6.1m (30 June 2012: £7.9m) after funding £18.0m AEA acquisition

* excluding specific adjusting items, which comprise amortisation of acquired intangible assets and acquisition costs

Order book

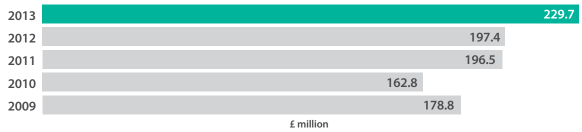
£121m **+13%**

(30 June 2012: £107m)

Revenue

£229.7m **+16%**

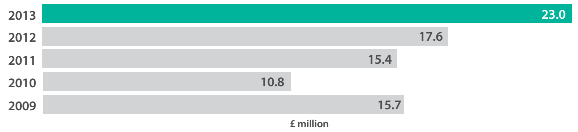
(year ended 30 June 2012: £197.4m)



Underlying* profit before tax

£23.0m **+31%**

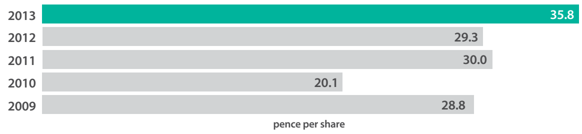
(year ended 30 June 2012: £17.6m)



Underlying* basic earnings per share

35.8p **+22%**

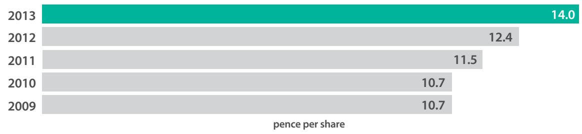
(year ended 30 June 2012: 29.3p)



Dividends per share (paid and proposed)

14.0p **+13%**

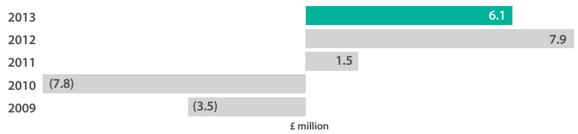
(year ended 30 June 2012: 12.4p)



Net funds

£6.1m

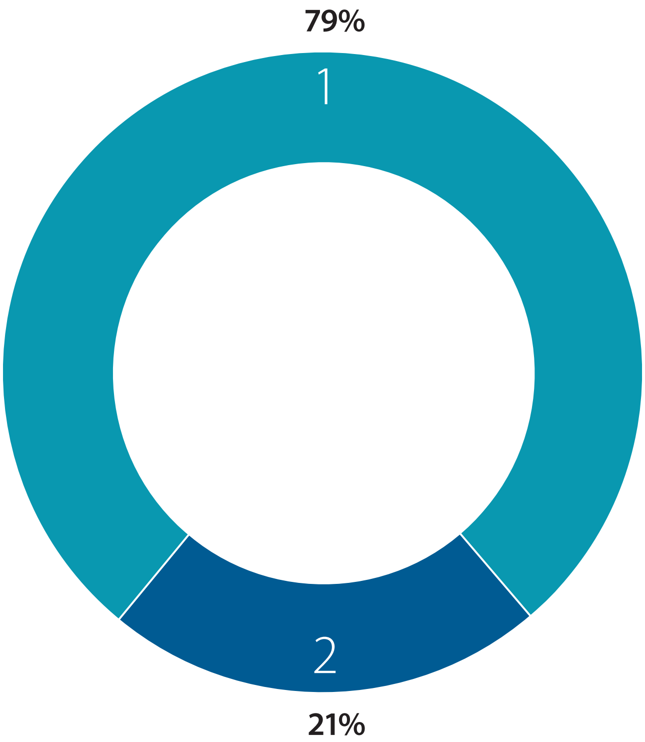
(30 June 2012: £7.9m)



Group order intake at a glance

Our segments

We have two operating segments:
Technical Consulting and Performance Products



Order intake

Year ended 30 June 2013

1. Technical Consulting
2. Performance Products

Total order intake

£218m

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.

Find out more on pages 18 to 23

Performance Products

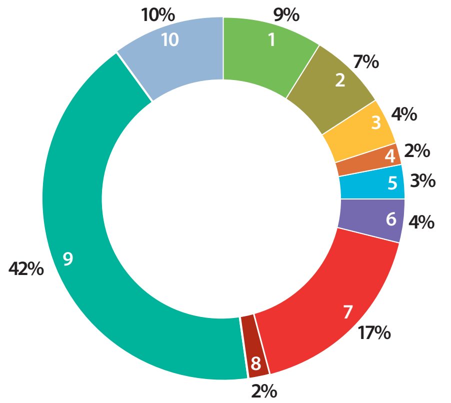
We manufacture and assemble low-volume, high-quality extreme performance products which have either been designed by our Technical Consulting segment, our motorsport products design team within the Performance Products segment or by our clients. Our products include transmissions, engines and components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

Find out more on pages 24 to 25

Order intake by:

Our market sectors

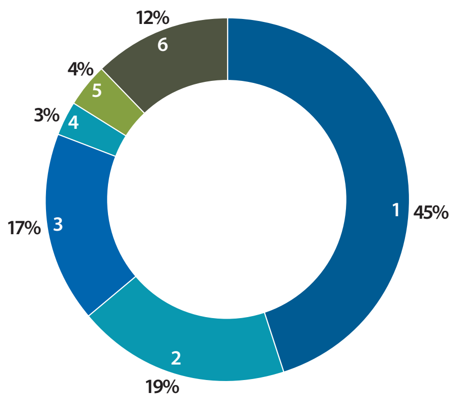
Our strategy of diversification into adjacent market sectors has resulted in a more balanced order intake.



1. Clean Energy & Power Generation
2. Defence
3. Agriculture & Industrial Vehicles
4. Rail
5. Marine
6. Commercial Vehicles
7. High Performance Vehicles & Motorsport
8. Motorcycle & Personal Transportation
9. Passenger Car
10. Government

Our product groups

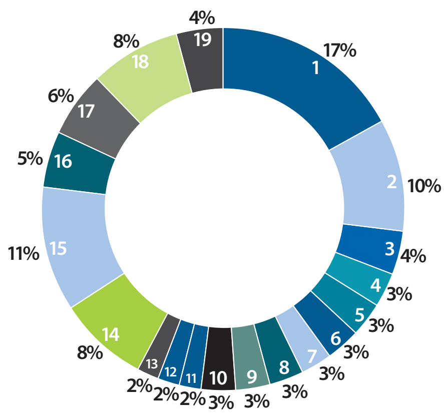
Order intake across our product groups has been diversified with the inclusion of Ricardo-AEA.



1. Engines
2. Driveline & Transmission Systems
3. Vehicle Systems
4. Hybrid & Electric Systems
5. Strategic Consulting
6. Environmental Consulting (Ricardo-AEA)

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 and governments.



1. Key Client 1
2. Key Client 2
3. Key Client 3
4. Key Client 4
5. Key Client 5
6. Key Client 6
7. Key Client 7
8. Key Client 8
9. Key Client 9
10. Key Client 10
11. Key Client 11
12. Key Client 12
13. Key Client 13
14. Rest of UK
15. Rest of Asia
16. Rest of Europe
17. Rest of North America
18. UK Government
19. US Defence

Chairman's statement

Despite the continued challenging global economic background, Ricardo produced record profits in 2013. We made good strategic progress with the successful acquisition of AEA Europe, which has diversified the scope of the Group's consulting activities. We are continuing to invest in research and development, people and facilities to enhance our ability to meet the challenges and opportunities ahead.

Performance

I am pleased to report that the Group delivered record results in the year ended 30 June 2013 despite the challenging economic environment. Group revenues grew by 16% to £229.7m, whilst underlying profit before tax increased by 31% to £23.0m. Cash management has been very good and we ended the year with net funds of £6.1m (2012: £7.9m) having spent £18.0m on the acquisition of AEA Europe.

We made important strategic progress with the acquisition of AEA Europe, which further diversifies our Technical Consulting activities. Under the Ricardo-AEA brand, the acquisition and integration has met or exceeded all of our initial expectations, and we have been able to deliver cost synergies by leveraging the purchasing power of the enhanced Group. We intend to deliver our strategic objectives (which are described on pages 16 to 17) through organic growth and carefully targeted acquisitions.

We continue to invest in research and development (described on pages 26 to 27), people and facilities, including a £9.5m investment in a new Vehicle Emissions Research Centre in the UK. Building work started in spring 2013 and the facility is planned to come on-line in December 2014. Good progress was made during the year in strengthening our management teams in key parts of the world.

People

I would like to welcome all new employees to the Group, especially those who joined on the acquisition of AEA

We intend to deliver our strategic objectives through organic means and carefully targeted acquisitions

Europe. Ricardo is a people business and so I would like to thank all our employees for their hard work and dedication over the past year. It is the expertise 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 36 to 47 of this Annual Report.

The Board

Paula Bell resigned as Group Finance Director in May 2013. I would like to thank Paula for her contribution to the Board. Bill Jessup was Interim Group Finance Director between March and June 2013 and Ian Gibson was appointed Chief Financial Officer from 1 July 2013. Ian is a Chartered Accountant with almost thirty years of commercial experience, most recently as Chief Financial Officer of Cable and Wireless Worldwide plc. Ian will bring valuable new experience to the Executive team and I welcome him to the Board.

Dividend

The Board has declared a final dividend of 10.0 pence per share to give a total dividend for the year of 14.0 pence, an increase of 13% 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

Since my report last year market conditions are generally more encouraging, although conditions in continental Europe remain difficult. Clients, notably in the automotive industry, are taking a longer-term view on their investment programmes and emissions legislation will continue to drive their product development programmes in the coming years. The Group has a strong balance sheet and a range of opportunities open to it as a diverse Technical Consulting and Performance Products business. We therefore anticipate further progress in 2014.

Michael Harper

Chief Executive's Statement

This year we have delivered record financial results, strong cash generation and exceptional projects to our clients. We are starting 2014 with a solid order book and a growing order pipeline which includes significant opportunities in the passenger car market. With Ricardo-AEA we are demonstrating that carefully targeted acquisitions can significantly accelerate achievement of our strategic objectives.

Strategy

For many years we have followed a consistent strategy for growth and risk mitigation. Initially, this was with geographic expansion in the US, continental Europe and Asia. In more recent years, the focus has been on organic expansion into adjacent markets such as rail, defence and clean energy. The expansion of the Performance Products business has also helped to further diversify the Group, and has provided the additional benefit of longer-cycle client programmes than in Technical Consulting.

In November 2012 we acquired the business and certain operating assets of AEA Technology plc (in administration). The acquired business, renamed Ricardo-AEA, is a leading environmental consultancy which advises the UK public sector, the European Commission, international agencies and private sector organisations. Ricardo-AEA shares common long-term strategic drivers with the rest of the Ricardo Group, such as reducing carbon emissions, maintaining air quality and the management of scarce resources. The businesses share a similar technology-focused professional culture with highly experienced employees who are experts in their fields. Under Ricardo's ownership, Ricardo-AEA will be able to expand more quickly both geographically and in the private sector by exploiting Ricardo's existing client relationships and geographic footprint.

Our strategic priorities in the coming years are to:

- Continue to focus the business around common competencies organically and by acquisition
- Maximise the potential of Ricardo-AEA

The Ricardo strategic supplier collaboration with Jaguar Land Rover continues - including the very successful project to integrate the new I4 Ti 240 four-cylinder Jaguar engine in the XF and XJ luxury sedans for the 2013 model

- Further expand business opportunities in Asia
- Continue to grow in Technical Consulting and to ensure stability by balancing order intake across market sectors, product groups and customers
- Exploit our research and development programmes on fuel efficiency and innovative technologies such as flywheel energy recovery systems
- Seek opportunities to expand the geographic footprint of Performance Products

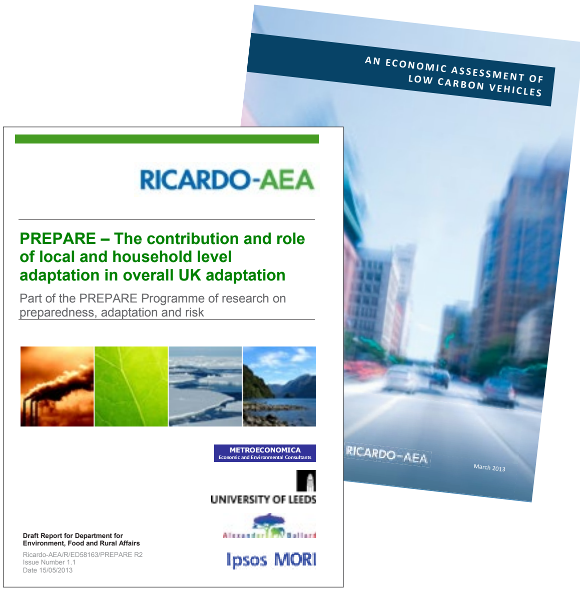
Further information on the execution of our strategy can be found on pages 16 to 17.

Highlights from the year

2013 was another good year in terms of our financial performance. Revenue grew by 16% to £229.7m (up by 3% excluding the contribution from Ricardo-AEA). Profit before tax, acquisition expenses and amortisation of intangibles increased by £5.4m to £23.0m. The balance sheet remains strong with net funds of £6.1m (2012: £7.9m) at the year end after paying £18.0m for the AEA Europe acquisition.

Market demand was variable, with continental Europe being particularly difficult in the first half of the year. The US was also challenging. These were more than compensated for by strong growth from UK and Japanese clients. The order intake in the year was £218m, £192m excluding Ricardo-AEA (2012: £197m) 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. The order book at the year end was £121m,

Of particular note was the re-emergence of major passenger car companies willing to commit to externally resourced development programmes



Recent research reports published by Ricardo-AEA practice teams in collaboration with government agencies, universities, and commercial partners including Ipsos MORI and Cambridge Econometrics

Ricardo has collaborated with Aggreko (above) on the design of high efficiency power generation systems and Cox Powertrain (right) on compact, lightweight, and high performance marine engines for military and civilian applications

£94m excluding Ricardo-AEA (2012: £107m). Although this is slightly down on the prior year on a like for like basis, we have an exciting pipeline of opportunities in both Technical Consulting and Performance Products.

Within Technical Consulting, of particular note was the re-emergence of major passenger car companies willing to commit to externally resourced development programmes. Other significant trends were multiple successes in winning contracts to develop large engines for power generation, trains and commercial vehicles as well as increasing interest in alternative fuels such as natural gas for these applications.

Satisfying customers through excellent project delivery is at the heart of Ricardo's DNA. During the year our Technical Consulting teams delivered successful projects across the globe. Some examples are discussed in the Case Studies section on pages 108 to 133. These six examples illustrate some common Ricardo themes. On pages 118 to 121 we describe how we are helping to manage air quality in Gibraltar and Riyadh based on deep knowledge built up over many years – in this case, since the fatal London smogs of the 1950s. Another case study describes how Ricardo helped BMW develop its first luxury scooter product, bringing this leading German brand to new markets. A report on our work on rail fuel economy shows how knowledge generated in one part of the Group is deployed around the globe. The Aggreko large diesel engine programme demonstrates how close integration with clients can deliver highly successful commercial programmes for clients. Our ability to work with clients of all sizes is highlighted with our work with Cox Powertrain in the development of its compact, lightweight and high performance marine engine for military and civilian applications. Finally, the Jaguar Land Rover co-operation was a classic Ricardo project to fast-track a client's key engineering programmes to enter new market segments. For readers wanting to find out more about other Ricardo programmes, our quarterly RQ magazine can be found on our website www.ricardo.com.

Developing business within each of the regions as well as balancing workload across our delivery facilities in the UK, US, Czech Republic, Germany and China remain operational priorities. Balancing workload ensures the optimal use of resources with the lowest feasible cost,

Ricardo helped BMW develop its first luxury scooter product, available in both Sport and GT variants, bringing this leading German brand to new markets

and our ability to do so has continued to improve.

The US business built momentum within a challenging market, with strong leadership and a client focus. Germany had a difficult start to the year, with performance improving in the second half as large multi-year programmes were won. These wins were underpinned by strong international clients with a desire for work to be delivered by our technical capability within Germany. Good opportunities remain for expansion within the current locations.

Ricardo-AEA has met or exceeded our original expectations since acquisition. Since it joined the Group we have been able to deliver cost synergies through applying the Group’s superior purchasing power. New orders in the second half of the year included a three-year contract to monitor air quality in Riyadh, Saudi Arabia, and a contract to provide advice to Scottish organisations on how to reduce energy, water and raw material costs.

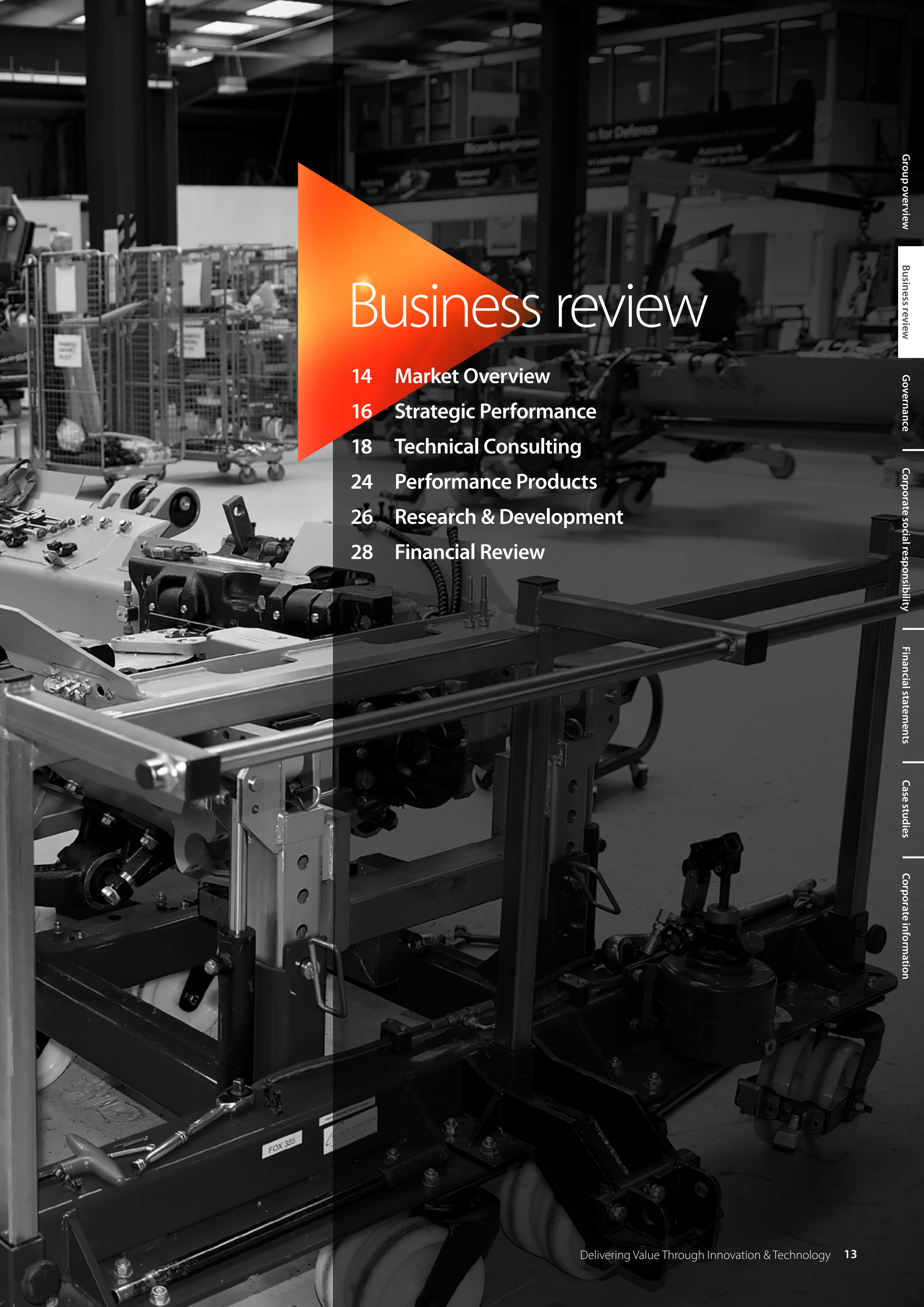
In the Performance Products segment we have continued to work with prestigious clients such as Bugatti and McLaren. We have added new clients such as Scomi, to whom we supply transmissions for its monorail trains. Demand in our motorsport business is buoyant and we are supporting teams such as Honda, Nissan and Toyota in the Japanese GT series and are now supplying transmissions for the Porsche Cup series. We are continuing to supply the Foxhound vehicle, now deployed to Afghanistan for use by British Forces, with the successful completion and delivery of the first two tranches of 300 vehicles during the year.

Ricardo supported Canadian National’s research project investigating the use of natural gas as a locomotive fuel

Conclusion

We have continued to make good progress both strategically and operationally in building an innovative and agile Group which is well placed to deliver exceptional projects for clients, to provide challenging and rewarding work for our employees, and to improve financial returns for our shareholders. This year, despite the challenges within continental Europe, we have again delivered record profits, demonstrated the benefit of the growth and risk mitigation strategy, and have ensured the Group “delivers together” for the benefit of all stakeholders. It has been a good year and we are optimistic for further development.

Dave Shemmans
Chief Executive Officer



Business review

Market overview

Market trends

Key industry drivers

Ricardo plc

Emissions, waste and urban air quality

- 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

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

Find out more on the inside back cover

Fuel efficiency and climate change

- Consumer fuel prices remain high
- Emerging fuel economy regulation in US and CO_2 g/km in Europe
- Increased demand for distributed power systems
- National energy security concerns
- Interest in natural gas due to low cost of shale gas extraction
- International obligations for countries to manage and report upon greenhouse gas emissions

- Technology leadership in vehicle fuel economy – engine, driveline, vehicle, powertrain electrification, battery electric vehicles and infrastructure
- Expertise in natural gas and alternative fuels and 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

Growth of renewable energy

- National climate change obligations leading to incentives for renewable energy development (particularly offshore wind and tidal systems within UK waters)
- Reliability and cost of kWh are key issues

- Track record of delivering robust wind turbine drivetrain designs and technology solutions such as MultiLife
- Partner to, but independent of, the leading international turbine manufacturers
- Working with cities and utilities on policy, optimisation, validation and integration of city systems
- Developing energy storage systems for utility scale usage with technologies including batteries and compressed air

Premium brands and products

- Vehicle refinement is an increasingly important determinant of customer car purchasing decisions
- Occupant comfort is also key for off-highway equipment, where operators recognise the efficiency benefits it can bring
- Increased spending by multinational manufacturers

- Ricardo is an established and long-standing technology leader in powertrain and vehicle Noise Vibration and Harshness (NVH) analysis and refinement optimisation
- We have leading edge calibration skills, helping to ensure that the vehicle's control strategy and systems promote desired brand values
- Track record in manufacturing high performance niche products

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 Unmanned Aerial Vehicles and outboards using military grade fuels
- Demand is robust despite austerity measures in many NATO countries

- Ricardo has an established technology thought-leadership position in US, delivering key technology programmes
- We are instrumental in design, development and manufacture of vehicles for UK MoD and global forces
- Ability to rapidly meet bespoke military product requirements

Economic growth focused on developing markets

- Emergence of new market entrants in automotive and off-highway sectors
- Increasing demand for technology transfer
- Established players requiring capacity support

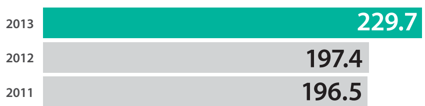
- Ricardo has a long-standing global orientation, combining wide-ranging capability with local delivery
- The company is well known for its open attitude towards technology transfer across multiple sectors and geographies
- Global reach coupled with local delivery provide a compelling customer proposition

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

Revenue
£m



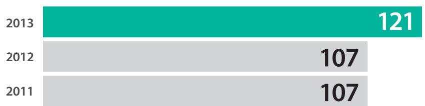
Commentary

Revenue has increased in the current year, largely due to the inclusion of revenue from Ricardo-AEA. More details of this are described in the Financial Review section on pages 28 to 31, and also in the Technical Consulting and Performance Products sections on pages 18 to 23 and 24 to 25 respectively.

Principal risks

Customers and Markets

Order book
£m



The order book remained solid at the end of the year, and is up on prior years due to the inclusion of the Ricardo-AEA order book.

Customers and Markets

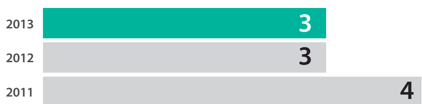
Net funds
£m

The Group has continued to drive a number of working capital initiatives which have helped to deliver strong operating cash inflows. Despite the £18m acquisition of Ricardo-AEA, net funds remain similar to prior year, which is a significant success.

Contract Performance, Financing & Defined Benefit Pension Scheme

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

Sector dependency
Number of sectors exceeding 10% of revenue



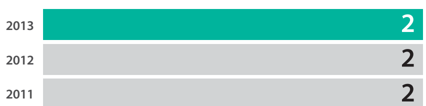
Commentary

The number of sectors exceeding 10% of revenue is stable, showing good spread in our markets.

Principal risks

Customers and Markets & Technology

Client dependency
Number of clients generating revenue for Ricardo exceeding 10% of Group Revenue



The number of clients exceeding 10% of revenue remains the same as the prior year, which demonstrates that we have a diverse client base.

Customers and Markets

More detail on how principal risks are mitigated on pages 44 to 47

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

Commentary | **Principal risks**

Underlying* operating profit margin
%

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.

*excluding specific adjusting items as described on page 3

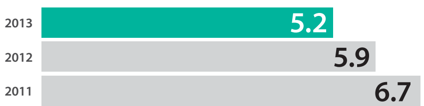
Principal risks: Contract Performance

Employee and knowledge retention
Voluntary employee turnover % per annum

Employee turnover is stable in spite of increased activity in the labour market as demand for engineers and scientists grows.

Principal risks: People

Environment
CO_2 tonnes per employee from gas and electricity use from all operations using Defra factors



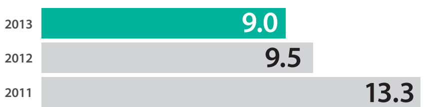
Ricardo has seen CO_2 tonnes per employee reduce year on year. Projects to reduce energy consumption are actively encouraged and have become more important as unit fuel costs have increased.

Principal risks: Compliance with laws and regulations

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

Commentary | **Principal risks**

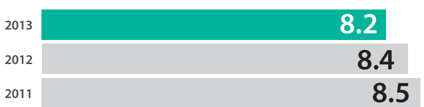
Technology development
Research spend (£m)



The R&D spend over the past 12 months has returned to historical levels. R&D remains a key focus for the Group in order to provide value-enhancing solutions to our clients and hence ensure future Ricardo profitability. This expenditure excludes amounts capitalised and is before government grant income.

Principal risks: Technology & Customers and Markets

Customer satisfaction
Customer satisfaction ratings out of 10 across a range of measures



Customer satisfaction has remained strong at over 80% during the past 12 months in a challenging market.

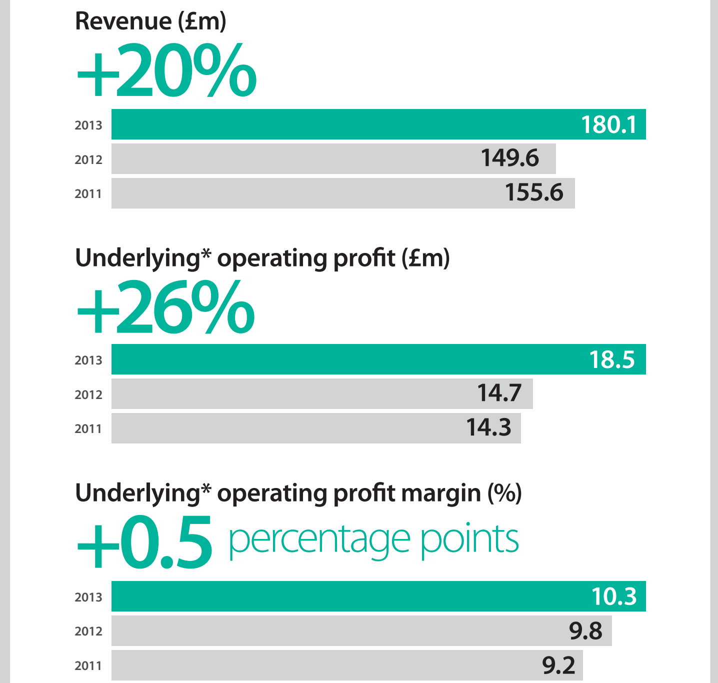
Principal risks: Contract Performance

Technical Consulting

Performance

The Technical Consulting segment accounts for around three quarters of Group revenues and underlying operating profit. Technical Consulting includes Ricardo-AEA. Revenues grew by 20% to £180.1m (2012: £149.6m), and by 3% to £154.7m excluding Ricardo-AEA. Underlying operating profit increased by 26% to £18.5m (2012: £14.7m), and by 7% to £15.7m excluding Ricardo-AEA. Operating margins have increased to 10.3%, up from 9.8% in 2012. Order intake in the year stood at £172m, £146m excluding Ricardo-AEA (2012: £154m).

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 20 to 23.



*excluding specific adjusting items as described on page 3

On 8 November 2012 the Group acquired the business and certain operating assets of AEA Technology plc (in administration) ("AEA Europe"). AEA Europe is a leading environmental consultancy providing Technical Consultancy services to the UK public sector, the European Commission, international agencies and private sector organisations. The acquired business, renamed Ricardo-AEA, is now fully integrated within the Group as part of the Technical Consulting segment. Post acquisition, Ricardo-AEA has continued to expand its range of expert environmental consultancy services, focusing on strategic, technical and economic themes. The integration and performance of the business has met or exceeded our original expectations. Synergies are being generated by leveraging the enlarged Group's purchasing power.

For this year only, presented below are the Ricardo-AEA headline financials from the date of acquisition:

	£m
Revenue	25.4
Underlying operating profit	2.8
Purchased order book	26
Closing order book	27

Further information on the performance of Ricardo-AEA can be found within note 10 to the financial statements on page 90.

The existing UK business has had a strong year. Despite a strategic partner taking certain work in-house, the UK has continued to work on existing multi-year programmes and secure a good stream of new business. A number of internal improvement initiatives have increased the effectiveness of the business in certain areas.

Our business in Germany had a particularly difficult start to the year as demand softened and a key client took some testing requirements in-house. A new interim Managing Director with extensive experience of successfully leading and developing businesses was appointed in the first half of the year. Multi-year programmes have been won from international clients; this, along with tight cost control, contributed to improved business performance in the second half.

In the US the business built momentum within a challenging market. The "Detroit 3" placed a number of smaller contracts, and operating results were underpinned by Defence and Passenger Car work together with tight control of the cost base.

The Far East, including China, remains a key region. Our sales offices in the Far East have continued to win significant orders for delivery by other businesses within the Group. Ricardo Shanghai increased its presence by starting to contract and deliver locally.

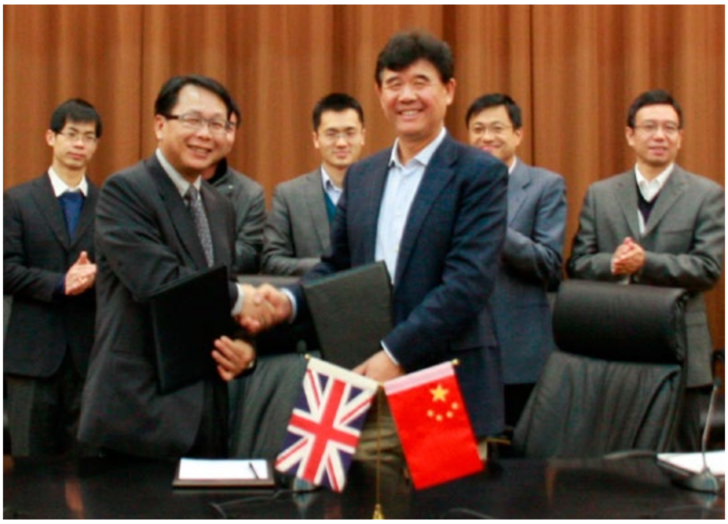
Our strategic consulting activities continue to operate across all geographies. Revenue challenges in Europe were offset by increased demand from our Asian-based customers, particularly Japan, and a significantly improved global cost base. The combination of management consulting skills and deep industry insight continues to resonate with customers across a wide variety of sectors including passenger car, commercial vehicle and off-highway companies, plus numerous government bodies and private equity firms.

Business Model

At the very core of our business, the Technical Consulting segment provides engineering, design and consulting services to customers in our chosen market sectors. These are Government, Passenger Car, High Performance Vehicles and Motorsport, Motorcycles and Personal Transportation, Commercial Vehicles, Agricultural and Industrial Vehicles, Defence, Rail, Clean Energy and Power Generation, and Marine. The services which we provide to these markets are co-ordinated through "product groups" which describe our fields of expertise and delivery streams. Our product groups are:

- Engines
- Driveline and transmission systems
- Vehicle systems
- Hybrid and electric systems
- Environmental consulting (Ricardo-AEA)
- Strategic consulting

To service our customers we have a global infrastructure. We have 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 engineering centres include specialists in, for example, project



Zhao Hang (right), president of China's CATARC research agency, shakes hands with Ricardo Asia president Gary Tan (left) on signature of a Memorandum of Understanding between the two companies

Long service awards are presented to Chris Talwar (centre) and Mike May (right) by Ricardo US president Thomas Apostolos

Jamie Pitcairn, director of Ricardo-AEA in Scotland (left), and Ricardo-AEA managing director Robert Bell (right) formally open the new Glasgow office management, electronics or computer-aided design, who work on projects delivered via the product groups. Engineers from any of the engineering centres can be deployed on projects across the globe using common engineering platforms or by short-term geographical secondment. Our environmental consulting services are delivered from a number of UK locations and are making increasing use of our global network. This four dimensional structure is illustrated in the chart on the inside front cover of this Report and Accounts.

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, mainly 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. Consequently, project management, resource management and customer management are 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, proposing or tendering to meet a need, negotiating a contract, delivery with clearly defined milestones and close out including customer feedback.

Ricardo supports many formulae of international motorsport from single make series to Formula 1, including Japanese Super GT (above)

Market Sector Highlights

Government

Demand from the government sector is heavily influenced by the regulatory cycle in the major markets in which Ricardo operates. For this reason activity in the year for the existing business was down on the prior year, which had seen significant work associated with the definition of fuel economy regulations in both light and heavy duty vehicles in the US and Euro 6 and the 95 g/km CO_2 target in Europe.

During the year contracts won included an award by the California Energy Commission to perform a comprehensive survey of the plug-in electric vehicle marketplace, and a US Advanced Research Projects Agency - Energy project for support of advanced electric motor design. Projects completed during the year included support for the Environmental Protection Agency in providing advice on new technology capabilities in relation to future fuel economy regulations, and a collaborative report for the EU Commission on test cycle flexibilities.

For Ricardo-AEA, the UK public sector remained its largest market and despite continuing UK Government pressure on budgets, Ricardo-AEA continued to secure major wins. These included the UK's Combined Heat and Power Quality Assurance Programme, the Climate Change Agreements Programme, Resource Efficient Scotland, and the Scottish Air Quality Database. The business also expanded its customer base internationally, including the strategic contract win of a flagship project, described in the Case Studies section, to improve air quality in Riyadh, Saudi Arabia, where urbanisation is leading to increased emissions, worsening of city air quality, and adverse health effects.

Passenger Car

The passenger car sector remains one of the most significant for Ricardo. Project demand was strong during the year, with orders from the US, Japan and China as well as in the UK from customers such as Jaguar Land Rover as a result of the on-going strategic supplier relationship. An example of the type of work carried out under this arrangement is described in an article in the Case Studies section on the project to integrate the I4 Ti 240 four-cylinder engines into the XJ and XF saloons for the Chinese market.

Order intake was well balanced, representing a broad spread both geographically and in terms of premium, luxury and value positions within the market, as well as Tier 1 suppliers. The technology focus of programmes remained high, and was reflected in an increase in interest in complex challenges to optimise powertrain

Ricardo US has worked on several projects in support of Navistar during the past year

mix across markets, including conventional and electrified architectures. The requirement to deliver high fuel economy and low CO_2 solutions for both medium and long-term product requirements was also a major determinant of demand during the year.

High Performance Vehicles

Technical Consulting activities in the high performance vehicles sector can be broadly categorised into high performance road vehicles such as luxury supercars, and products for competitive motorsport. For both of these categories, many design and development projects have subsequently become the focus of long-term manufacturing contracts for the Performance Products business.

Demand in both categories remained positive in the year. Ricardo has been active on a range of premium road vehicle programmes, supporting the development of powertrain systems ranging from the most extreme conventional combustion engine applications to state-of-the-art performance hybrid and electric vehicle architectures. In the motorsport business, projects were largely focused on the design and development of products for subsequent manufacture and assembly as part of the 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.

Motorcycle and Personal Transportation

The motorcycle and personal transportation sector has strong geographical and market distinctions, from the value-driven brands of Southeast Asia to the technology-focused luxury marques of Europe, North America and Japan. Ricardo has developed a comprehensive capability based around its centre of excellence in Southern Germany, through which it can deliver to this global customer base some of the most challenging and complex motorcycle and personal transportation projects.

During the year new customer projects have been won in Japan and China, in addition to significant wins from the long-standing European customer base. The motorcycle business mix reflects the broad base of the Group, with projects including base engine and transmission development, emissions reduction programmes, and hybrid and control systems. A particularly notable success was marked during the year with the launch by BMW Motorrad of the new C600 Sport and C650 GT maxi scooters as described in the Case Studies section.

Commercial Vehicles

Activity in the commercial vehicles sector has been lower than in prior years due to Europe being towards the end of the product development cycle for Euro VI emissions legislation and North America being yet to define future emissions legislation changes.

The focus of Ricardo's commercial vehicle Technical Consulting activity for European customers in the year has been on fuel economy improvement and system optimisation. In the US, the focus has been more squarely upon cost reduction and quality improvement programmes. In Asia, projects delivered in the year included a model based control system for a Japanese OEM, and a detailed design and technology review for a Chinese manufacturer.

Ricardo's TVCS clean combustion technology is to be incorporated in the engines of Bobcat off-highway equipment

Significant new business wins in the year included engine testing, manufacturing site assessment and power drive unit analysis for US customers, and the completion of the European research project Efficient and Reliable Transportation of Consignments (ERTOC). The aim of this project – successfully demonstrated on completion – was to develop a standards-based open-architecture data hub to enable freight users and operators to make informed and optimal decisions regarding the management of operations for minimum financial and/or environmental cost.

Agricultural and Industrial Vehicles

A slowdown in the China construction industry and the delay of new legislation in emerging markets has led to lower activity in the off-highway sector than in prior years.

The highly successful TaxiBot programme for IAI of Israel continued during the year, with a new order announced for assistance with the wide-body version of this advanced semi-robotic, pilot-controlled taxiing system.

Rajesh Walke (left) and Gordon D'Souza (right) of India's Cooper Corporation at the launch of a new family of automotive, off-highway and stationary power engines designed and developed in collaboration with Ricardo

Developed in collaboration with Ricardo, TaxiBot enables aircraft to taxi without running their main engines.

In the off-highway sector, numerous engine programmes were awarded relating to base engine, calibration and electrical integration for a range of customers in the US, Europe and Asia. A particular highlight was Ricardo's Twin Vortex Combustion System (TVCS), a highly successful clean technology that offers manufacturers a very attractive path to US Tier 4 compliance without the need for overly complex and expensive aftertreatment systems. During the year, Doosan Infracore announced that the Ricardo TVCS system would be incorporated in its new engines with a market launch in 2014 in the US Bobcat products, joining other customers such as JCB already using this technology.

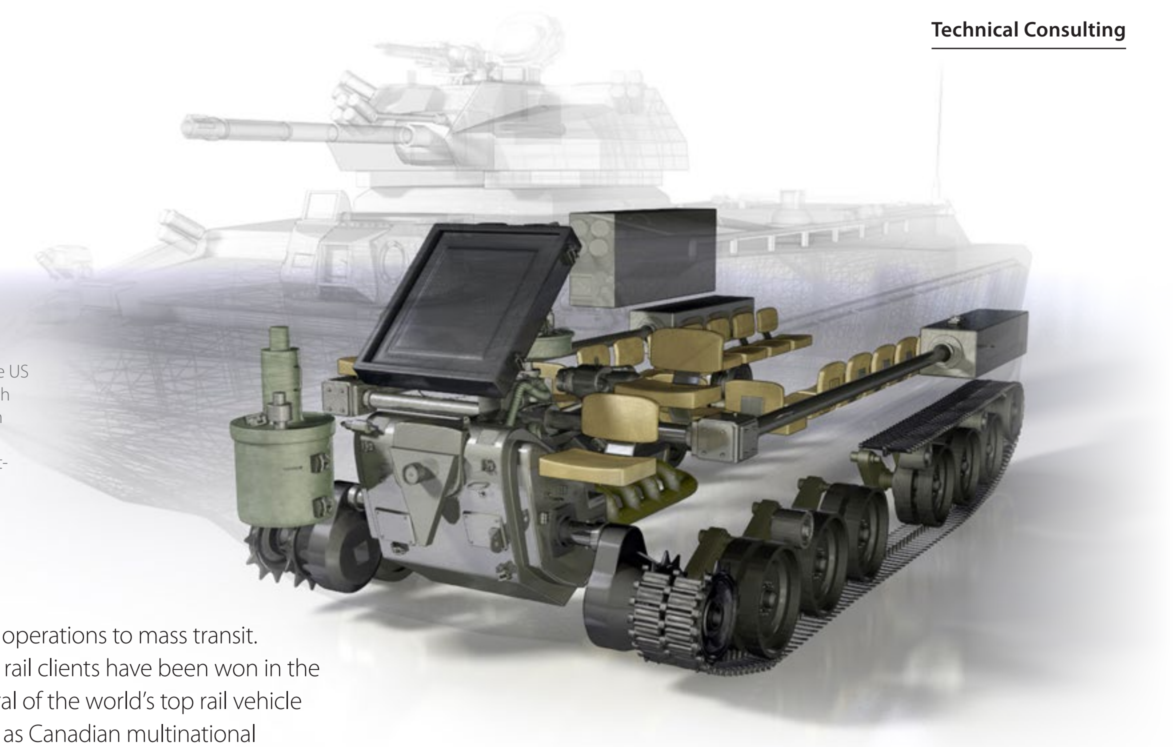
Defence

Despite market contraction in Europe and North America driven by government austerity programmes aimed at controlling budget deficit spending, Ricardo's defence-related Technical Consulting activity performed extremely well in the year. An extension of the defence sales team enabled improved penetration into European, Middle Eastern and Asian markets. Coupled with the demand for technology transfer and for innovative in-life engineering solutions in lieu of new product programmes, this is driving performance within the defence sector.

New contracts included a programme with a European defence vehicle engineering company to develop hybrid technology for an eight-wheel drive platform. In the US, a project was secured with Defense Advanced Research Projects Agency (DARPA) for management of the Fast Adaptable Next-Generation Ground Vehicle (FANG) Mobility/Drivetrain Challenge, a novel approach to sourcing technology based on the use of internet crowd sourcing techniques. Also in the US, final testing of the FED Alpha vehicle for TARDEC proved that the Ricardo-engineered vehicle delivers a full 70 percent improvement in fuel consumption (against a target of 30 percent) compared to the current baseline vehicle.

Rail

Ricardo's rail sector business has remained buoyant during the year, with order intake more than doubling compared with the previous year. It has also developed across a very broad geographical spread including North America, Europe and Asia, with customers represented across the full spectrum from Tier 1 equipment manufacturers to railway operators and governments,



Ricardo was selected by the US Defense Advanced Research Projects Agency (DARPA) in 2012 to provide oversight of the Fast, Adaptable, Next-Generation Ground (FANG) Vehicle programme

and from rail freight operations to mass transit.

A number of new rail clients have been won in the year, including several of the world's top rail vehicle manufacturers such as Canadian multinational Bombardier, CNR Dalian of China and, as described in the Case Studies section of this report, US based GE Transportation. 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, new locomotive engine design programmes, monorail driveline design and manufacture, and research into energy storage systems and the use of alternative fuels such as the project with Canadian National Rail on natural gas traction which is also described in the Case Studies section.

Clean Energy and Power Generation

The clean energy and power generation sector experienced increased demand during the year. Major areas of activity were in large engines for power generation, and combined heat and power and energy storage systems. In the renewable energy sector, demand was particularly strong in offshore wind energy, followed by onshore wind and tidal stream power generation.

Contracts delivered and in progress during the year included the new upgraded Aggreko G3+ diesel engine that sets the benchmark for efficiency in utility power in 1MW class, as described in the Case Studies section of this report. Renewable energy sector contracts included the support of Atlantis Resources Corporation with mechanical and electrical reviews of its tidal energy system, and the continued support to David Brown on its project to design and manufacture 7MW wind turbine gearboxes for Samsung Heavy Industries.

Ricardo-AEA expanded within the UK and international private sector. During the year projects carried out included greenhouse gas emissions reporting for one of the UK's largest property developers, air quality measurements and modelling for a large UK airport operator, benchmarking the carbon footprint of a well-known food manufacturer's products, assisting a major global bank to support green investment from finance providers, and waste flow analysis for one of the UK's largest services outsourcing providers.

Marine

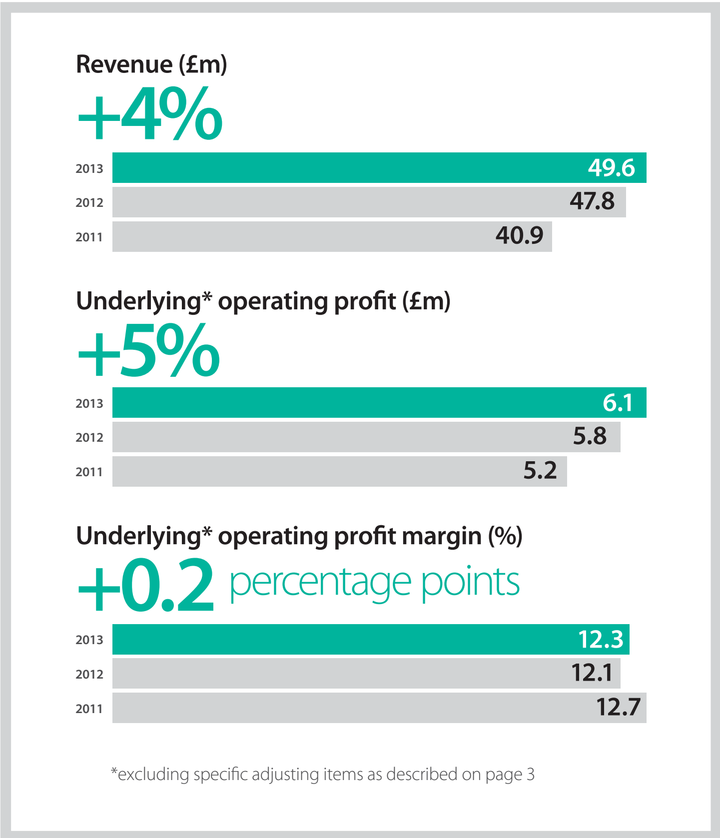
Within the marine sector the Ricardo name is long established and well respected. Our business has benefited from this reputation and from the increasing requirement for fuel-efficient and clean propulsion and auxiliary power systems. The widely anticipated international marine emissions regulations, 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.

During the year, contracts were completed on several gas engine development programmes including a significant programme with Caterpillar/MaK. New contract wins included gas engine design and upgrades across the 1-20MW range, new high-speed diesel engine families for European and Chinese customers, and a European R&D programme aiming to develop new heat recovery and turbocharging systems for marine applications.

Outlook

Technical Consulting is a diverse segment, with orders increasingly balanced across market sectors, product groups and customers. The integration of Ricardo-AEA into the Group is complete, and continues to provide a platform from which to leverage our joint capabilities. Technical Consulting is starting 2014 with a solid order book and a growing order pipeline, which includes significant opportunities within the passenger car market.

Performance Products



Performance

The Performance Products segment accounts for around one quarter of Group revenues and underlying operating profit. Ricardo Performance Products continues to deliver growth both in terms of order intake, revenue and underlying operating profit. Revenues grew by 4% to £49.6m (2012: £47.8m), with underlying operating profit increasing to £6.1m (2012: £5.8m). Operating margins have increased to 12.3%, up from 12.1% in 2012. Order intake in the year stood at £46m (2012: £43m).

The continuing upward trend in results has been achieved largely through the delivery of high-quality products from significant long-term contracts, the addition of new diverse programmes, and improved efficiency and delivery of operations. Further details of activity within the year can be found within Market Sector highlights below, on page 25.

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 include product design and development, production and operations management, supply chain management as well as customer management. Our productive

Foxhound vehicle assembly at Shoreham

resources are centred around a highly flexible transmissions manufacturing facility at our Midlands Technical Centre, and 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 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 suite 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 direct staff in Asia, Europe and North America, and in select regions via channel partners.

Market Sector Highlights

Defence

Assembly of the Foxhound vehicle for use by British Forces continued during the year, with the successful completion and delivery of the first two tranches of 300 vehicles. During the year, new orders from General Dynamics Land Systems took the total manufacturing commitment to date to 376 vehicles.

High Performance Vehicles

Demand for engines from McLaren for both the 12C and new P1 supercars has continued. A further order was also received from Bugatti for an extension of the long-standing contract to supply the advanced dual clutch transmission for the Veyron supercar.

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.

Rail

The positive growth of Ricardo's Technical Consulting activity within the rail sector has already started to feed through to the Performance Products segment. During the year a contract was completed to manufacture initial prototype units of Scomi's monorail transmission. Upgraded in collaboration with Ricardo, the new lighter weight unit will enable a power upgrade. The prototype units were constructed by the Performance Products group at the Ricardo Midlands Technical Centre. This project was an excellent demonstration of Ricardo's ability to exploit Performance Product opportunities within the international rail sector, building on the market presence developed through Technical Consulting.

Outlook

New Performance Product lines are adding to the segment's diversity and strengthening the operating platform. Operational efficiency and appropriate investment form part of the strategy to strengthen this position in the marketplace. The exciting breakthroughs in new industries and territories provide a strong footing for continued future growth underpinned by our advanced production and manufacturing techniques.

Research & Development

Delivering competitive advantage through innovation

Research & Development

Ricardo continues to invest in new technology to underpin our future business objectives. R&D activities are delivered through a mixture of self funded programmes, collaboratively funded programmes with the help of industry and government partners such as the Technology Strategy Board and through capitalised investment into new products where downstream returns are realisable (see page 28). Our R&D activities can be broadly classified into four main categories: new technology-based service offerings (for example, Hyboost low CO_2 demonstrator), new product development (for example, flywheel energy storage systems), new tools and techniques, and disruptive new technology leading to patentable IP.

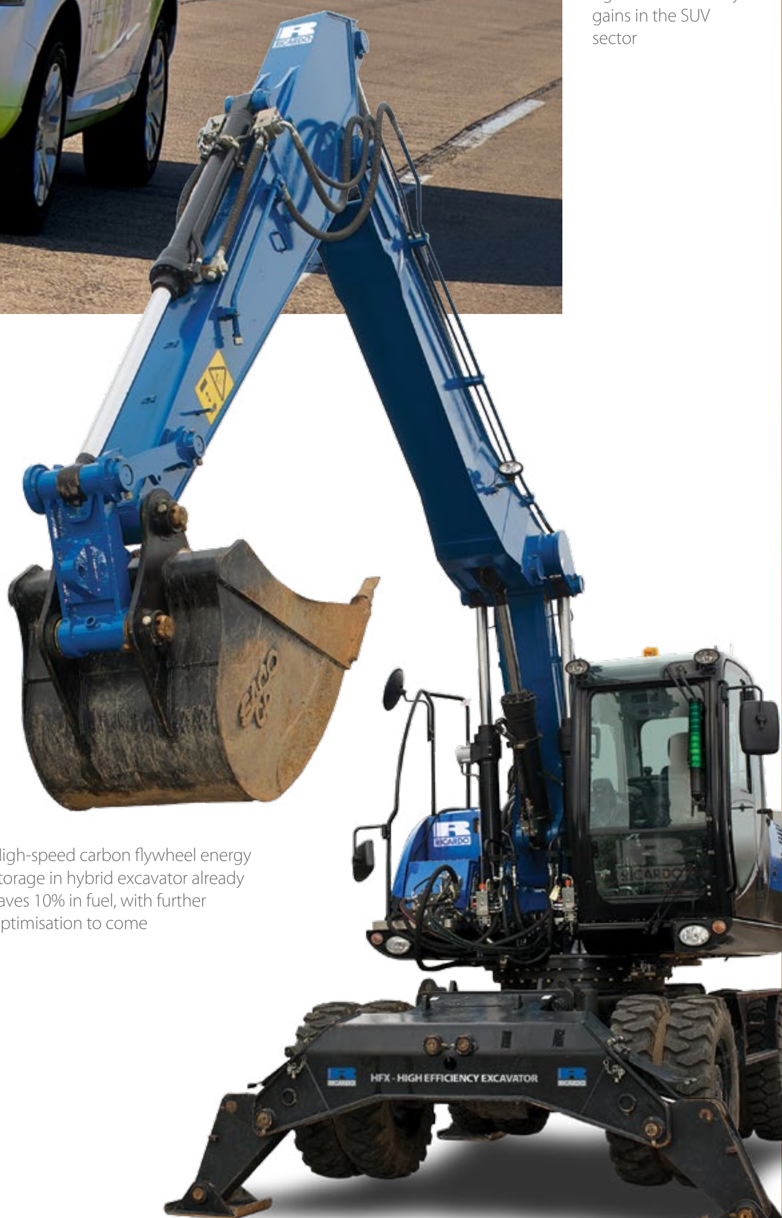
Flywheel technology

We have recently completed a high-profile development programme to integrate Ricardo's flywheel energy storage system into a mid-sized off-highway excavator, which recovers and returns previously wasted energy via the hydraulic system to deliver compelling fuel savings and reduce emissions. The concept has matured significantly into a robust, modular and cost-effective solution and is protected by a growing patent portfolio. Our flywheel excavator machine has already received an enthusiastic response from OEMs, Tier 1 hydraulics suppliers and machine operators as, in addition to its potential for reducing operating costs, its innovative 'sealed for life' permanent vacuum differentiates it against competitive systems by eliminating single points of failure such as vacuum seals and pumps. We can therefore confidently realise mainstream deployment into applications where robustness and reliability are absolutely paramount, and are already exploring opportunities in other market sectors such as rail and commercial vehicles.

Offshore wind turbines

We are also now leading a collaborative consortium programme to improve the reliability and reduce the cost of generation for offshore wind turbines. This project will demonstrate the benefits of our "multi-life" bearing system for the wind turbine transmission system, as bearing life is a major factor in system reliability. We are also exploring some innovative technologies in condition monitoring and torque input control to optimise system life.

Range-extended electric vehicle based on a Land Rover Freelander uses downsized twin-cylinder engine and demonstrates potential for significant efficiency gains in the SUV sector



High-speed carbon flywheel energy storage in hybrid excavator already saves 10% in fuel, with further optimisation to come

Advanced automotive propulsion systems

Another key R&D initiative is our work to find cost efficiencies through system engineering of advanced automotive propulsion systems. Our unique knowledge of all elements of the powertrain has enabled us to create some really innovative configurations that can offer significant cost reductions in advanced hybrid platforms. These new configurations have shown the potential to meet future regulated fuel economy requirements at substantially lower costs than currently anticipated by many of our customers.

Combustion systems

Our combustion system design and optimisation expertise has created some unique combustion systems such as our low-particulate Twin Vortex diesel system and our latest Spray Guided Lean Gasoline System. This programme is designed to improve and validate our design tools that enable our customers to get products to market faster and to also create new concepts that can minimise the complexity and cost of emissions aftertreatment solutions.

As part of our investments in electrification we have applied an extreme plug-in hybrid configuration to a Jaguar Land Rover Freelander in the form of a small turbocharged two-cylinder combustion engine, a high-performance electric drive and a moderately sized battery. This system has no range limitations but has the potential to achieve over 100 miles per gallon in a 2000 kg vehicle. The vehicle is now complete and will shortly be on demonstration tours with clients.

We are leading a collaborative consortium programme to improve the reliability and reduce the cost of generation for offshore wind turbines

Financial review

Group results

I am pleased to have joined the Ricardo plc Board on 1 July 2013, at what is an exciting time for the Group. The Group has delivered a strong operating result for the year to 30 June 2013 with a strong performance in the UK more than offsetting challenges in Germany. Revenue increased to £229.7m, a 16% increase on the prior year, and includes £25.4m from Ricardo-AEA from the point of acquisition on 8 November 2012. Group revenues, excluding Ricardo-AEA, increased by 3% on the prior year, which represents solid growth within the existing business.

Headline Group performance numbers are as follows:

	2013	2012
Revenue	**£229.7m**	£197.4m
Profit before tax*	**£23.0m**	£17.6m
Basic EPS*	**35.8p**	29.3p
Net funds	**£6.1m**	£7.9m

*** excluding specific adjusting items which comprise amortisation of acquisition-related intangible assets and acquisition costs.**

Underlying profit before tax increased by 31% to £23.0m, up from £17.6m in the prior year, and includes £2.8m from Ricardo-AEA. The Group has also delivered margin improvement, with underlying profit before tax margins now at 10.0%, compared to 8.9% in the prior year.

Basic earnings per share was 32.9p compared to 29.3p in 2012. 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 22% to 35.8p, compared with 29.3p in the prior year.

The Group has a solid closing order book at £121m, with significant pipeline opportunities. The order book and pipeline contain good diversification across market sectors. The Group continues to invest in Research and Development, and had expenditure of £9.0m (2012: £9.5m) before government grant income of £1.2m (2012: £3.4m) and excluding amounts capitalised of £0.7m (2012: £0.5m). An overview of research and development activities is presented on pages 26 to 27.

Performance Products and Technical Consulting operating results are discussed on pages 24 and 18 respectively. Overall it has been a good year for Performance Products, with growth in revenue, underlying operating profit and order intake. Within Technical Consulting, Ricardo-AEA has made a valuable contribution since acquisition, and a difficult and challenging year in Germany has been mitigated by strong contract performance elsewhere in the Group.

Basis of preparation

The financial statements have been prepared in accordance with International Financial Reporting

Standards ("IFRS") and International Financial Reporting Interpretations Committee ("IFRIC") interpretations adopted by the European Union ("EU") and with those parts of the Companies Act 2006 applicable to companies reporting under IFRS. The Group's principal accounting policies are detailed in note 1 to the financial statements on pages 80 to 84. Those that require the greatest estimates and judgements are discussed in note 1 c) on page 80.

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.

The Group incurred acquisition costs of £1.3m. Amortisation of acquisition-related intangible assets from the point of acquisition to 30 June 2013 amounted to £0.7m. The acquisition costs and the amortisation of acquisition-related intangible assets have been charged to the Consolidated Income Statement as specific adjusting items.

Ricardo-AEA has contributed £25.4m of revenue and £2.8m of underlying operating profit to the Group results since the date of acquisition. Further details on the acquisition are disclosed within note 10 to the financial statements, on page 90.

> *Underlying profit before tax increased by 31% to £23.0m*

The Group holds a further £16.0m (2012: £15.3m) of goodwill on the balance sheet. This comprises £2.7m (2012: £2.7m) in relation to two businesses fully integrated into Ricardo UK Limited (Gemini and Tarragon), and £13.3m (2012: £12.6m) in relation to the Technical Consulting business in Germany. The Group carries out 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 91.

Net finance costs

Finance income was £0.2m and finance costs £1.3m, giving a net finance cost of £1.1m which is broadly in line with the prior year (2012: £1.0m). Included within the finance costs is £1.1m (2012: £0.9m) in respect of the net finance charge for the defined benefit pension scheme.

Taxation

The total tax charge for the year was £4.0m (2012: £2.5m), representing an effective rate of 19% (2012: 14%). The Group has continued to benefit from Research

Ricardo is increasingly reaching out to new sectors in all parts of the world - above, members of the Ricardo Shanghai team at a recent trade fair in China

The new Ricardo Vehicle Emissions Research Centre, currently under construction

and Development 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, a deferred tax asset has not been recognised for the current year losses in Germany. This is the primary reason for the increase in the effective tax rate this 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. The RDEC aims to make R&D relief more effective at influencing investment decisions within the UK. 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. Given the date of substantive enactment, the Group has not applied the RDEC accounting within its 2013 financial statements. The RDEC will become mandatory for accounting periods beginning on or after 1 April 2016. The Group is considering whether to make an election for the RDEC ahead of the mandatory date.

Earnings per share

Basic earnings per share was 32.9p compared to 29.3p in 2012. Note 9, on page 90, 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 35.8p, from 29.3p in the prior year.

Dividend

The total (paid and proposed) dividend for the year has increased to 14.0p per ordinary share (2012: 12.4p). The proposed final dividend of 10.0p (2012: 8.7p) will be paid on 22 November 2013 to shareholders who are on the register of members at the close of business on 1 November 2013, subject to approval at the Annual General Meeting on 14 November 2013.

Capital investment

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

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

Net funds

The Group has continued to maintain tight controls around working capital, and has again delivered a strong closing cash balance. The Group had closing net funds of £6.1m (2012: £7.9m), despite the £18.0m cash investment in AEA Europe. The composition of net funds is defined in note 31 of the financial statements on page 106.

In June 2012, we agreed the sale and leaseback of our offices in Germany, with the sales proceeds remaining outstanding at 30 June 2012. The full proceeds of £3.7m (€4.6m) were received in the year ended 30 June 2013.

Ricardo Germany is home to the Group's global Centre of Excellence in Motorcycle Engineering, serving blue chip clients in this key sector, including BMW Motorrad

Banking facilities

During the year, the Group replaced one of its committed facilities, which was due to expire, with a larger facility. At the end of the financial year, the Group held total facilities of £52.1m (2012: £48.5m), which comprised committed borrowing facilities of £35.0m (2012: £30.0m) and uncommitted facilities of £17.1m (2012: £18.5m). 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.

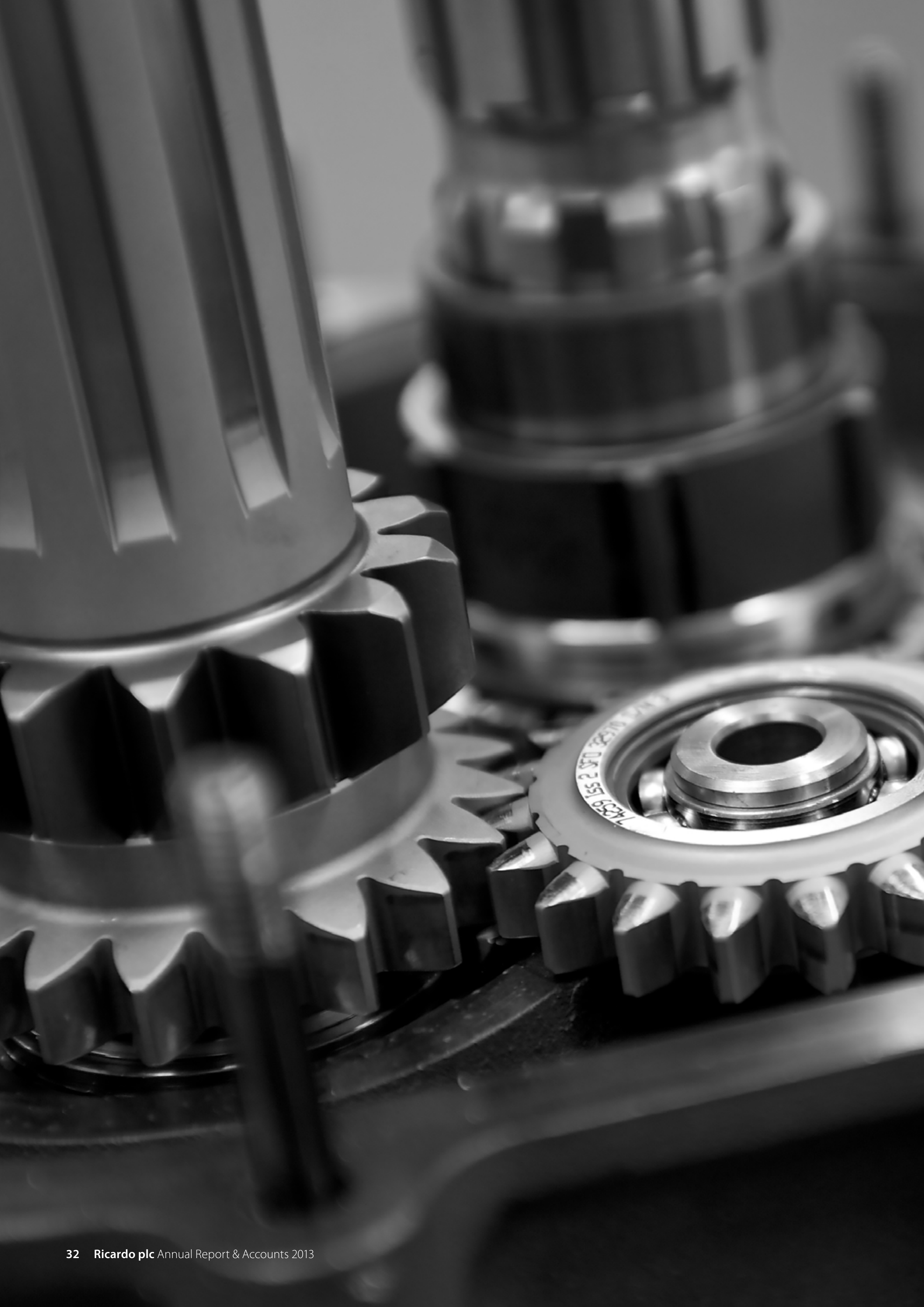
Exchange rates

The average value of sterling was 1.1% lower against the dollar and 2.5% higher against the euro during the year ended 30 June 2013 compared to the previous financial year. The volatility in exchange rates has not led to any significant overall impact on profit before tax for the year. The Group's main exposure is to movements in the euro/sterling exchange rate, arising from the work carried out in the UK for European customers and purchases within the UK from European suppliers. The resulting exposure is hedged accordingly through forward currency contracts, and hedge accounting is applied.

Full year dividend up 13% to 14.0p per share

Pensions

The Group's defined benefit pension scheme operates within the UK. At 30 June 2013, the accounting deficit measured in accordance with IAS 19 Employee Benefits was £19.7m before tax, or £15.1m after tax (2012: £20.4m and £15.5m respectively). The £0.7m decrease in the deficit was primarily due to additional company contributions of £4.3m (2012: £3.3m), offset by an increase in inflation assumptions. The additional cash contributions were agreed with the Pension Trustees following the last full actuarial valuation to 5 April 2011, which completed in August 2012. The discount rate of 4.65% has remained broadly similar to the prior year (2012: 4.60%).



Governance

Board of Directors

David Shemmans *BEng*
(Chief Executive Officer)

Dave Shemmans, aged 47, 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.

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

Ian Gibson, aged 53, 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 50 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 68 years old. He was Chief Executive of Kidde plc until he retired from that position in March 2005. He is also currently Chairman of BBA Aviation plc and Deputy Chairman of QinetiQ Group plc.

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 66 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 71 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, 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 (formerly known as Technology Steering Group).

Peter Gilchrist *CB*
(Non-Executive Director)

Peter Gilchrist was appointed non-executive director on 1 December 2010. He is 61 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, M&E Global Holdings 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 66 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.

Paula Bell *FCMA, CGMA*
(Group Finance Director)

Paula Bell joined Ricardo plc as Group Finance Director in November 2006 and resigned on 20 May 2013.

Bill Jessup
(Interim Group Finance Director)

Bill Jessup joined Ricardo plc as Interim Group Finance Director on 11 March 2013 and resigned on 30 June 2013.

Corporate Governance statement

Chairman's Overview

Michael Harper
Chairman

Your Board is responsible for the long-term success of Ricardo and the delivery of long-term value for all its shareholders.

We are committed to the highest standards of corporate governance to ensure that we have the appropriate safeguards in place to support the strategic development of Ricardo. In our day-to-day operations we ensure that these governance standards support and protect the Ricardo business.

The Nomination Committee supervises all recruitment processes and has during the year increased its focus on succession planning in conjunction with the executive team. The Committee's activities are described in more detail on pages 40 to 41.

The Remuneration Committee supports our challenge in retaining and rewarding our talented staff and continues to develop policies and targets to achieve this. The Committee's activities are described in more detail on pages 48 to 60.

The Audit Committee plays a substantial role in ensuring appropriate governance and challenge in our risk and assurance processes. The Committee's activities are described in more detail on pages 42 to 47.

We believe that good governance ultimately produces a better business and supports long-term performance.

During the year we undertook a review of our Annual Report format in response to calls for enhanced reporting of governance processes. We believe that the pages that follow show that we have embraced greater transparency in our reporting, with less reliance on boilerplate disclosures.

We welcome the additional provisions of the UK Corporate Governance Code 2012 and have gone some way to comply with a number of these before formal requirement to do so in 2014.

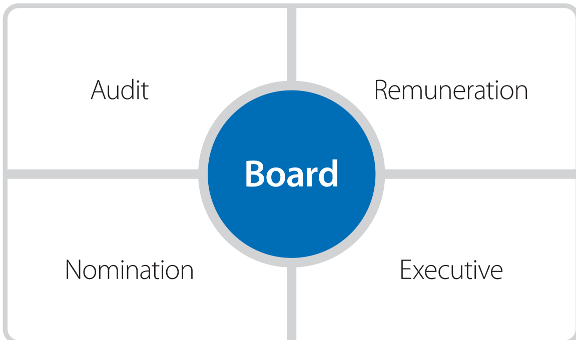
Michael Harper
Chairman

Ricardo Board members during a visit to Chinese construction equipment manufacturer XCMG, which has placed a contract for a benchmark wheel loader project

UK Corporate Governance Code

The Board confirms that it has complied with the provisions of the 2010 version of the UK Corporate Governance Code ("the Code") throughout the year ended 30 June 2013. In addition, Ricardo took steps to comply with the changes contained in the 2012 version of the Code within the required timeframe.

Both versions of the Code and associated guidance are publicly available on the Corporate Governance page of the Financial Reporting Council's website, www.frc.org.uk/corporate.



The Board

The role of Ricardo's Board

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

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 have agreed a schedule of matters reserved for our approval which are not delegated to the executive team. These include, amongst other things, matters relating to strategy, acquisitions and disposals, capital expenditure, financial results and overseeing systems of internal control, governance and risk management. The full schedule of matters reserved for our decision, along with the terms of reference of our committees, are available on our website (www.ricardo.com).

We delegate certain responsibilities to our Nomination, Audit and Remuneration Committees. These committees are made up of independent non-executive directors (save for the Nomination Committee which includes the Chief Executive Officer) and all play a key role in supporting us.

During the year, we approved a number of significant strategic developments and investments, including the acquisition of certain assets and business of AEA Europe, as detailed elsewhere in this Report. In addition, we approved the investment of significant capital funding for the design, development and build of the Vehicle Emissions Research Centre on its Shoreham site. Ricardo has been awarded additional funds from the UK Government Regional Growth Fund to support this project.

We spent considerable time focusing on the Group strategies and reviewing progress against respective objectives. We held three strategy meetings during the year, the first a four day session, held in October 2012 which gave us the opportunity to visit our China operation based in Shanghai. In addition to meeting the Ricardo China team and reviewing its strategy, we covered considerable mileage visiting clients to gain a greater understanding of their respective ambitions and ways in which Ricardo could assist them in their individual projects and strategic goals.

In January 2013 we held a Strategy Review update with Managing Directors of each of our divisions, focusing on the Ricardo Strategic Consulting, German, US and Ricardo-AEA businesses. In addition we reviewed client relationship strategy and tested progress on cost management for the Group.

In April 2013 we met in Germany, a regular annual visit, and

	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	3	5	1
Hans-Joachim Schöpf	8	3	5	1
David Hall	7	3	5	1
Ian Lee	8	3	5	1
Peter Gilchrist	8	3	5	1
Dave Shemmans	8	–	–	1
Mark Garrett	8	–	–	–
Paula Bell*	6	–	–	–
Bill Jessup**	2	–	–	–

* Paula Bell resigned on 20 May 2013.

** Bill Jessup joined on 11 March 2013 and resigned on 30 June 2013.

took the opportunity to meet employees and gain greater insight into a number of key client projects. In addition, we conducted a thorough review of the Ricardo Germany strategy.

Board meetings, scheduled in accordance with the annual timetable, take place eight times a year and otherwise as required. Details of attendance at scheduled Board and Committee meetings are shown in the table above.

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

As at 30 June 2013, our Board comprised five non-executive directors and three executive directors as follows:

Michael Harper	Non-Executive Chairman
Dave Shemmans	Chief Executive Officer
Bill Jessup	Interim Group Finance Director
Mark Garrett	Chief Operating Officer
David Hall	Independent Non-Executive Director, Chair of Remuneration Committee and Senior Independent Director
Ian Lee	Independent Non-Executive Director and Chair of Audit Committee
Hans-Joachim Schöpf	Independent Non-Executive Director
Peter Gilchrist	Independent Non-Executive Director

Biographies of directors, giving details of their experience and other commitments, are set out on pages 34 and 35. The wide-ranging experience and backgrounds of the non-executive directors enable them to debate and constructively challenge management in relation to both the development of strategy and the performance of the Group.

All non-executive directors are considered by the Board to be independent and our Chairman was considered to be independent upon appointment. 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. They all held office throughout the year with the exception of Bill Jessup who joined us on 11 March as Interim Group Finance Director, following Paula Bell's resignation announcement and subsequent departure on 20 May 2013. Bill stood down from the Board on 30 June. Ian Gibson took over as Chief Financial Officer from 1 July 2013.

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 November 2013 and, being eligible, will offer themselves for re-election. We believe that each of the directors should be re-elected by shareholders because each continues to be effective and demonstrates commitment to the role that each of them performs.

Appointments to the Board

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 are contained on pages 40 and 41.

Diversity

The 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.

Women make up approximately 19% of the workforce in the Group worldwide and the average percentage of women represented on the boards of the Group companies is 20%.

Induction of Directors

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

Ian Gibson's induction included site visits, meetings with senior management and advisers and the provision of corporate documentation to facilitate his learning of our business, its operations, key markets and risks. As Bill Jessup had been Interim Group Finance Director previously, his induction involved the provision of corporate documentation and updating him on the business' recent activities.

Director training

Training for directors is available as required and is provided mainly by way of external courses, briefing from specific consultants and online computer-based training. The Company Secretary provides regular updates on the legal and regulatory environment that the directors should be aware of.

Support and 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, our auditors and remuneration consultants.

In addition, we 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 Chief Technology and Innovations Officer and 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.

In the furtherance of their duties or in relation to acts carried out by us or the Company, each director has been informed that he or she is entitled to seek independent professional advice at the expense of the Company.

In accordance with the Company's Articles of Association, directors are granted an indemnity from the Company in respect of liabilities incurred as a result of their office, to the extent permitted by law. In respect of those liabilities for which the directors may not be indemnified, the Company maintained a directors' and officers' liability insurance policy throughout the year. Although their defence costs may be met, neither the Company's indemnity nor insurance provides cover in the event that the director is proved to have acted fraudulently or dishonestly.

Each director has access to the advice and services of the Company Secretary as and when required. The Company Secretary is appointed and can only be removed by the Board.

Board evaluation

We conduct an evaluation of our activities 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 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 together and with others. In addition, each director completes a separate questionnaire concentrating on his or her individual input to the Board and his or her 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 conducted one-to-one interviews with each director and the Company Secretary while David Hall, our Senior Independent Director, conducted one-to-one interviews with the directors, in the absence of Michael Harper, on his performance as Chair of the Board.

The results of the evaluation were analysed and reviewed by the Board in conjunction with the progress made on the previous year's objectives. In 2012, some of the Board's objectives included improving quality of earnings and shareholder value, focusing on key risks and mitigation plans and maintaining focus on talent management and succession planning.

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

Chairman and Chief Executive Officer and Senior Independent Director

The division of responsibilities between our Chairman, Michael Harper, and the Chief Executive Officer, Dave Shemmans, is documented, clearly understood and has been approved by us.

Michael Harper's primary responsibility is leading and ensuring the effectiveness of the Board and setting its agenda.

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 each year and which includes the executive directors of the Board. The Executive Committee is primarily responsible for developing and implementing our corporate strategy and policy. The minutes of the Executive Committee meetings are circulated to, and considered by, the Board.

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

BOARD COMMITTEES

The Board has an Audit Committee, Remuneration Committee and a Nomination Committee. Written terms of reference for each Committee are reviewed each year and are available on our website, www.ricardo.com or on request from the Company Secretary.

Remuneration Committee

Composition

The Remuneration Committee, which is chaired by David Hall, comprises the independent non-executive directors, Ian Lee, Hans-Joachim Schöpf, Peter Gilchrist 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 48 to 60. The Directors' Remuneration Report is the subject of a vote by shareholders at the 2013 Annual General Meeting.

Nomination Committee

Michael Harper
Chairman of the Nomination Committee

Chairman's overview

The Committee continues to focus on strengthening and balancing the range of skills, experience and diversity on the Board and its Committees.

Ian Gibson joined us as Chief Financial Officer on 1 July 2013. A member of the Institute of Chartered Accountants in England and Wales, Ian Gibson is a highly experienced finance professional with almost thirty years' commercial experience, most recently as Chief Financial Officer of Cable & Wireless Worldwide plc. Further details concerning Ian's appointment are set out below.

Both Peter Gilchrist's and my appointments are due for review this year. Peter will have completed his first three-year tenure in December 2013 and it is the Committee's recommendation to renew his appointment.

I was appointed as non-executive director in 2003 and appointed to the role of Chairman of the Board in November 2009. The Nomination Committee, in my absence, recommended renewal of my appointment.

We have set out opposite the length of service of each of the directors and it is the intention of the Committee to appoint a new non-executive director to ensure we are appropriately supported and strengthened for the future.

Michael Harper
Chairman of the Nomination Committee

Composition

The Nomination Committee, which is chaired by Michael Harper, comprises the independent non-executive directors Ian Lee, Hans-Joachim Schöpf, David Hall and Peter Gilchrist together with our Chief Executive Officer, Dave Shemmans.

The Committee has one scheduled meeting per year, which is supplemented by informal meetings between 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 roles and skills 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 Chief Financial Officer during the year was managed with the assistance of recruitment consultants Spencer Stuart, who have signed up to the voluntary Code of Conduct for executive search firms. Spencer Stuart provided a shortlist of candidates who were interviewed by Dave Shemmans, Ian Lee and Michael Harper before it was agreed to offer the role to Ian Gibson. Ian has undertaken an extensive induction programme to ensure a rounded understanding of the business and our ambitions. Ian joined the Board as Chief Financial Officer with effect from 1 July 2013. Spencer Stuart have 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. However, the wider objective of appointing the best person for the role, taking into account not only gender but qualifications and experience, led to the Committee's recommendation for Ian Gibson's appointment.

The Board's policy on diversity is set out on page 39 together with details of female representation elsewhere within the Group.

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, 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	10 years
David Hall	February 2006	7 years
Ian Lee	August 2008	5 years
Hans-Joachim Schöpf	July 2009	4 years
Peter Gilchrist	December 2010	3 years
Dave Shemmans	April 2005	8 years
Mark Garrett	July 2008	5 years
Ian Gibson	July 2013	--

Audit Committee

Ian Lee
Chairman of the Audit Committee

Chairman's overview

As a Committee we are keen to ensure that all key management of the business have fully considered the risks which their business areas face and that these risks are being effectively managed. We focus on the risk profiles for each business unit and review what actions these units are taking or processes they have in place to manage or mitigate their risk. We receive reports from the Head of Internal Audit on the risk and project management processes and outcomes, the planned scope and results of internal audits, and the results of the review of internal control processes.

During the year the Committee reviewed the FRC's "Effective Company Stewardship: Enhancing Corporate Reporting and Audit". It has proposed and the Board has agreed that the Committee shall provide the Board with the advice it needs to make the fair, balanced and understandable statement annually, each September, following its review of the draft Annual Report and Accounts.

In addition the Committee recognises that, as it does today, it will continue to keep significant issues under review and report accordingly.

Each year, the Committee reviews the scope and planning for the external audit, and receives reports on the auditors' work. We consider the key audit and accounting issues and their resolution. This includes a review of the accounting for key contracts, accounting for goodwill, accounting for taxation, accounting for warranty provisions, the appropriateness of the going concern basis for the preparation of the accounts and any internal control matters arising from the audit.

This year, amongst other things, the Committee paid particular attention to the accounting for the acquisition of the European business and certain assets of AEA, the accounting for the German goodwill asset, where after careful review the Committee considered that no impairment was required, and the accounting for deferred tax assets.

The FRC has concluded that more regular tendering would be a robust way to benchmark the quality, expertise and independence of the auditor. PriceWaterhouseCoopers LLP ("PwC") have been Ricardo's auditors since 1990. Both the Committee and executive management have annually reviewed the performance of our auditors, including the use of surveys of our staff assessing audit team performance, and we have been completely satisfied by their performance. In addition, the PwC Audit Partner is due to step down in September 2013, after five years. Four candidates have been submitted by PwC after discussion with myself for review by myself and Dave Shemmans and a new Audit Partner has been selected. Due to the satisfactory performance of PwC and the replacement of the Audit Partner for next year on rotation, the Committee has recommended the audit contract should not be put out to tender in this financial year and the Committee will keep this under review annually.

In recent years, some shareholders have adopted voting policies that a Chairman of the Board should not be a member of the Audit Committee regardless of FTSE position and a number of shareholders have highlighted this with Ricardo. Following discussions between Michael Harper and myself, Michael has volunteered to stand down as a member of the Audit Committee. I have extended a standing invitation to Michael to attend all future Committee meetings as his experience and advice are invaluable to us in the discharge of our duties to the Board and the Company.

Ian Lee
Chairman of the Audit Committee

Composition

The Audit Committee, which is chaired by Ian Lee, comprises the independent non-executive directors Hans-Joachim Schöpf, David Hall and Peter Gilchrist. Michael Harper stood down from the Audit Committee in February 2013, following consideration of shareholder voting guidance on the merits of the Chairman of the Board's membership of the Committee. The executive directors, Michael Harper and the Company's external auditors have standing invitations to attend all Committee meetings. In addition, the Committee meets with our external auditors and the Head of Internal Audit without management being present at least once a year.

The Committee has three scheduled meetings per year and ad hoc meetings as required. In the last year four meetings were held.

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 and the Listing Rules of the UK Listing Authority;

- 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; 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 of 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.

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;
- 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.

Whistleblowing, 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 and is promoted via the staff briefing process and the Company's intranet site.

There are no matters to disclose during the year under review.

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 2012/13.

External Audit

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 where 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 put in the position of auditing their own work, making management decisions for the Company, 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 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 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 2013 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 has considered the effectiveness of the external auditors, which included obtaining a report on the audit firm's own internal quality control procedures, consideration of the audit firm's annual transparency report and review of an internal questionnaire completed by senior and relevant Finance staff.

In addition, the Committee considered the risks associated with the audit firm withdrawing from the market, the proposed fee structure and the audit engagement terms for the forthcoming year. The Audit Committee has recommended to the Board that the reappointment of PricewaterhouseCoopers LLP be proposed to shareholders at the 2013 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 risk 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 risks 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. The acquisition of Ricardo-AEA did not materially change the risk profile of 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 or slippage in payments. As the market recovers, 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 16 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 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 process 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 66 and 67.
Technology The business is driven by changes in technology to meet the needs of markets, sectors and regulators on varying time scales.	**Impact** 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&D programmes may also increase. **Mitigation** Our R&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&D is regularly reviewed by our Technology Exploitation Board (formerly known as Technology Steering Group), which is chaired by the Chief Technology & Innovation Officer. Further details of our R&D programmes are given on pages 26 and 27.
Compliance with laws and regulations The Group's operations are subject to a wide range of domestic and international laws, regulations and restrictions.	**Impact** 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. **Mitigation** 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 www.ricardo.com 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.
Defined benefit pension scheme The Group has a UK defined benefit pension scheme which currently has a funding deficit.	**Impact** 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. **Mitigation** 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.
Financing The Group can be in a borrowing position, requiring some borrowing from its bankers.	**Impact** Given the ongoing uncertainty in the banking sector, globally there is a risk of the Group being unable to secure sufficient funds or the cost of funds and facilities being high. **Mitigation** 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.

Risk Management and Internal Control

Internal Audit and Risk comprises both the Group Risk and Internal Audit function. 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 revaluation 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.

Liquidity and Going Concern

The Company's policy on funding capacity is to ensure that it always has sufficient long-term funding and committed bank facilities in place to meet foreseeable peak borrowing requirements.

The directors have assessed the future funding requirements of the Company and compared it to the level of long-term debt and committed bank facilities. Further details can be found in note 21 of the Financial Statements.

After completing this work, including reviewing and approving the latest budget, the directors have a reasonable expectation that the Company and the Group have adequate resources to continue in operational existence for the foreseeable future.

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.

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.

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 (14 November 2013 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 2012 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) contains a wealth of information, including:

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

Compliance Statement

The Board confirms that it complied throughout the year ended 30 June 2013 with all relevant provisions contained in the UK Corporate Governance Code.

On behalf of the Board

Michael Harper
Chairman of the Board

Ian Lee
Chairman of the Audit Committee

6 September 2013

Group overview
Business review
Governance
Corporate social responsibility
Financial statements
Case studies
Corporate information

Directors' Remuneration report

David Hall
Chairman of the Remuneration Committee

Introduction

As the Chairman of Ricardo's Remuneration Committee ("the Committee"), I am pleased to present our directors' remuneration report for 2013, for which we will be seeking your approval at our Annual General Meeting.

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 new disclosure and voting regime in relation to directors' pay does not apply to us until next year and so we are seeking shareholder approval for the whole report on the current, advisory basis this year. However, next year the policy section will be put to a binding vote at the AGM, as it will be every three years unless there are changes to our policy requiring shareholder approval. The implementation section or 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 easy to understand and informative. As always, we welcome feedback from shareholders on both the content and style of the report.

2012/13 performance and remuneration

During the year ended 30 June 2013, Ricardo delivered a strong trading performance. Our businesses in Germany and the US had a difficult start to the year, but delivered improved financial performance in the second half. The UK operations had a strong year and continued to perform well. Ricardo-AEA was acquired in November 2012 and has met or exceeded our original expectations. Total revenues increased 16% compared to the previous year and underlying* operating profit increased by 30% to £24.1m. The order book has remained solid at £121m at year end. The decisions made by the Committee in relation to executive remuneration outcomes were taken in the context of this performance.

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 the level of 93% and 76% of base salary for the Chief Executive and Chief Operating Officer, respectively (equivalent to 75% and 76% of maximum opportunity).

Awards under the Long-term Incentive Plan ("LTIP") made in October 2009 vested in November 2012 at approximately 35% of maximum based on performance against stretching EPS targets (50%) and total shareholder return ("TSR") compared to the constituents of the FTSE Small Cap index (excluding financial services companies and investment trusts) (50%).

The Remuneration Committee has decided not to make changes to the remuneration framework and policy this year. 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.

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 to shareholders regarding Ricardo's remuneration policy and to take suitable action when required.

David Hall
Chairman of the Remuneration Committee

*excluding specific adjusting items as described on page 3

Directors' Remuneration Policy

Remuneration policy

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.

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).

Executive remuneration policy 2013/14

Pay element and link to strategy	Maximum	Operation
Base salary		
To provide a core level of remuneration to enable the Company to attract and retain skilled, high-calibre executives to deliver its strategy	There is no prescribed maximum annual increase. However, generally speaking, increases will be in line with salary increases for employees across the Group.	Salary levels are reviewed annually in January each year. 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 (which for 2013 were generally around 3%). 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.
Pension		
To offer market competitive retirement benefits	20% of salary over the Lower Earnings Limit for the executive directors.	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[1]. Pension is calculated on base salary only. Contributions are made up to the annual allowance limit and the rest paid in cash in lieu of pension. 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 a cash payment in lieu of pension. 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 the date of death. 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. The same policy approach applies to all employees although contribution and benefit levels vary by seniority.
Other benefits		
To provide market competitive benefits	There is no prescribed maximum level.	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 policy is reviewed on an annual basis.

1 The pension contribution for Dave Shemmans, the Chief Executive Officer, is 21.2% as a result of the protected company contribution level from the former defined benefit scheme, which is now closed to further accruals. 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). Under the transition arrangements to the Direct Contribution Scheme, this benefit ends in 2014 and will become standard with that for the other executive directors, described above.

<table>
<tr><th>Pay element and link to strategy</th><th>Maximum</th><th>Operation</th></tr>
<tr><td>Annual bonus

To reward the annual delivery of financial and operational targets</td><td>Maximum opportunity of 125% of base salary for the CEO and 100% of salary for other executive directors.</td><td>For the year commencing 1 July 2013, the Committee has determined that the overall structure of the annual performance-related bonus arrangement (including the maximum individual bonus potentials, the overall form of the performance targets and the relative weightings between each of those measures) will remain the same as in the previous year:
• 60% of bonus for executive directors is determined by Group PBT against set targets;
• 15% of bonus for the CEO / 20% for other executive directors is determined by Group cash balance; and
• 25% of bonus for the CEO / 20% for other executive directors is determined by the achievement of individual strategic objectives, which may vary year from year to ensure that objectives are aligned with the business plan. 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.
The choice of these measures, and their respective weightings for each individual, reflects 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 measures and targets are reviewed annually to ensure alignment to strategy.
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.
The principal purpose of this bonus deferral mechanism is to:
• provide for further alignment of executives' and shareholders' interests;
• provide an additional retention element; and
• encourage executive directors to build up a shareholding of a value of at least basic annual salary within five years of appointment (see share retention policy).</td></tr>
<tr><td>Clawback</td><td></td><td>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.</td></tr>
<tr><td>Long-term incentives:
Deferred bonus matching shares ("DBP")</td><td>DBP: Maximum opportunity of 62.5% of salary for the CEO and 50% of salary for other executive directors.</td><td>Deferred bonus matching shares:
Executive directors will be granted a "matching 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 matching 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.
The performance conditions applicable to the above matching awards will be identical to those that will be applied to the awards to be made under the terms of the 2006 Long Term Incentive Plan (the "2006 LTIP"). These are described in more detail below.</td></tr>
<tr><td>Long-term incentive plan ('LTIP')

To focus motivation on the long-term performance of the Group and reward shareholder value creation

To encourage share ownership and alignment with shareholders

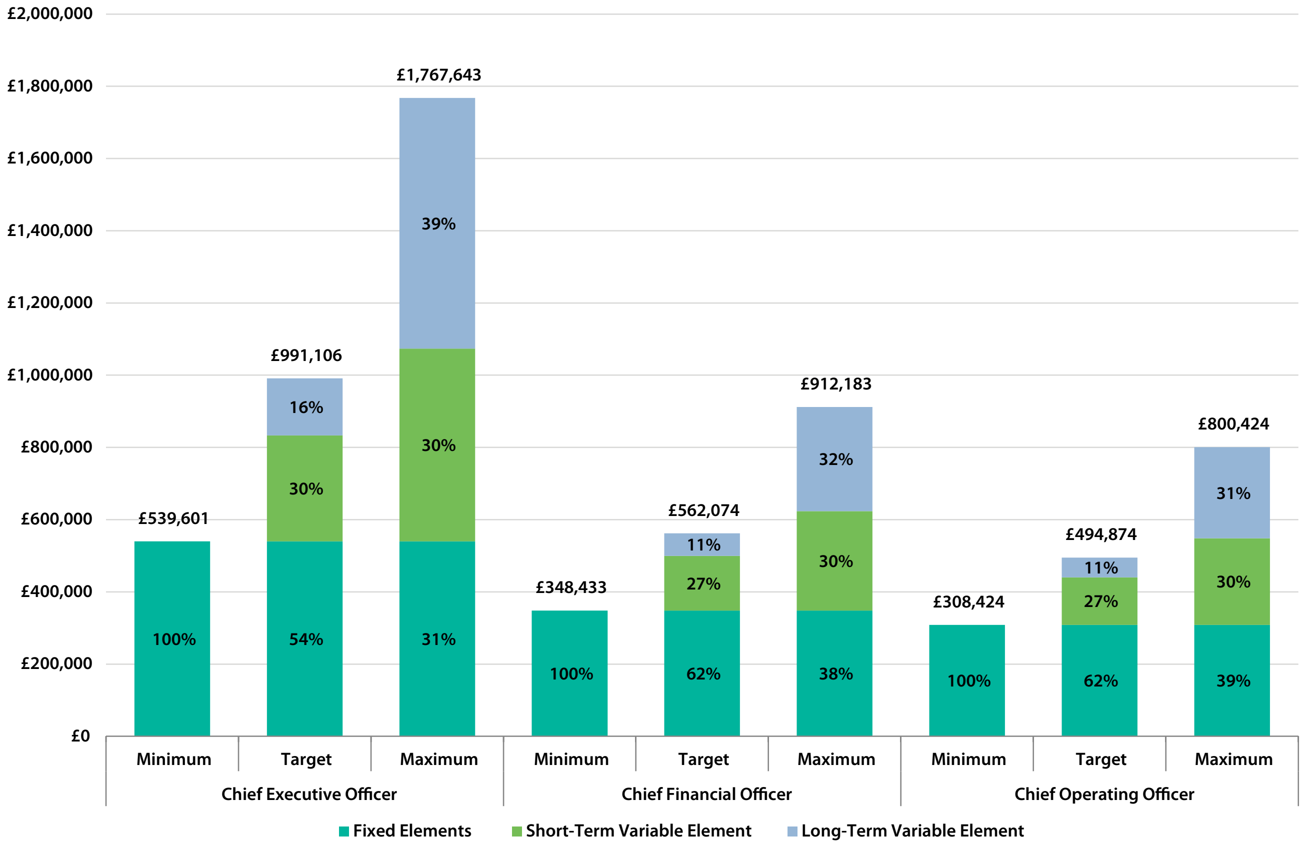
(DBP) to link short-term and long-term performance</td><td>LTIP: Maximum award under the plan rules: face value of 100% of salary per year.

CEO award level anticipated to be face value of 100% of salary. Other executive directors award level anticipated to be 55% of salary.</td><td>LTIP:
Awards under the LTIP are made on an annual basis to the executive directors and a small group of other senior executives. Awards granted in November 2012 are subject to the following performance conditions:
• 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.
- For below median performance, none of this portion of awards will vest.
- For median performance, 25% of this portion of awards will vest.
- For upper quartile or above performance, 100% of this portion of awards will vest.
- For between median and upper quartile performance, straight-line vesting will apply.
• 50% of any award vests according to Ricardo's growth in normalised earnings per ordinary share ("EPS") relative to RPI over a period of three consecutive financial years.
The Committee will decide appropriate EPS growth targets each year. Threshold performance (for which 30% 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 out-performed the relevant market and / or against our competitors.
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.</td></tr>
</table>

Pay element and link to strategy	Maximum	Operation
Share retention policy		The Board operates a share retention policy for the executive directors. Subsequent to the adoption of the policy in November 2004, it is 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. 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.

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 outcomes under minimum, on target and maximum scenarios. 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. As an example, for the CEO fixed elements comprises salary of £427,145, pension (pension contribution and cash in lieu) of £89,353 and benefits of £23,103.
- Base salary reflects the current salary level.
- Benefit levels are assumed to be the same as 2012/13. For the Chief Financial Officer, the value of benefit levels shown represents Paula Bell's figure for the year 2012/13.
- For target performance, an assumption of 55% of bonus payout is applied and threshold vesting for long-term incentives.
- No share price increase has been assumed.

Recruitment remuneration policy

New executive directors will generally be appointed on remuneration packages with the same structure and elements as described in the policy table above.

For external appointments, although we have no plans to offer additional benefits, cash and/or share-based elements on recruitment, the Committee reserves the right to do so 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. Such payments may take account of remuneration relinquished when leaving the former employer and would reflect the nature, time horizons and performance requirements attaching to that remuneration. 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, provided that they are put to shareholders for approval at the earliest opportunity.

For external and internal appointments, the Committee may agree that the Company will meet certain relocation expenses as appropriate.

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[1]. 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 on their originally anticipated vesting date. These awards will also usually be subject to some form of time pro-rating reduction to reflect the unexpired portion of the performance or deferral period concerned. 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.

1 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.

Change of control

In the event of a change of control, awards granted under the 2006 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
Paula Bell – Outgoing Group Finance Director	9 October 2006
Ian Gibson – Incoming Chief Financial Officer	15 May 2013
Bill Jessup – Interim Group Finance Director	11 March 2013
Mark Garrett	1 July 2008

Executive share options

No share option grants have been made during the year ending 30 June 2013 to directors (or indeed any Ricardo employees). The diversity of the Company's business in terms of geography and sector also requires the flexibility to grant share options from time to time under the terms of the 2004 Executive Approved/Unapproved Share Option Plan ("2004 ESOP"). Such grants may be made in key recruitment, retention, business acquisition and promotion circumstances, and in other circumstances in order to create further alignment with shareholders and to incentivise further business growth. The maximum level of award that can be made to any executive under this plan is 100% of basic salary per annum. However, the Committee's intention is not to make further awards under this plan to executive directors and only to make annual grants to the executive directors under the 2006 LTIP.

All-employee share plans

For its UK employees the Company operates from time to time HMRC-approved 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 the Company for discretionary employee share plans.

At the end of the year under review, the Company's overall dilution was 3.87%, of which 3.41% 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 2006 LTIP and deferred bonus arrangement. To date, all 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 but receive reimbursement for travel and incidental costs incurred in the furtherance of company business. The aggregate limit for fees paid to non-executive directors is laid down in the Articles of Association.

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 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 2013 are:

Michael Harper	36 months
David Hall	24 months
Ian Lee	13 months
Hans-Joachim Schöpf[1]	24 months
Peter Gilchrist	5 months

1 Non-executive member of the Technology Exploitation Board (formerly known as Technology Steering Group) for which he receives a fee of €8,000 p.a

Annual Report on Remuneration

The Remuneration Committee

During the year under review the Committee was chaired by David Hall. The Committee also comprised the Chairman, Michael Harper, and all of the other non-executive directors: Ian Lee, Hans-Joachim Schöpf and Peter Gilchrist.

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 34 and 35, and details of attendance at the meetings of the Committee during the year ended 30 June 2013 are shown on page 38.

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, 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 (Mark Jarvis) and the Company Secretary (Patricia Ryan).

Towers Watson has been appointed by the Committee to provide it with independent advice on executive remuneration. During the year, Towers Watson provided advice on matters under consideration by the Committee and updates on good practice, legislative requirements and market practice. Towers Watson's fees for this work amounted to £71,921. Towers Watson is a member of the Remuneration Consultants' Group and its work is governed by the Code of Conduct in relation to executive remuneration consulting in the UK. Towers Watson 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 other services.

Remuneration for 2012/2013

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 2013. 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, for the CEO, 3% and, for the Group Finance Director (Paula Bell), 3%. The increase for the Chief Operating Officer was 9%. These increases were in the context of average salary increases across the Group of around 3%.

The increase to Mark Garrett's salary of 9% follows significant increases in previous years. The increase was necessary to move his salary towards alignment with external market comparators as his experience, responsibilities and performance levels in the role have increased over time. Mark Garrett was promoted to the role of COO from inside the company, having joined the Group in 1998, and has risen rapidly through the ranks. His current role is significantly bigger than the role he held previously as the Group Engineering and Products Director. As described in the policy table on page 49, the Committee has a policy of setting relatively low initial salary levels and then increasing to a market competitive level over time. The Committee believes that this approach is best aligned with shareholders' interests even if it may mean relatively high salary increases as the individual gains experience in role. Having increased Mark Garrett's base salary to reach a market-competitive level, the Committee anticipates that future salary increase levels will be at a lower level.

Current salary levels from 1 January 2013 (1 July 2013 for Ian Gibson) are:

- Dave Shemmans: £427,145
- Ian Gibson: £275,000
- Mark Garrett: £240,000

Pension

(a) The defined benefit scheme is closed and there are no active members of it. During the year ended 30 June 2013, the transfer value increased, primarily due to changes in investment market conditions and also as a result of a review of the methodology underlying the transfer value assumptions, including a change in the demographic assumptions. This has affected the benefit level of the Chief Executive Officer as a deferred pensioner; the transfer value at 30 June 2013 was £335,000, an increase of £52,000 from prior year.

The CEO's Normal Retirement Date ("NRD") is 16 June 2031 at which he will receive his pension at the 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[1]

Employer contributions payable in the year	£'000
Dave Shemmans	30
Paula Bell	34
Mark Garrett	41
Bill Jessup	0

1 The figures for cash in lieu of employer pension contribution during the year were £58,431 for Dave Shemmans and £11,064 for Paula Bell.

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.

Annual performance-related bonus

The annual performance-related bonus for the year to 30 June 2013 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 a 31% increase in underlying profit before tax to £23.0m (2012: £17.6m) and an overall outflow of net funds of £1.8m compared to a £6.4m inflow in the prior year. After adjusting the current year outflow to allow for the £18.0m acquisition of Ricardo-AEA, the profit and cash targets were achieved at a level of 66% and 100% respectively. The Committee judged that individual objectives were achieved at a level of 80% for both the CEO and the Chief Operating Officer.

In light of the above performance against all three targets, the Committee concluded that a bonus payment should be made. The total bonus was 75% of maximum bonus for the CEO, 76% of maximum for the Chief Operating Officer. This represents a bonus of 93% and 76% 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, the release of which is subject to continued employment for a three-year period from the award date.

Long-term incentives

Awards vesting following the expiry of performance periods ending on 30 June 2013

Awards under the LTIP made in October 2010 will vest in October 2013. The performance conditions applicable to these awards are summarised below:

Relative TSR portion (50%)		EPS growth portion (50%)	
Relative TSR performance against the FTSE Small Cap (excluding financial services companies and investment trusts)	**Vesting level**	**EPS growth performance**	**Vesting level**
Below median	Nil	Less than RPI + 4% p.a.	Nil
Median	25%	RPI + 4% p.a.	30%
Upper quartile (or above)	100%	RPI + 12% p.a.	100%
Between median and upper quartile	Straight-line basis	Between RPI + 4% and RPI + 12% p.a.	Straight-line basis

Over the three-year performance period, Ricardo was ranked between the median and upper quartile of the TSR comparator group, giving a vesting level for this portion of 54%. The EPS figure for the year represented growth in excess of the stretch target compared to the base year, with the result that the EPS condition was achieved to a level of 100%. Therefore, the overall vesting level for this award is 77%. The number and value of shares which vested in November 2012 in respect of awards granted to each of the executive directors in October 2009 is set out on page 59 of this report.

Awards made in the year

Awards were made to the executive directors under the 2006 LTIP and 2011 DBP in November 2012. 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%)		EPS growth portion (50%)	
Relative TSR performance against the FTSE Small Cap (excluding financial services companies and investment trusts)	**Vesting level**	**EPS growth performance**	**Vesting level**
Below median	Nil	Less than RPI + 4% p.a.	Nil
Median	25%	RPI + 4% p.a.	30%
Upper quartile (or above)	100%	RPI + 10% p.a.	100%
Between median and upper quartile	Straight-line basis	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, save that the performance level required for maximum vesting of the EPS growth portion was adjusted from RPI +11% p.a. to RPI +10% p.a. This change was intended to ensure that the EPS growth condition was appropriately stretching in light of then current business forecasts and the prevailing global economic uncertainty. Given these factors, the Committee believed that this condition remained as stretching as awards in previous years.

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 Committee has determined that the measures and target ranges for awards to be made in the 2013/14 financial year will be the same as the 2012/13 financial year.

The number and value of shares that were awarded to each of the executive directors is set out on page 59 of this report.

Non-executive directors' fees

Current non-executive director fees as from 1 January 2013 are as follows:

	£'000
Chairman's total fees	127
Other non-executive director fees:	
Basic fee	41
Additional fee for Audit and Remuneration Committee Chairmen	7
Additional fee for the Senior Independent Director	6

Auditable section
Single total figure table

The table below sets out the remuneration received by the executive directors and non-executive directors during the year.

	Financial year	Basic salary and fees (£000)	Benefits[3] (£000)	Bonus (cash element) (£000)	Bonus (deferred element) (£000)	TOTAL BONUS (£000)	Deferred bonus matching shares (£000)	LTIP[4] (£000)	Total LTIs (£000)	Pension (£000)	TOTAL (£000)
EXECUTIVE DIRECTORS											
Dave Shemmans	2012/2013	421	23	200	200	400	0	392	392	88	1,324
	2011/2012	408	26	150	150	300	0	160	160	85	979
Paula Bell[1]	2012/2013	227	22	0	0	0	0	0	0	45	294
	2011/2012	247	23	74	74	148	0	89	89	60	567
Bill Jessup[2]	2012/2013	98	0	0	0	0	0	0	0	13	111
	2011/2012	0	0	0	0	0	0	0	0	0	0
Mark Garrett	2012/2013	230	22	91	91	182	0	135	135	41	610
	2011/2012	210	17	68	68	136	0	69	69	42	474
NON-EXECUTIVE DIRECTORS											
Michael Harper	2012/2013	126	3	0	0	0	0	0	0	0	129
	2011/2012	122	3	0	0	0	0	0	0	0	125
David Hall	2012/2013	53	2	0	0	0	0	0	0	0	55
	2011/2012	51	2	0	0	0	0	0	0	0	53
Hans-Joachim Schöpf	2012/2013	40	12	0	0	0	0	0	0	0	52
	2011/2012	39	18	0	0	0	0	0	0	0	57
Peter Gilchrist	2012/2013	40	3	0	0	0	0	0	0	0	43
	2011/2012	39	3	0	0	0	0	0	0	0	42
Ian Lee	2012/2013	47	5	0	0	0	0	0	0	0	52
	2011/2012	45	6	0	0	0	0	0	0	0	51

1. Paula Bell stepped down from the Board on 1 April 2013 and as Group Finance Director effective 20 May 2013. The remuneration figures in the table above refer to total remuneration during the financial year.
2. The figure in the table above relates to earnings in respect of employment as a Director from 1 April 2013. Bill Jessup received a further £25,425 for employment in March 2013 prior to joining the Board and served as Interim Finance Director from 4 January to 30 June 2010.
3. Further information on benefits can be found on page 55.
4. See Annual Report on Remuneration for targets and outcomes. Although the performance period for long-term incentives awarded in 2010 ended on 30 June 2013, shares will not vest until after the publication of this report and therefore the final vested value is not known. The values in this table are therefore indicative only, based on an average share price over the three months to 30 June 2013 – £4.01.

Directors' shareholdings

The interests of directors and their connected persons in ordinary shares as at 30 June 2013 (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:

	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
EXECUTIVE DIRECTORS				
Dave Shemmans	160,170	88,726	390,042	80,000
Paula Bell	63,516	0	0	0
Bill Jessup	0	0	0	0
Mark Garrett	22,085	36,842	125,189	7,068
Ian Gibson	0	0	0	0
NON-EXECUTIVE DIRECTORS				
Michael Harper	35,000	0	0	0
David Hall	20,000	0	0	0
Hans-Joachim Schöpf	10,000	0	0	0
Peter Gilchrist	4,150	0	0	0
Ian Lee	13,000	0	0	0

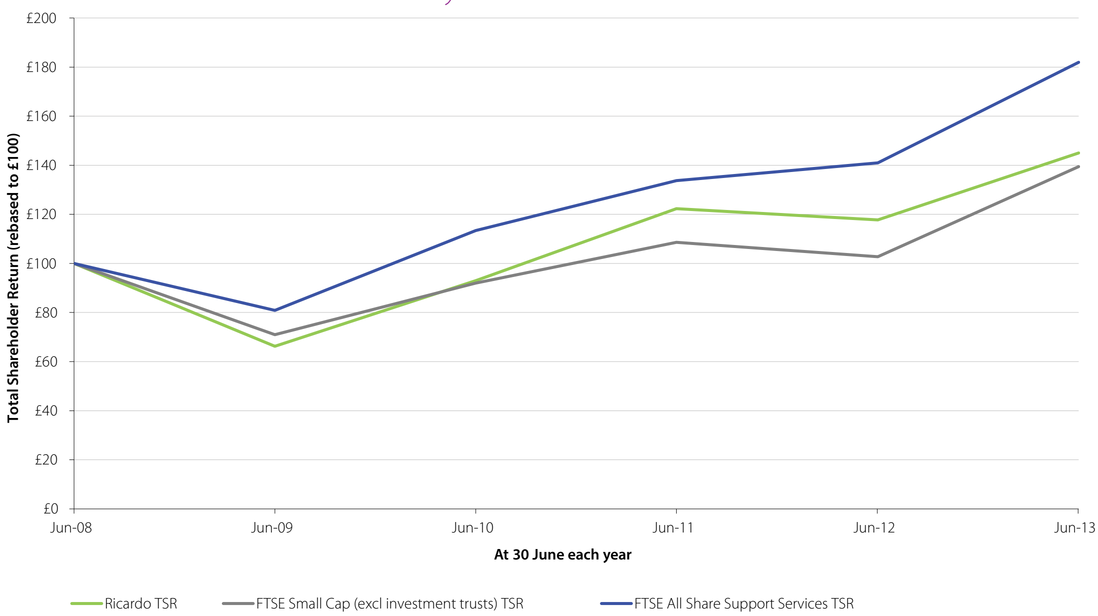
At 6 September 2013, the interests in shares of the directors who were still in office were unchanged from those at 30 June 2013.

As described in the policy table on page 51, 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 2013, Dave Shemmans meets this shareholding requirement. Other executive directors have 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.

TSR performance

The chart below 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.

TSR chart for the years 30 June 2008 to 30 June 2013



TSR data source: Datastream

CEO remuneration

Financial Year	CEO Single figure of total remuneration (£000)	Annual variable element award rates against maximum opportunity	Long-term incentive vesting rates against maximum opportunity
2012/2013	1,324	75%	77%
2011/2012	979	58%	35%
2010/2011	1,116	97%	46%
2009/2010	708	19%	36%
2008/2009	642	0%	64%
2007/2008	696	62%	46%

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

	Cycle ending	Award date [1]	Share price at award date in pence	At 1 July 2012	Allocated	Lapsed	Vested	At 30 June 2013[2]	Vesting date
Dave Shemmans	2012[3]	Oct 09	246.40	124,188	–	80,536	43,652	–	15.11.12
	2013	Oct 10	301.70	126,483	–	–	–	126,483	25.10.13
	2014	Nov 11	368.80	108,644	–	–	–	108,644	03.11.14
	2015	Nov 12[5]	364.40	–	113,804	–	–	113,804	15.11.15
Paula Bell	2012[3]	Oct 09	246.40	69,094	–	44,808	24,286	–	15.11.12
	2013[4]	Oct 10	301.70	58,687	–	58,687	–	–	N/A
	2014[4]	Nov 11	368.80	36,263	–	36,263	–	–	N/A
	2015[4]	Nov 12[5]	364.40	–	37,985	37,985	–	–	N/A
Mark Garrett	2012[3]	Oct 09	246.40	53,267	–	34,544	18,723	–	15.11.12
	2013	Oct 10	301.70	43,503	–	–	–	43,503	25.10.13
	2014	Nov 11	368.80	29,826	–	–	–	29,826	03.11.14
	2015	Nov 12[5]	364.40	–	33,205	–	–	33,205	15.11.15

1. Awards made under the 2006 LTIP: performance conditions as outlined on page 56.
2. The mid-market closing price of the Company's shares on 30 June 2013 was 393.00p (2012: 342.00p).
3. Due to a technical timing issue, the awards granted under the 2006 LTIP that vested in November 2012 did not receive any benefit from the November 2012 final dividend. As a consequence, an additional compensatory cash payment was made to relevant participants in the 2006 LTIP, including the executive directors (Dave Shemmans: £3,797.72; Paula Bell: £2,112.88; Mark Garrett: £1,628.90).
4. These awards lapsed on 20 May 2013, on cessation of employment.
5. The face value of the awards made in November 2012 at the date of grant was Dave Shemmans: £414,702; Paula Bell: £138,417; Mark Garrett: £120,999.

The value of shares vested under the October 2009 awards was £157,000 for Dave Shemmans, £87,000 for Paula Bell and £67,000 for Mark Garrett. The market price per share of these shares that vested on 15 November 2012 was 358.68p.

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 2012	Awarded	Dividend shares[1]	Lapsed[2]	Vested	At 30 June 2013
Dave Shemmans	Deferred	Oct 10	3 yrs	301.70	8,361	–	289	–	–	8,650
	Deferred	Nov 11	3 yrs	368.80	36,287	–	1,256	–	–	37,543
	Deferred	Nov 12	3 yrs	364.40	–	41,111	1,422	–	–	42,533
	Matching[3]	Nov 12	3 yrs	364.40	–	41,111	–	–	–	41,111
Paula Bell	Deferred	Oct 10	3 yrs	301.70	3,354	–	116	3,470	–	–
	Deferred	Nov 11	3 yrs	368.80	17,798	–	616	18,414	–	–
	Deferred	Nov 12	3 yrs	364.40	–	20,305	702	21,007	–	–
	Matching[3]	Nov 12	3 yrs	364.40	–	20,305	–	20,305	–	–
Mark Garrett	Deferred	Oct 10	3 yrs	301.70	2,764	–	96	–	–	2,860
	Deferred	Nov 11	3 yrs	368.80	14,191	–	491	–	–	14,682
	Deferred	Nov 12	3 yrs	364.40	–	18,655	645	–	–	19,300
	Matching[3]	Nov 12	3 yrs	364.40	–	18,655	–	–	–	18,655

1. Amounts allocated include shares equivalent to dividends on provisional shares.
2. These awards lapsed on 20 May 2013, on cessation of employment.
3. Matching Awards made under the 2011 DBP: performance conditions as outlined on page 56. The face value of the awards made in November 2012 at the date of grant was Dave Shemmans: £149,808; Paula Bell: £73,991; Mark Garrett: £67,979.

The 2004 Executive Share Option Plan

	At 1 July 2012	Granted	Exercised	Lapsed	At 30 June 2013	Exercise price in pence	Date from which exercisable	Expiry date
Dave Shemmans	80,000	–	–	–	80,000	267.50	22.02.08[1]	21.02.15
Paula Bell	25,000	–	25,000[2]	–	–	300.00	20.10.09[1]	19.10.16
Mark Garrett	7,068	–	–	–	7,068	305.00	22.10.11[1]	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 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 8 March 2013 when the market value of a share was 400.2016p. The aggregate gain was £25,050.40.
3. The closing mid-market price of the Company's shares on 30 June 2013 was 393.0p pence. The highest closing price during the year was 431.0p and the lowest closing price during the year was 321.5p.

David Hall
Chairman of the Remuneration Committee
6 September 2013

Directors' report

The directors present their report and the financial statements for the year ended 30 June 2013

Patricia Ryan
Group General Counsel and Company Secretary

Principal Activities and Business Review

The principal activities of the Group are the provision of technical, strategic and environmental consulting, and manufacturing, assembly, software sales and related services to industry, commerce and other agencies.

The directors have prepared a Business Review which is set out on pages 13 to 31 and, amongst other things, covers:

- a review of the Group's marketplace, strategy, research and development and principal risks; and
- business operations, performance and prospects.

The Corporate Social Responsibility section on pages 65 to 71 covers, amongst other things, employee involvement and diversity.

A segmental analysis is given in note 2 to the financial statements, and financial risks and policies are given in note 21 to the financial statements, with the principal risks outlined in more detail in the Corporate Governance Statement on pages 45 to 46.

All information detailed in these pages is incorporated by reference into this report and is deemed to form part of this report.

Dividends

The directors propose a final dividend of 10.0 pence (2012: 8.7 pence) per share, amounting to £5,200,543 (2012: £4,510,682) payable on 22 November 2013 to shareholders on the register at close of business on 1 November 2013. The final dividend proposed will make a total of 14.0 pence (2012: 12.4 pence) per share for the year.

Board of Directors

The following directors served on the Board during the year ended 30 June 2013:

Non-executive directors:

- Michael Harper, MSc, CCMI, FRAeS
- David Hall, CBE, MA, MSc
- Ian Lee BA, CA, CPA
- Hans-Joachim Schöpf
- Peter Gilchrist CB

Executive directors:

- Dave Shemmans, BEng
- Paula Bell, FCMA (resigned 20 May 2013)
- Mark Garrett, CEng, FIMechE
- Bill Jessup (appointed Interim Group Finance Director on 11 March 2013 and resigned on 30 June 2013)

Ian Gibson was appointed to the Board as Chief Financial Officer on 1 July 2013. Details of directors' remuneration and service contracts are set out in the Directors' Remuneration Report on pages 48 to 60.

Qualifying third party indemnity

The Company has purchased and maintained throughout the year and up to the date of approval of the Report and Accounts Directors' and Officers' liability insurance in respect of itself and its directors. The directors also have the benefit of the indemnity provisions in the Company's Articles of Association. The Company has entered into letter agreements for the benefit of the directors of the Company in respect of liabilities which may attach to them in their capacity as directors of the Company or associated companies. These provisions are qualifying third party indemnity provisions as defined in section 234 of the Companies Act 2006, and were in force at the date of approval of the Report and Accounts.

Directors' interests

At no time during the year did any director hold a material interest in any contract of significance with the Company or any of its subsidiary undertakings other than a third party indemnity provision between each director and the Company and service contracts between each executive director and the Company.

Appointment and retirement of directors

Pursuant to the Company's Articles of Association, shareholders have the right to appoint directors by ordinary resolution, either to fill a vacancy or as an additional member of the Board. In addition, the Board has the power to appoint new directors, but a director appointed in this way may only then hold office until the conclusion of the next Annual General Meeting following their appointment unless they are re-appointed by shareholders during the course of that meeting.

In accordance with the UK Corporate Governance Code and the Company's Articles of Association, all directors will retire at the Annual General Meeting in November 2013 and, being eligible, will offer themselves for re-election. In addition to powers of removal of a director conferred by legislation from time to time, the Company's Articles of Association also allow shareholders to remove a director from office by ordinary resolution of which special notice has been given.

Directors' responsibilities

The directors are responsible for the management of the business of the Company, and they may (subject to specific restrictions as may be imposed by law and the Articles of Association of the Company) exercise all powers of the Company whether relating to the management of the business or not. The Board is specifically empowered to delegate any of its powers and authorities to directors holding executive offices and to committees, local management and agents, in each case on such terms as it thinks fit.

Board committees

The directors who served on Board Committees during the year were:

Audit Committee: Ian Lee (Chairman); Michael Harper (resigned 25 February 2013); David Hall; Hans-Joachim Schöpf and Peter Gilchrist;

Remuneration Committee: David Hall (Chairman); Ian Lee, Michael Harper; Hans-Joachim Schöpf and Peter Gilchrist; and

Nomination Committee: Michael Harper (Chairman); David Hall; Ian Lee; Hans-Joachim Schöpf; Peter Gilchrist and Dave Shemmans.

Details of the roles of the Board of Directors and Board Committees can be found on pages 36 to 47 and of the role of the Remuneration Committee on page 54.

Supplier payment policy

In view of the international nature of the Group's operations 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. Creditor days for the Company for the year ended 30 June 2013 were 12 days (2012: 32 days).

Donations

During the year the Group made various charitable donations which are summarised in the Corporate Social Responsibility Report on page 69. The Group made no political donations during the year to 30 June 2013.

Disclosure of Information

So far as the directors in service at the date of approval of this report are aware, there is no information which would be needed by the Company's auditors in connection with preparing their audit report, of which the Company's auditors are not aware. The directors have taken all the steps that they ought to have taken as directors in order to make themselves aware of any relevant audit information and to establish that the Company's auditors are aware of that information.

Employment of people with disabilities

People with disabilities have equal opportunities when applying for vacancies. In addition to complying with legislative requirements, procedures are in place to ensure that disabled employees are treated fairly and that their training and career development needs are managed carefully. The policies are considered by the Board to operate effectively. For those employees who become disabled during the course of their employment, the Group will provide support, whether through re-training or re-deployment, so that they will continue to be employed, wherever practicable, in the same job or, if this is not practicable, every effort will be made to find suitable alternative employment.

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.

Share Capital – transfers and dealings

On a transfer of shares, the directors may only refuse to register the transfer concerned in certain limited and standard circumstances, including where the share concerned is not fully paid or where the form of transfer

Substantial shareholders

	Number of shares at 30 June 2013	% of issued share capital	Number of shares at 21 August 2013	% of issued share capital
Delta Lloyd Asset Management	6,284,465	12.08	5,170,000	9.94
Schroder Investment Management	4,792,074	9.21	4,850,502	9.33
JP Morgan Asset Management	3,759,484	7.23	4,284,886	8.24
Legal & General Investment Management	3,399,639	6.54	3,201,122	6.16
Baillie Gifford & Co Limited	3,181,620	6.12	3,183,911	6.12
Montanaro Asset Management	2,924,506	5.62	< 3%	< 3%
Royal London Asset Management	2,106,663	4.05	2,628,214	5.05
NFU Mutual	1,593,441	3.06	< 3%	< 3%

has not been properly stamped (where required).

There are no general requirements in existence for shareholders to obtain the approval of either the Company or other shareholders for a transfer of the Company's securities. However, in accordance with the Listing Rules, the Company operates a share dealings code, which restricts the ability of directors and certain other employees from dealing in the Company's securities. In particular, the Code requires that restricted persons must not deal in any securities of the Company without obtaining clearance in advance.

Subject to such specific authorities as are required by companies legislation, the Company's Articles of Association give the Board general and unconditional authority to allot, grant options over and otherwise deal with or dispose of shares in the Company. At the 2012 Annual General Meeting, shareholder resolutions were passed authorising the directors to allot relevant securities of the Company up to a maximum nominal amount of £4,277,371. In addition, at the same meeting shareholders authorised the Company to make market purchases of its own ordinary shares up to a maximum of 5,184,692 shares (although as at the date hereof this authority has not been used). It is proposed that both of these authorities be renewed at the forthcoming Annual General Meeting.

Share Capital – voting and other rights

As at 6 September 2013 the Company's share capital is divided solely into 52,005,432 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.

Substantial shareholders

The Company is informed pursuant to the Disclosure and Transparency Rules that, as at 30 June 2013 and 21 August 2013, being a date not more than one month prior to the date of the notice of Annual General Meeting, the above are holders of more than 3% of the Company's issued share capital, all of which are non-beneficial interests.

Annual General Meeting

The 2013 Annual General Meeting of the Company will take place at 10.00 a.m. on 14 November 2013 at the offices of Investec Bank plc, 2 Gresham Street, London, EC2V 7QP. A separate notice of meeting will be sent to shareholders.

By order of the Board

Patricia Ryan
Group General Counsel and Company Secretary
6 September 2013


www.ricardo.com
COVERS ASSEMBLY
5

Corporate social responsibility

Corporate social responsibility

A responsible and global corporate citizen

Commitment to stakeholders

Ricardo aims to manage its relationships with its stakeholders and to communicate with them professionally and responsibly. The Board recognises its principal stakeholders as shareholders, clients, employees, suppliers and local communities, and also recognises its responsibility to the environment. Responsibility of the Board for relations with all our stakeholders lies with the Chief Executive Officer. The Board as a whole reviews the key elements of corporate social responsibility annually. 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 communicated externally via our Code of Conduct. 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.

Deputy Prime Minister, the Rt Hon Nick Clegg MP, and Secretary of State for Business, Innovation and Skills, the Rt Hon Dr Vince Cable MP, with Ricardo UK managing director Martin Fausset in a visit to the Ricardo Shoreham Technical Centre in September 2012

Shareholders

Ricardo is fully committed to achieving a sustainable increase in the value of the business for its shareholders and recognises the importance of demonstrating progress in this objective in terms of business performance, dividends and clear communications with shareholders. We recognise that good relationships with other stakeholders are key to achieving a sustainable increase in the value of the business, and that a sustainable increase in the value of the business ultimately protects the long-term interests of all appropriate stakeholders. We also recognise that our shareholders give us an independence which enables us to reassure our clients of our integrity.

Clients

Our commitment to our clients is fundamental to the future success of the business. We work hard to understand our clients, anticipate their needs and deliver outstanding solutions that give client satisfaction and improve client performance. We care about our clients, enjoy working with them, and want them to enjoy working with us. We aim to be quick and flexible in our response, and easy to work with. We rigorously uphold client confidentiality, which is embedded in our values. We regularly survey our clients' views on our performance to identify further opportunities to improve and learn.

Ricardo is proud to have deep engagement with its clients globally, forming strong collaborative teams for knowledge sharing and skills transfer. This has been a very powerful benefit to the business as we have understood and worked alongside our clients to fulfil their needs as the market recovers.

Employees

Respecting both the prestige and diversity of our employees and clients, we aim for Ricardo to be as leading-edge in our people practices as we are in our technical and scientific prowess. Progress in line with this aim is evident through continuous process, infrastructure and people developments. The Company maintains its belief that it will grow most successfully through the personal growth of its employees. The Company Values are clear standards against which employees and new joiners can align their identity with

The Midlands Technical Centre team who took part in a Corporate Games event in Coventry to develop team and local relationships

Ricardo and what the Company stands for. By valuing a respectful relationship with its employees, Ricardo has been privileged to continue to see a number of returnees and new hires from prestigious organisations.

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 Company continued to bring in fresh skills in line with the business diversification plans internationally and with the addition of circa 400 colleagues now in Ricardo-AEA. 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 – for example, Ricardo UK in collaboration with Ricardo Deutschland is 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 continue to 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 gives us a robust method to focus our development spend, in addition to normal development

channels for all employees. A particular focus in this year has been placed on developing our leadership and management capability, picking up on the development of a suite of programmes which were launched from the UK and are being rolled into other divisions.

Ricardo is committed to promoting equality of opportunity for all employees and job applicants free from all discrimination. Ricardo is an inclusive employer and values diversity in its employees and aims to recruit the best person for the role in all its positions Group-wide. The Board is fully supportive of the emphasis placed on diversity, in particular gender diversity, within the Code of Conduct and encourages women into the engineering and scientific professions and their subsequent progression.

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.

Team members from local schools getting a chance to see Shoreham facilities during a STEM competition

> *"Inspiring the next generation of engineers and scientists is a passion and a responsibility"*

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 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.

Local communities

It is our policy objective to make a positive contribution to all countries and communities in which we operate, particularly in the areas of education local to our main sites. Most 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 and understanding of the business and the engineering profession in the community. Examples in education include the provision of work experience placements for local schools, supporting the UK Science and Engineering Ambassadors scheme, active engagement in STEM (Science Technology Engineering and Maths) events across the education age range, and by employees acting as school and academy governors. Our 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 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 were £25,333 (2012: £33,350). The effectiveness of these policies is informally measured by feedback from the communities in which we engage.

Health and safety

Ricardo is committed to compliance with local health and safety legislation, a safe working environment and a very low


A Give and Gain team restoring a garden in a hostel in Hove

level of reportable accidents. We fully support training 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 Prague. Ricardo-AEA has a RoSPA Gold Award. This is a demonstration of our commitment to good governance and to being an employer of choice.

Good relationships are maintained with local regulators in the main territories in which we operate. We recognise the level of reportable accidents as a performance indicator. The number of accidents increased slightly from 2012: 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.

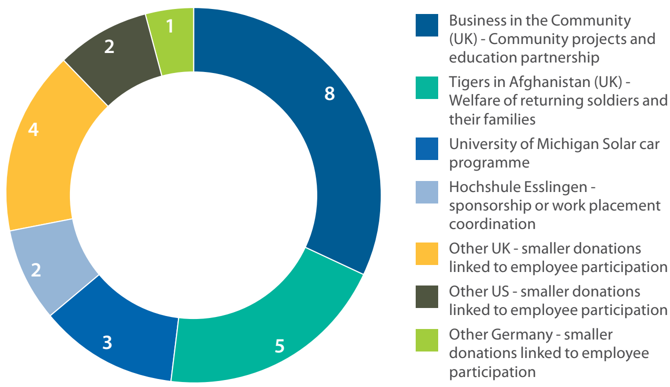
Environment

The Board 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 is widely available via notice boards and the intranet and to the public via the www.ricardo.com website. The drivers for the policy are making strategic improvements 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.

Many of Ricardo's clients require certification to the environmental management system standard ISO 14001

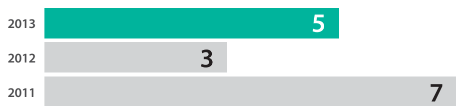
Charitable donations

£'000

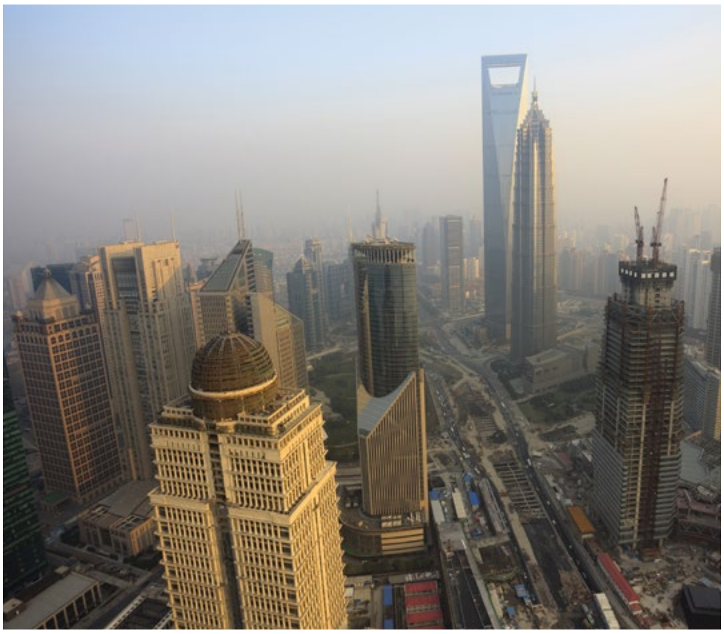


Health and safety

Reportable accidents



Based on unamended RIDDOR 1995 definitions



Many growing cities have air quality challenges

for their key suppliers. We are accredited to this standard in our technical centres in the UK, the US, Germany and Prague. 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.

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.

Ricardo has three principal areas of environmental impact. The first area is the core business of Technical Consulting for new or improved products across the sectors we serve and the delivery of environmental consulting to the Ricardo-AEA client base; these products and services will have an impact on the future levels of emissions, waste, fuel consumption and noise. 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. This ranges from policy studies to identify the long-term impact of fuel prices, climate change or technology developments through to an energy reduction feasibility study for a hospital or a resource efficiency review for a company. The scale at which we work is from global corporations and international donors and funders, down to country, city, or individual site level.

Working with UK Government's Department for Food and Rural Affairs (Defra) on its online greenhouse gas conversion factor repository website is a good example, where 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.

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

- We manage the UK CHP Quality Assurance certification programme (and provide associated policy support) for DECC, and the 1,200 certified CHP schemes save in the order of 9 $mtCO_2$ each year.
- Long-term exposure to air pollution is a major public health risk (estimated 29,000 deaths per year) and the annual economic cost from the impacts of air pollution in the UK is estimated at £9-19 billion. Ricardo-AEA issues daily air pollution forecasts on behalf of Defra and the Scottish Government, helping to mitigate these major costs and risks. Our leading position in this field was reflected in our selection as official air quality forecaster during the London 2012 Olympics.
- 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 19.1 $MtCO_2$ over the period 2013-2020, or an average annual saving of 2.4 $MtCO_2$.
- The Farming Advice Service is delivered on behalf of Defra. To date our team has provided face-to-face technical advice to over 10,000 farmers (10% of the UK total) and has produced guidance documents for many more, helping to reduce greenhouse gas emissions and other environmental impacts and to improve compliance in the agriculture sector.
- We have developed and assessed policy proposals for the European Commission to reduce greenhouse gas emissions from international shipping by up to 50% by 2050. Shipping emissions are projected to grow significantly between now and 2050, and policy action in this area, should it be adopted, would play a major role in reducing the environmental impacts of maritime transport.

Reducing energy and carbon emissions is a core skill

- Ricardo-AEA has been the lead advisor to the Essex Waste Partnership, supporting its aspiration to achieve 60% recycling levels and diverting 14 million tonnes of waste from landfill. We have assisted in developing the Partnership's waste management strategy, including the procurement of a mechanical biological treatment plant.

Material selection is the second key area of impact. Ricardo supports the European Union End of Life Directive through close co-operation with its clients in selecting and testing materials for products it designs and develops. These decisions are normally led by client corporate standards for materials and manufacturing processes. This applies to both the Technical Consulting and Performance Products segments.

The third area of impact is our operations, particularly testing. Our testing for customer and research programmes uses fuels and electrical energy. Heating some of our buildings and some process plant uses gas. The resulting negative environmental impacts are substantially offset by the benefits of research into improving test methods and the downstream results of our engineering programmes as more fuel-efficient and lower emission vehicles are developed and released into the marketplace by our clients. Other impacts include the conventional 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.

Projects to reduce energy consumption and waste generation are actively encouraged and have become more important as unit fuel costs increase, waste streams become more important and Performance Products grows. Regenerative dynamometers enable the re-use of electricity generated by testing operations, leading to savings and environmental benefits, which include lower water usage. To test our environmental focus we measure underlying energy usage in terms of the tonnes of CO_2 produced by the business from the gas and electricity use in our facilities. For ease of understanding this is expressed as a ratio to headcount. A continuous reduction in CO_2 tonnes per head is targeted. We have no dominant waste stream. The indirect benefits to the environment from Ricardo's work are not measurable, but far outweigh any direct negative impacts.

Ricardo-AEA assists many organisations with waste efficiency

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. 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 we do not engage in carbon trading as we are not large enough.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Financial statements

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

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, confirm 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 Business review 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)

6 September 2013

Ian Gibson
(Chief Financial Officer)

Independent auditors' report

to the members of Ricardo plc

We have audited the financial statements of Ricardo plc for the year ended 30 June 2013 from pages 76 to 107 which comprise the Consolidated Income Statement, Consolidated Statement of Comprehensive Income, the Consolidated and Parent Company Statements of Changes in Equity, the Consolidated and Parent Company Statements of Financial Position, the Consolidated and Parent Company Statements of Cash Flow and the related notes. The financial reporting framework that has been applied in their preparation is applicable law and International Financial Reporting Standards (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.

Respective responsibilities of directors and auditors

As explained more fully in the Statement of Directors' Responsibilities set out on page 74, 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 International Standards on Auditing (UK and 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.

Scope of the audit of the financial statements

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 financial statements to identify material inconsistencies with the audited financial statements. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

Opinion on financial statements

In our opinion:

- the financial statements give a true and fair view of the state of the Group's and of the Parent Company's affairs as at 30 June 2013 and of the Group's profit and Group's and Parent Company's cash flows for the year then ended;
- the Group financial statements have been properly prepared in accordance with IFRSs as adopted by the European Union;
- the Parent Company financial statements have been properly prepared in accordance with 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.

Opinion on other matters prescribed by the Companies Act 2006

In our opinion:

- the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006;
- the information given in the Directors' Report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the information given in the Corporate Governance Statement with respect to internal control and risk management systems and about share capital structures is consistent with the financial statements.

Matters on which we are required to report by exception

We have nothing to report in respect of the following:
Under the Companies Act 2006 we are required to report to you if, in our opinion:

- adequate accounting records have not been kept by the Parent Company, or returns adequate for our audit have not been received from branches not visited by us; or
- the Parent Company financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit; or
- a corporate governance statement has not been prepared by the Parent Company.

Under the Listing Rules we are required to review:

- the directors' statement, set out on page 47, in relation to going concern;
- the parts of the Corporate Governance Statement relating to the company's compliance with the nine provisions of the UK Corporate Governance Code specified for our review; and
- certain elements of the report to shareholders by the Board on directors' remuneration.

Graham Lambert.

Graham Lambert (Senior Statutory Auditor)
for and on behalf of PricewaterhouseCoopers LLP
Chartered Accountants and Statutory Auditors
Gatwick
6 September 2013

Consolidated income statement
for the year ended 30 June 2013

		Year ended 30 June 2013			Year ended 30 June 2012
		Underlying	Specific adjusting items *	Total	Total
	Notes	£m	£m	£m	£m
Revenue	2 & 3	229.7	-	229.7	197.4
Cost of sales		(134.3)	-	(134.3)	(115.1)
Gross profit		95.4	-	95.4	82.3
Administration expenses		(71.8)	(2.0)	(73.8)	(64.2)
Other income		0.5	-	0.5	0.5
Operating profit	2 & 4	24.1	(2.0)	22.1	18.6
Finance income	6	0.2	-	0.2	0.3
Finance costs	6	(1.3)	-	(1.3)	(1.3)
Profit before taxation		23.0	(2.0)	21.0	17.6
Taxation	7	(4.5)	0.5	(4.0)	(2.5)
Profit for the year		18.5	(1.5)	17.0	15.1
Earnings per ordinary share					
Basic	9	35.8p	(2.9)p	32.9p	29.3p
Diluted	9	35.4p	(2.9)p	32.5p	29.0p

* Specific adjusting items comprise amortisation of acquired intangible assets and acquisition costs.

Consolidated statement of comprehensive income
for the year ended 30 June 2013

	Notes	**Year ended 30 June 2013 £m**	Year ended 30 June 2012 £m
Profit for the year		**17.0**	15.1
Other comprehensive income:			
Currency translation on foreign currency net investments	*28*	**1.7**	(2.0)
Total items that may be reclassified subsequently to profit or loss		**1.7**	(2.0)
Actuarial losses on defined benefit scheme	*22*	**(3.0)**	(10.0)
Deferred tax on items taken directly to equity	*23*	**0.4**	2.6
Total items that will not be reclassified to profit or loss		**(2.6)**	(7.4)
Total other comprehensive loss for the year (net of tax)		**(0.9)**	(9.4)
Total comprehensive income for the year		**16.1**	**5.7**

Statements of changes in equity
for the year ended 30 June 2013

Group	Notes	Share capital £m	Share premium £m	Other reserves £m	Retained earnings £m	Total equity £m
At 1 July 2012		13.0	13.9	4.7	58.2	89.8
Profit for the year		-	-	-	17.0	17.0
Other comprehensive income for the year		-	-	1.7	(2.6)	(0.9)
Share-based payments	*26*	-	-	-	0.5	0.5
Proceeds from shares issued	*25 & 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**
At 1 July 2011		12.9	13.8	6.4	56.5	89.6
Profit for the year		-	-	-	15.1	15.1
Other comprehensive income for the year		-	-	(1.7)	(7.7)	(9.4)
Share-based payments	*26*	-	-	-	0.4	0.4
Proceeds from shares issued	*25 & 27*	0.1	0.1	-	-	0.2
Ordinary share dividends	*8*	-	-	-	(6.1)	(6.1)
At 30 June 2012		13.0	13.9	4.7	58.2	89.8

Company	Notes	Share capital £m	Share premium £m	Other reserves £m	Retained earnings £m	Total equity £m
At 1 July 2012		13.0	13.9	-	39.5	66.4
Profit for the year		-	-	-	39.2	39.2
Other comprehensive income for the year		-	-	-	(2.4)	(2.4)
Share-based payments	*26*	-	-	-	0.5	0.5
Proceeds from shares issued	*25 & 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**
At 1 July 2011		12.9	13.8	-	39.5	66.2
Profit for the year		-	-	-	13.4	13.4
Other comprehensive income for the year		-	-	-	(7.7)	(7.7)
Share-based payments	*26*	-	-	-	0.4	0.4
Proceeds from shares issued	*25 & 27*	0.1	0.1	-	-	0.2
Ordinary share dividends	*8*	-	-	-	(6.1)	(6.1)
At 30 June 2012		13.0	13.9	-	39.5	66.4

Consolidated and parent company statements of financial position

as at 30 June 2013

		Group		Company	
		30 June 2013	30 June 2012	**30 June 2013**	30 June 2012
	Notes	**£m**	£m	**£m**	£m
Assets					
Non-current assets					
Goodwill	*11*	**25.9**	15.3	**-**	-
Other intangible assets	*12*	**15.6**	6.8	**5.1**	5.0
Property, plant and equipment	*13*	**48.2**	45.6	**8.0**	8.2
Investments	*14*	**-**	-	**68.3**	49.8
Trade and other receivables	*16*	**-**	0.1	**-**	-
Deferred tax assets	*23*	**13.4**	15.4	**5.9**	6.4
		103.1	83.2	**87.3**	69.4
Current assets					
Inventories	*15*	**7.7**	8.0	**-**	-
Trade and other receivables	*16*	**54.9**	62.9	**46.9**	31.5
Current tax assets		**1.3**	1.7	**-**	-
Cash and cash equivalents	*31*	**6.8**	10.2	**0.6**	0.8
		70.7	82.8	**47.5**	32.3
Total assets		**173.8**	166.0	**134.8**	101.7
Liabilities					
Current liabilities					
Bank loans and overdrafts	*19*	**(0.7)**	(2.3)	**(0.5)**	-
Trade and other payables	*18*	**(47.3)**	(48.2)	**(16.0)**	(13.3)
Derivative financial liabilities		**-**	(0.2)	**-**	(0.1)
Current tax liabilities		**(3.0)**	(2.7)	**(0.8)**	(0.8)
Provisions	*24*	**(0.4)**	(1.7)	**-**	-
		(51.4)	(55.1)	**(17.3)**	(14.2)
Net current assets		**19.3**	27.7	**30.2**	18.1
Non-current liabilities					
Retirement benefit obligations	*22*	**(19.7)**	(20.4)	**(19.7)**	(20.4)
Deferred tax liabilities	*23*	**(0.6)**	(0.7)	**(0.6)**	(0.7)
Provisions	*24*	**(2.2)**	-	**-**	-
		(22.5)	(21.1)	**(20.3)**	(21.1)
Total liabilities		**(73.9)**	(76.2)	**(37.6)**	(35.3)
Net assets		**99.9**	89.8	**97.2**	66.4
Shareholders' equity					
Share capital	*25*	**13.0**	13.0	**13.0**	13.0
Share premium	*27*	**14.0**	13.9	**14.0**	13.9
Other reserves	*28*	**6.4**	4.7	**-**	-
Retained earnings	*29*	**66.5**	58.2	**70.2**	39.5
Total equity		**99.9**	89.8	**97.2**	66.4

The financial statements of Ricardo plc (registered number 222915) on pages 76 to 107 were approved by the Board of Directors on 6 September 2013 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 2013

		Group		Company	
		Year ended 30 June 2013	Year ended 30 June 2012	**Year ended 30 June 2013**	Year ended 30 June 2012
	Notes	**£m**	£m	**£m**	£m
Cash flows from operating activities					
Cash generated/(used) by operations	*30*	**31.1**	24.3	**(12.3)**	0.4
Interest received		**0.2**	0.3	**0.6**	0.6
Interest paid		**(0.2)**	(0.4)	**(0.3)**	(0.3)
Defined benefit pension scheme financing costs		**(1.1)**	(0.9)	**(1.1)**	(0.9)
Tax paid		**(0.7)**	(0.9)	**-**	-
Net cash generated/(used) by operating activities		**29.3**	22.4	**(13.1)**	(0.2)
Cash flows from investing activities					
Acquisition of business	*10*	**(18.0)**	-	**-**	-
Proceeds from sale of property, plant and equipment		**4.0**	-	**-**	-
Purchase of intangible assets		**(2.1)**	(2.5)	**(0.9)**	(1.4)
Purchase of property, plant and equipment		**(10.3)**	(8.5)	**(0.1)**	(0.1)
Government grants received in respect of property, plant and equipment	*13*	**1.6**	-	**-**	-
Purchase of investments in subsidiary undertakings		**-**	-	**(18.5)**	(1.3)
Net cash used by investing activities		**(24.8)**	(11.0)	**(19.5)**	(2.8)
Cash flows from financing activities					
Net proceeds from issue of ordinary share capital		**0.1**	0.2	**0.1**	0.2
Net proceeds from issue of new bank loan		**10.0**	-	**10.0**	-
Repayment of borrowings		**(12.0)**	(0.8)	**(10.0)**	-
Dividends paid to shareholders	*8*	**(6.6)**	(6.1)	**(6.6)**	(6.1)
Dividends received from subsidiaries		**-**	-	**38.4**	15.0
Net cash (used)/generated by financing activities		**(8.5)**	(6.7)	**31.9**	9.1
Effect of exchange rate changes		**0.3**	0.7	**-**	-
Net (decrease)/increase in cash and cash equivalents		**(3.7)**	5.4	**(0.7)**	6.1
Cash and cash equivalents at 1 July		**9.8**	4.4	**0.8**	(5.3)
Net cash and cash equivalents at 30 June		**6.1**	9.8	**0.1**	0.8
At 1 July					
Cash and cash equivalents	*31*	**10.2**	9.9	**0.8**	0.2
Bank overdrafts	*31*	**(0.4)**	(5.5)	**-**	(5.5)
	31	**9.8**	4.4	**0.8**	(5.3)
At 30 June					
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

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 2012 and 30 June 2013. 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 Interpretations Committee ("IFRIC") 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).

In the year, the Group adopted the following amendments and interpretations to published standards: IAS 12 Income Taxes and IAS 1 Presentation of Financial Statements.

None of the amended or revised standards have had any significant impact on the financial statements. New, revised or amended standards and interpretations that are not yet effective have not been early adopted and are disclosed in note 1(v).

(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 on 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.

Warranty 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.

1 Accounting policies (continued)

(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 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 an order 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.

1 Accounting policies (continued)

(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.

(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 presentational 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, or in the case of interim dividends 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.

Purchased 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.

1 Accounting policies (continued)

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
- Purchased software	Between 2 and 10 years
- Capitalised development costs	Between 2 and 5 years

(p) Property, plant and equipment

The gross carrying amounts of property, plant and equipment are measured using a 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.

Bank loans are recognised initially at fair value less directly attributable transaction costs and subsequently at amortised cost using the effective 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.

1 Accounting policies (continued)

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.

(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.

(v) New standards and interpretations

At 30 June 2013, the International Accounting Standards Board and IFRIC 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
International Financial Reporting Standards		
IFRS 10 Consolidated Financial Statements	01-Jan-13	Yes
IFRS 11 Joint Arrangements	01-Jan-13	Yes
IFRS 12 Disclosure of Interests in Other Entities	01-Jan-13	Yes
IFRS 13 Fair Value Measurement	01-Jan-13	Yes
IFRS 9 Financial Instruments	01-Jan-15	No
Amendments to International Financial Reporting Standards		
2011 Annual Improvements to IFRSs	01-Jan-13	Yes
IAS 19 Employee Benefits	01-Jan-13	Yes
IAS 27 Separate Financial Statements	01-Jan-13	Yes
IAS 28 Investments in Associates and Joint Ventures	01-Jan-13	Yes
IFRS 1 First Time Adoption	01-Jan-13	Yes
IFRS 7 Financial Instruments: Disclosures	01-Jan-13	Yes
IAS 32 Financial Instruments: Presentation	01-Jan-14	Yes
IAS 36 Impairment of Assets	01-Jan-14	No
IAS 39 Financial Instruments: Recognition and Measurement	01-Jan-14	No
International Financial Reporting Interpretations		
IFRIC 20 Stripping Costs in the Production Phase of a Surface Mine	01-Jan-13	Yes
IFRIC 21 Levies	01-Jan-14	No

In June 2011, the IASB issued an amended version of IAS 19 'Employee Benefits', which brings in various changes relating to the recognition and measurement of post-retirement defined benefit expense and termination benefits, and to the disclosures for all employee benefits. The main impact for the Group will be that the expense for defined benefit pension plan will include a net interest income or expense, which will be calculated by applying the discount rate used for measuring the obligation and applying that to the net defined benefit asset or liability. This means that the expected return on assets credited to profit or loss (currently calculated based on the expected long-term return on pension assets) will now be based on a lower corporate bond rate, the same rate that is used to discount the pension liability. The amended IAS 19 will be effective for the Group for the year ending 30 June 2014 and the Group will adopt this amended standard for that year. Under the amended IAS 19, net finance cost relating to pensions would have been £0.3m higher for the year ended 30 June 2013, and profit before tax would have been £0.3m lower, with a corresponding pre-tax increase in other comprehensive income. There is no impact on cash flows or on the balance sheet at 30 June 2013.

It is not expected that the implementation of any of these other standards and interpretations will have a significant impact on the Group's accounting or disclosures.

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 projects and in relation to management and operational consultancy, and includes Ricardo-AEA.
- 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 2013

	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)
Revenue earned	180.1	49.6	-	229.7
Underlying operating profit	18.5	6.1	(0.5)	24.1
Amortisation of acquired intangible assets	(0.7)	-	-	(0.7)
Acquisition costs	(1.0)	-	(0.3)	(1.3)
Operating profit	16.8	6.1	(0.8)	22.1
Finance income	0.1	-	0.1	0.2
Finance costs	(0.1)	-	(1.2)	(1.3)
Profit before taxation	16.8	6.1	(1.9)	21.0
Total assets per financial statements	133.1	22.1	18.6	173.8
Total liabilities per financial statements	36.1	10.2	27.6	73.9
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

2 Segmental reporting (continued)

Year ended 30 June 2012

	Technical Consulting £m	Performance Products £m	Head Office and consolidation adjustments £m	Total £m
Revenue from external customers	149.2	48.2	-	197.4
Inter-segment revenues	0.5	0.1	-	0.6
Total revenues	149.7	48.3	-	198.0
Revenues carried out by other segments	(0.1)	(0.5)	-	(0.6)
Revenue earned	**149.6**	**47.8**	**-**	**197.4**
Operating profit	14.7	5.8	(1.9)	18.6
Finance income	0.2	-	0.1	0.3
Finance costs	(0.2)	-	(1.1)	(1.3)
Profit before taxation	**14.7**	**5.8**	**(2.9)**	**17.6**
Total assets per financial statements	**122.8**	**22.1**	**21.1**	**166.0**
Total liabilities per financial statements	**(40.1)**	**(7.3)**	**(28.8)**	**(76.2)**
Depreciation and amortisation	5.9	1.0	0.9	7.8
Capital expenditure - Intangible assets	1.0	0.1	1.4	2.5
Capital expenditure - Property, plant and equipment	8.3	0.7	-	9.0

Revenues from one customer within the Technical Consulting segment represent approximately £36.3m (2012: £31.4m) of the Group's external revenue. Revenues from another customer represent approximately £24.3m (2012: £26.8m) of the Group's external revenue, of which £6.7m (2012: £4.3m) is reported in the Technical Consulting segment and £17.6m (2012: £22.5m) in the Performance Products segment.

Non-current assets by geographical location (excluding financial instruments and deferred tax assets)

Asset location	**2013 £m**	2012 £m
UK	**59.7**	38.8
US	**7.8**	7.5
Germany	**21.2**	20.6
Rest of the World	**1.0**	0.8
	89.7	67.7

3 Revenue

a) Revenue by category

	2013 £m	2012 £m
Rendering of services	**186.3**	153.7
Sale of goods	**43.4**	43.7
Total revenue	**229.7**	197.4

3 Revenue (continued)

b) Revenue by customer location

	2013 £m	2012 £m
UK	**116.5**	96.1
Germany	**16.2**	22.0
Rest of Europe	**21.4**	9.6
Europe total	**154.1**	127.7
US	**36.4**	34.0
China	**8.0**	8.6
Japan	**18.3**	14.5
Malaysia	**5.8**	4.3
Rest of Asia	**5.8**	7.7
Asia total	**37.9**	35.1
Rest of the World	**1.3**	0.6
Total revenue	**229.7**	197.4

4 Operating profit

	2013 £m	2012 £m
The following items have been charged/(credited) in arriving at operating profit:		
Amortisation of intangible assets (note 12)	**2.2**	1.2
Depreciation of property, plant and equipment (note 13)	**7.1**	6.6
Cost of inventories recognised as expense	**20.0**	21.5
Operating lease rentals payable	**5.0**	4.2
Repairs and maintenance on property, plant and equipment	**2.9**	2.9
Other income - rental	**(0.5)**	(0.5)
Redundancy and termination costs	**0.6**	0.2
Profit on disposal of property, plant and equipment	**(0.1)**	(0.3)
Trade receivables impairment (note 16)	**1.0**	0.7
Foreign exchange gains	**(0.2)**	-

	2013 £m	2012 £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	**9.0**	9.5
Government grant income received in respect of part of this expenditure	**(1.2)**	(3.4)
	7.8	6.1

	2013 £m	2012 £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 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**	0.1
	0.6	0.5

5 Employees

Staff costs	2013 £m	2012 £m
Wages and salaries	**95.0**	82.3
Social security costs	**10.3**	9.3
Other pension costs (note 22)	**4.3**	3.0
Share-based payments (note 26)	**0.7**	1.3
	110.3	95.9

Average number of employees (including executive directors) during the year	2013 Number	2012 Number
Technical Consulting	**1,693**	1,420
Performance Products	**241**	211
Head Office	**40**	48
	1,974	1,679

Key management compensation	2013 £m	2012 £m
Salaries and short-term employee benefits	**3.7**	2.9
Share-based payments	**0.2**	0.7
Post-employment benefits	**0.2**	0.2
Termination benefits	**0.2**	-
	4.3	3.8

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

6 Finance income and costs

	2013 £m	2012 £m
Finance income:		
Bank interest receivable	**0.2**	0.2
Interest on other financial assets	**-**	0.1
	0.2	0.3
Finance costs:		
Interest payable on bank borrowings	**0.2**	0.4
Defined benefit pension financing costs (note 22)	**1.1**	0.9
	1.3	1.3

7 Taxation

	2013 £m	2012 £m
Current tax:		
UK corporation tax	**-**	-
Foreign corporation tax	**1.4**	-
Total current tax	**1.4**	-
Deferred tax:		
Charge for year relating to temporary differences	**2.9**	1.9
Adjustment in respect of prior years	**(0.3)**	0.6
Total deferred tax	**2.6**	2.5
Taxation	**4.0**	2.5
Tax on items recognised directly in equity	**(0.4)**	(2.6)

The Finance Act 2012 included legislation to reduce the main rate of UK corporation tax from 24% to 23% with effect from 1 April 2013. Closing deferred tax balances in the UK have therefore been valued at 23%.

The March 2013 Budget Statement also included proposals for additional reductions of the main rate of corporation tax by 1% to 22% on 1 April 2014 and by a further 2% to 20% on 1 April 2015. These changes had not been substantively enacted at the reporting date and, therefore, the effects of these are not included in these financial statements.

The tax charge for the year is lower (2012: lower) than the standard rate of corporation tax in the UK. The differences are set out below.

	2013 £m	2012 £m
Profit for the year before tax	**21.0**	17.6
Profit for the year multiplied by rate of corporation tax in the UK of 23.75% (2012: 25.5%)	**5.0**	4.5
Effects of:		
Germany losses not recognised	**1.4**	-
Expenses not deductible for tax purposes	**0.4**	0.2
Government tax incentives (1)	**(3.4)**	(3.0)
Irrecoverable overseas tax (2)	**0.6**	0.4
Adjustments to taxation in respect of prior years	**(0.1)**	0.4
Other differences in tax rate/other	**0.1**	-
Total taxation	**4.0**	2.5

(1) Mainly relates to R&D tax credits

(2) Mainly relates to withholding taxes

8 Dividends

	2013 £m	2012 £m
Final paid 8.7p per share (2012: 8.1p)	**4.5**	4.2
Interim paid 4.0p per share (2012: 3.7p)	**2.1**	1.9
Equity dividends paid	**6.6**	6.1

The directors are proposing a final dividend in respect of the financial year ended 30 June 2013 of 10.0p per share which will absorb £5.2m of retained profits. It will be paid on 22 November 2013 to shareholders who are on the register of members at the close of business on 1 November 2013, subject to approval at the Annual General Meeting on 14 November 2013.

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 shown because the directors consider that this provides a more useful indication of underlying performance and trends over time.

	2013	2012
	£m	£m
Earnings	**17.0**	15.1
Add back amortisation of acquired intangible assets (net of tax)	**0.5**	-
Add back acquisition costs (net of tax)	**1.0**	-
Underlying earnings	**18.5**	15.1

	Number of shares millions	Number of shares millions
Basic average number of shares in issue	**51.7**	51.5
Effect of dilutive potential shares	**0.6**	0.6
Diluted average number of shares in issue	**52.3**	52.1

Earnings per share	**pence**	pence
Basic	**32.9**	29.3
Diluted	**32.5**	29.0

Underlying earnings per share	**pence**	pence
Basic	**35.8**	29.3
Diluted	**35.4**	29.0

10 Acquisition of business

On 8 November 2012 the Group acquired the business and certain operating assets of AEA Technology plc (in administration) ("AEA Europe") for total cash consideration of £18.0m.

The following table sets out the consideration paid for AEA Europe, together with the provisional fair value of assets acquired and liabilities assumed.

	£m
Total consideration	18.0
Provisional 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 are made to identifiable assets and liabilities on acquisition to reflect their fair value. These include the recognition of customer-related intangible assets amounting to £8.5m and other acquisition-related intangible assets amounting to £0.3m. The fair values of net assets acquired are provisional and represent estimates following a preliminary valuation exercise. These estimates of fair value may be adjusted up to a maximum of twelve months from the acquisition date in accordance with the requirements of IFRS 3 'Business Combinations'.

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.

10 Acquisition of business (continued)

The fair value of trade and other receivables of £7.2m included trade receivables of £2.7m and amounts recoverable on contracts of £3.6m, all of which have subsequently been collected.

Acquisition-related costs of £1.3m have been charged to the consolidated income statement for the year ended 30 June 2013 and are disclosed as a specific adjusting item.

The revenue included in the consolidated income statement since 8 November 2012 by the acquired business was £25.4m. The underlying operating profit over the same period was £2.8m. This is reported in the Technical Consulting segment.

Had the acquired business been consolidated from 1 July 2012, the consolidated income statement would show revenue of £242.5m and underlying operating profit of £25.1m based on the management accounts.

11 Goodwill

Group	£m
At 1 July 2011	16.7
Exchange adjustments	(1.4)
At 30 June 2012	15.3
Acquisition of business (note 10)	9.9
Exchange adjustments	0.7
At 30 June 2013	**25.9**

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 that 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 vale 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	
CGU	**2013**	2012	**2013**	2012	**2013**	2012
	£m	£m	**%**	%	**%**	%
Ricardo UK *	**2.7**	2.7	**8.2**	7.2	**3.3**	3.0
Germany Technical Consulting	**13.3**	12.6	**8.4**	7.7	**3.1**	3.0
Ricardo-AEA	**9.9**	-	**8.2**	-	**3.3**	-
Total	**25.9**	15.3				

* Goodwill relates to two businesses which have been fully integrated into Ricardo UK Limited (Gemini and Tarragon)

During the year ended 30 June 2012, the Group's operations in Germany experienced tight controls around client spend, delays in order placement and reduced levels of test bed activity. The German business had a difficult start to the year ended 30 June 2013 as demand continued to soften and a key client took some testing requirements in-house. However, improved financial performance was delivered in the second half of the year. The key assumptions within the German three year plans at both 30 June 2012 and 2013 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 2013 year end order book represents approximately 5 months of revenue and since the year end further orders have been received, including a large multi-year contract with a customer based in China.

The resulting trading forecasts and consequent cash flows support the carrying value of the goodwill in Germany at both 30 June 2012 and 2013. The recoverable amounts of the other CGUs are also in excess of the carrying values, and so no impairment has arisen in the year (2012: £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.

12 Other intangible assets

Group	Customer contracts and relationships £m	Other acquisition-related intangible assets £m	Purchased software £m	Development costs £m	Total £m
Cost					
At 1 July 2011	-	-	13.4	0.7	14.1
Additions	-	-	2.0	0.5	2.5
Disposals	-	-	(0.1)	-	(0.1)
Exchange rate adjustments	-	-	(0.2)	-	(0.2)
At 30 June 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**
Accumulated amortisation					
At 1 July 2011	-	-	8.3	0.2	8.5
Charge for the year	-	-	1.1	0.1	1.2
Exchange rate adjustments	-	-	(0.2)	-	(0.2)
At 30 June 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**
Net book amounts					
At 30 June 2013	**7.8**	**0.3**	**6.1**	**1.4**	**15.6**
At 30 June 2012	-	-	5.9	0.9	6.8
At 30 June 2011	-	-	5.1	0.5	5.6

Company	Purchased software £m
Cost	
At 1 July 2011	4.3
Additions	1.4
At 30 June 2012	5.7
Additions	0.9
At 30 June 2013	**6.6**
Accumulated amortisation	
At 1 July 2011	0.2
Charge for the year	0.5
At 30 June 2012	0.7
Charge for the year	0.8
At 30 June 2013	**1.5**
Net book amounts	
At 30 June 2013	**5.1**
At 30 June 2012	5.0
At 30 June 2011	4.1

Purchased software for both Group and the Company comprises external purchase costs and internal costs that have been capitalised in respect of a new ERP system. Purchased software for both the Group and the Company includes £0.4m (2012: £0.4m) in respect of assets under construction which are not being amortised.

Development costs include £0.3m (2012: £0.5m) in respect of assets under construction which are not being amortised.

The amortisation charge of £2.2m (2012: £1.2m) 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
Cost				
At 1 July 2011	26.2	95.2	15.6	137.0
Additions	1.1	5.8	2.1	9.0
Disposals	(3.1)	(0.4)	(1.1)	(4.6)
Exchange rate adjustments	(0.5)	(0.4)	(0.3)	(1.2)
At 30 June 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**
Accumulated depreciation				
At 1 July 2011	6.5	72.6	12.1	91.2
Charge for the year	0.9	4.5	1.2	6.6
Disposals	(1.3)	(0.4)	(1.1)	(2.8)
Exchange rate adjustments	(0.1)	(0.1)	(0.2)	(0.4)
At 30 June 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**
Net book amounts				
At 30 June 2013	**20.0**	**23.4**	**4.8**	**48.2**
At 30 June 2012	17.7	23.6	4.3	45.6
At 30 June 2011	19.7	22.6	3.5	45.8

The carrying value of assets under construction included in property, plant and equipment amounts to £4.4m (2012: £3.0m). This includes £2.1m (2012: £nil) in respect of the Vehicle Emissions Research Centre in the UK, which is made up of £3.7m (2012: £nil) additions less £1.6m (2012: £nil) of government grant received.

At 30 June 2013, contracts had been placed for future capital expenditure, which have not been provided for in the financial statements, amounting to £4.5m (2012: £0.5m) net of government grant receivable.

In the year proceeds of £3.7m were received relating to the sale and leaseback of our offices in Germany. This transaction was recognised as having completed in the prior year and the amount recoverable was included within Trade and other receivables at 30 June 2012.

Company	Land and buildings £m	Fixtures, fittings and equipment £m	Total £m
Cost			
At 1 July 2011	11.7	0.1	11.8
Additions	-	0.1	0.1
At 30 June 2012	11.7	0.2	11.9
Additions	-	0.1	0.1
At 30 June 2013	**11.7**	**0.3**	**12.0**
Accumulated depreciation			
At 1 July 2011	3.3	-	3.3
Charge for the year	0.4	-	0.4
At 30 June 2012	3.7	-	3.7
Charge for the year	0.3	-	0.3
At 30 June 2013	**4.0**	**-**	**4.0**
Net book amounts			
At 30 June 2013	**7.7**	**0.3**	**8.0**
At 30 June 2012	8.0	0.2	8.2
At 30 June 2011	8.4	0.1	8.5

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 £m
At 1 July 2011	48.5
Additions	1.3
At 30 June 2012	49.8
Additions	18.5
At 30 June 2013	**68.3**

Additions in the year relate to increasing the investment in Ricardo Shanghai Company Limited by £0.5m and the investment in Ricardo-AEA Limited of £18.0m to enable the acquisition of the AEA Europe business (see note 10). 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	**2013 £m**	2012 £m
Raw materials and consumables	**5.3**	6.2
Work in progress	**2.4**	1.8
	7.7	8.0

During the year £0.3m (2012: £nil) of inventory was written down and included in cost of sales in the Consolidated Income Statement.

16 Trade and other receivables

	Group		Company	
	2013 £m	2012 £m	**2013 £m**	2012 £m
Trade receivables	**35.2**	42.2	**-**	-
Less provision for impairment of receivables	**(0.9)**	(0.3)	**-**	-
Trade receivables - net	**34.3**	41.9	**-**	-
Amounts recoverable on contracts (note 17)	**14.6**	15.2	**-**	-
Amounts owed by Group undertakings	**-**	-	**46.0**	30.8
Prepayments and accrued income	**4.1**	3.6	**0.8**	0.6
Other receivables	**1.9**	2.3	**0.1**	0.1
	54.9	63.0	**46.9**	31.5
Trade and other receivables analysis by category:				
Non-current assets	**-**	0.1	**-**	-
Current assets	**54.9**	62.9	**46.9**	31.5
	54.9	63.0	**46.9**	31.5
Provision for impairment of receivables:				
At 1 July	**(0.3)**	(0.7)	**-**	-
Income statement charge	**(1.0)**	(0.7)	**-**	-
Amounts utilised	**0.4**	1.1	**-**	-
At 30 June	**(0.9)**	(0.3)	**-**	-

In respect of the Company, amounts owed by Group undertakings are interest-bearing at normal commercial rates and repayable on demand.

The provision for impairment of receivables has been calculated based on past experience and is in relation to specific customers.

17 Contracts in progress

Group	2013 £m	2012 £m
Amounts due from customers:		
Amounts expected to be recovered within 12 months (note 16)	**14.6**	15.2
Amounts due to contract customers:		
Amounts expected to be settled within 12 months (note 18)	**(13.3)**	(20.5)
Net amounts due from/(to) contract customers	**1.3**	(5.3)
Analysed as:		
Contract costs incurred plus recognised profits less recognised losses to date	**294.0**	262.1
Less progress billings	**(292.7)**	(267.4)
Contracts in progress at reporting date	**1.3**	(5.3)
IAS 11 contract revenue	**178.1**	149.0

18 Trade and other payables

	Group		Company	
	2013 £m	2012 £m	**2013 £m**	2012 £m
Trade payables	**4.9**	5.3	**0.2**	0.6
Tax and social security payable	**3.1**	3.3	**0.3**	0.3
Amounts owed to Group undertakings	**-**	-	**8.2**	6.5
Accruals and deferred income	**22.1**	15.4	**5.3**	4.2
Payments received in advance on contracts (note 17)	**13.3**	20.5	**-**	-
Other payables	**3.9**	3.7	**2.0**	1.7
	47.3	48.2	**16.0**	13.3

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	
	2013 £m	2012 £m	**2013 £m**	2012 £m
Bank overdrafts	**0.7**	0.4	**0.5**	-
Current bank loans	**-**	1.9	**-**	-
Total current borrowings	**0.7**	2.3	**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	
	30 June 2013	30 June 2012	**30 June 2013**	30 June 2012
Assets as per statements of financial position	**£m**	£m	**£m**	£m
Loans and receivables:				
Trade receivables	**34.3**	41.9	**-**	-
Amounts owed by Group undertakings	**-**	-	**46.0**	30.3
Cash and cash equivalents	**6.8**	10.2	**0.6**	0.8
	41.1	52.1	**46.6**	31.1
Liabilities as per statements of financial position				
Other financial liabilities at amortised cost:				
Bank loans and overdrafts	**0.7**	2.3	**0.5**	-
Trade payables	**4.9**	5.3	**0.2**	0.6
Amounts owed to Group undertakings	**-**	-	**8.2**	6.4
Liabilities at fair value through profit and loss:				
Derivative financial liabilities	**-**	0.2	**-**	0.1
	5.6	7.8	**8.9**	7.1

Summary of methods and assumptions:

Short-term borrowing 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 cashflows 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 7 Financial instruments: Disclosures).

During the year the following net foreign exchange gains and losses were recognised:	**2013**	2012
Net exchange gains/(losses)	**£m**	£m
Profit/(loss):		
On loans and receivables	**1.4**	(1.4)
On other financial assets and liabilities	**(1.2)**	1.4
	0.2	-
Equity:		
On other hedging instruments	**-**	-
	-	-

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, comprising 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 fixed and 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	
	2013	2012	**2013**	2012
Gearing ratio	**£m**	£m	**£m**	£m
Net (funds)/debt (note 31)	**(6.1)**	(7.9)	**(0.1)**	(0.8)
Total equity	**99.9**	89.8	**97.2**	66.4
Total capital	**93.8**	81.9	**97.1**	65.6
Gearing ratio	**-**	-	**-**	-

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 £52.1m (2012: £48.5m). This included committed facilities of £35.0m (2012: £30.0m). No committed facilities were drawn at 30 June 2013 or 30 June 2012. 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 £17.1m (2012: £18.5m) at 30 June 2013, which mature throughout the year to June 2014 and are renewable annually.

	Group		Company	
	2013	2012	**2013**	2012
Maturity of bank loans	**£m**	£m	**£m**	£m
Maturing				
Within 1 month	**-**	(1.7)	**-**	-
After 1 month and within 3 months	**-**	(0.1)	**-**	-
After 3 months and within 12 months	**-**	(0.1)	**-**	-
	-	(1.9)	**-**	-

	Group		Company	
	2013	2012	**2013**	2012
Maturity of trade payables	**£m**	£m	**£m**	£m
Maturing				
Within 1 month	**(2.6)**	(4.3)	**(0.2)**	(0.6)
After 1 month and within 3 months	**(2.0)**	(0.7)	**-**	-
After 3 months and within 12 months	**(0.3)**	(0.3)	**-**	-
	(4.9)	(5.3)	**(0.2)**	(0.6)

(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.

	2013	2012
Ageing of net trade receivables	**£m**	£m
Not overdue and not impaired	**22.9**	29.9
Overdue but not impaired:		
0 - 90 days overdue	**9.6**	8.2
91 - 180 days overdue	**1.5**	2.8
Over 180 days overdue	**0.3**	1.0
	34.3	41.9

Our customers include the world's major transportation original equipment manufacturers, supply chain organisations, energy companies 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 £22.9m (2012: £29.9m) that are neither past due nor impaired consist of £16.6m (2012: £21.4m) relating to the UK businesses, £1.3m (2012: £5.5m) relating to the German business, £4.3m (2012: £3.0m) relating to the US business and £0.7m (2012: £nil) relating to the China business. We have very limited experience of bad debts with any of these customers. Credit insurance is in place covering £25.4m of the total net trade receivables balance of £34.3m. £18.0m the total net trade receivables balance was received in July 2013. Due to these factors the directors believe there is no further credit risk provision required in excess of any existing provision for impairment.

21 Financial risks (continued)

	Group		Company	
	2013	2012	**2013**	2012
Maximum exposure to bank counterparty risk	**£m**	£m	**£m**	£m
Cash at bank and in hand	**6.8**	10.2	**0.6**	0.8
	6.8	10.2	**0.6**	0.8

Cash at bank and in hand of £6.8m (2012: £10.2m) consists of £2.0m (2012: £3.0m) held in the UK, £0.7m (2012: £3.1m) held in Germany, £1.1m (2012: £2.6m) held in the US, £2.1m (2012: £0.4m) held in China and £0.9m (2012: £1.1m) 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 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 the institution's credit standing.

(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	
	2013	2012	**2013**	2012
Financial assets and liabilities by interest type	**£m**	£m	**£m**	£m
Floating rate financial liabilities	**(0.7)**	(2.3)	**(0.5)**	-
No interest financial liabilities	**(4.9)**	(5.5)	**(8.4)**	(7.1)
Floating rate financial assets	**4.4**	4.8	**46.0**	30.3
No interest financial assets	**36.7**	47.3	**0.6**	0.8
	35.5	44.3	**37.7**	24.0

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	
	2013	2012	**2013**	2012
	£m	£m	**£m**	£m
US Dollar	**8.2**	8.3	**(0.1)**	(0.6)
Euro	**4.9**	10.4	**(1.0)**	(3.4)

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

Fair values of hedging instruments at 30 June	**2013 £m**	2012 £m
Cash flow hedges	-	(0.2)
Total	-	(0.2)

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.

Amounts relating to cash flow hedges in the year	**2013 £m**	2012 £m
Recognised in equity	-	-
Removed from equity and included in profit and loss	-	-

Cash flows expected to occur and affect profit and loss	**2013 £m**	2012 £m
Within 3 months	**15.3**	18.3
After 3 months and within 12 months	-	0.7
	15.3	19.0

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 Towers Watson, qualified actuaries, using the Projected Unit Credit method.

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 ended 30 June 2014 are £4.3m. The next triennial valuation is due as at 5 April 2014.

IAS 19 'Employee Benefits' valuations were completed as at 30 June 2013 and 30 June 2012 by Towers Watson, 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:

	2013		2012	
Age	**Males**	**Females**	Males	Females
65 in 15 years	**23.9**	**26.4**	23.8	26.2
65	**22.6**	**25.0**	22.5	24.7

The other major assumptions made were:

	At 30 June 2013	At 30 June 2012
Discount rate	**4.65%**	4.60%
Inflation	**3.30%**	2.80%
Rate of increase in pensionable salaries	**3.30%**	2.80%
Rate of increase in pensions in payment:		
Pre 1 July 2002 accrual	**3.50%**	3.20%
Post 1 July 2002 accrual	**3.15%**	2.75%
Rate of increase in pension in deferment	**2.30%**	1.80%
Percentage of pension to be commuted for a lump sum at retirement	**25.00%**	25.00%

22 Retirement benefit obligations (continued)

Return on asset assumptions at 30 June each year have been used to date in the determination of the pension expense for the following year. However, with effect from 1 July 2013, the Group will adopt an amended version of IAS 19 'Employee Benefits', under which the amount credited to the income statement reflecting the return on pension assets will be calculated by applying the discount rate used to measure the obligation, and will therefore be based on a lower corporate bond rate. See Note 1(v) 'New standards and interpretations' for further information.

Under the amended IAS 19, net finance costs relating to pensions would have been approximately £0.3m higher for the year ended 30 June 2013, and profit before taxation £0.3m lower, with a corresponding pre-tax increase in other comprehensive income. This change has no impact on the balance sheet and no impact on past or expected future cash flows.

Due to the amendment, the expected long-term rates of return at 30 June 2013 are not presented in the table below. Instead, the table presents the interest rate assumption at 30 June 2013, which is equal to the discount rate assumption for plan liabilities as noted above and which will be used in the determination of the pension expense for 2014. For 2013, the expected long-term rates of return and market values of the various categories of assets held by the defined benefit plans at 30 June are presented.

	Interest rate 30 June 2013	**Value at 30 June 2013 £m**	Long-term rate of return expected at 30 June 2012	Value at 30 June 2012 £m
Equities	**4.65%**	**22.7**	6.70%	20.3
Bonds	**4.65%**	**43.4**	3.45%	41.4
Cash	**4.65%**	**0.6**	2.80%	0.3
Property	**4.65%**	**4.9**	5.70%	4.7
Diversified Growth Funds	**4.65%**	**18.1**	6.70%	14.4
Total assets	**4.65%**	**89.7**	4.95%	81.1

The actual return on the scheme assets during the year was £8.1m (2012: £4.8m). Movements in the fair value of scheme assets and present value of defined benefit obligations were as follows:

	2013			2012		
	Assets £m	**Obligations £m**	**Net total £m**	Assets £m	Obligations £m	Net total £m
At 1 July	**81.1**	**(101.5)**	**(20.4)**	76.6	(90.0)	(13.4)
Current service cost	**-**	**-**	**-**	-	-	-
Expected return/(interest cost)	**4.0**	**(4.6)**	**(0.6)**	4.7	(5.0)	(0.3)
Credit/(charge) to the income statement	**4.0**	**(4.6)**	**(0.6)**	4.7	(5.0)	(0.3)
Actuarial gains/(losses)	**4.1**	**(7.1)**	**(3.0)**	0.1	(10.1)	(10.0)
Contributions from sponsoring companies	**4.3**	**-**	**4.3**	3.3	-	3.3
Benefits paid	**(3.8)**	**3.8**	**-**	(3.6)	3.6	-
Total movements	**8.6**	**(7.9)**	**0.7**	4.5	(11.5)	(7.0)
At 30 June	**89.7**	**(109.4)**	**(19.7)**	81.1	(101.5)	(20.4)

Cumulative actuarial gains and losses recognised in equity	**At 30 June 2013 £m**	At 30 June 2012 £m
At 1 July	**(12.4)**	(2.4)
Net actuarial losses recognised in the year	**(3.0)**	(10.0)
At 30 June	**(15.4)**	(12.4)

22 Retirement benefit obligations (continued)

History of experience gains and losses	**2013 £m**	2012 £m	2011 £m	2010 £m	2009 £m
Present value of defined benefit obligations	**(109.4)**	(101.5)	(90.0)	(102.8)	(88.1)
Fair value of scheme assets	**89.7**	81.1	76.6	68.4	58.7
Deficit in the scheme	**(19.7)**	(20.4)	(13.4)	(34.4)	(29.4)
Experience adjustments on scheme liabilities					
Amount (£m)	**(7.1)**	10.1	(14.2)	(12.4)	1.0
Percentage of scheme liabilities (%)	**(6)%**	10%	(16)%	(12)%	1%
Experience adjustments on scheme assets					
Amount (£m)	**4.1**	0.1	4.9	5.2	(12.6)
Percentage of scheme assets (%)	**5%**	0%	6%	8%	(21)%

The assumptions in relation to discount rate, price inflation and mortality have a significant effect on the measurement of scheme liabilities. A reduction in the discount rate of 0.25% would increase the scheme liabilities by £4.7m. An increase in price inflation of 0.25% would increase the scheme liabilities by £3.1m. If each scheme member were expected to live for an additional year then scheme liabilities would increase by £2.7m.

Amounts charged in the income statement in respect of pensions	**2013 £m**	2012 £m
In respect of defined contribution schemes	**4.3**	3.0
In respect of defined benefit schemes	**1.1**	0.9
	5.4	3.9
Included within:		
Staff costs	**4.3**	3.0
Finance costs	**1.1**	0.9
	5.4	3.9

23 Deferred tax

(a) Deferred tax analysis by category

	Group		Company	
	2013 £m	2012 £m	**2013 £m**	2012 £m
Non-current deferred tax assets	**13.4**	15.4	**5.9**	6.4
Non-current deferred tax liabilities	**(0.6)**	(0.7)	**(0.6)**	(0.7)
Net deferred tax asset	**12.8**	14.7	**5.3**	5.7

(b) Movements in net deferred tax assets and liabilities

Group	Accelerated capital allowances £m	Retirement benefit obligations £m	Tax losses and credits £m	Unrealised capital gains £m	Other £m	Total £m
At 1 July 2011	(2.6)	3.5	14.0	(0.7)	0.7	14.9
(Charged)/credited to the income statement	(0.8)	(0.9)	(1.0)	-	0.2	(2.5)
Credited to statement of comprehensive income	-	2.3	-	-	0.3	2.6
Exchange rate adjustments	-	-	(0.3)	-	-	(0.3)
At 30 June 2012	(3.4)	4.9	12.7	(0.7)	1.2	14.7
(Charged)/credited to the income statement	(0.3)	(0.9)	(2.2)	0.1	0.7	(2.6)
Credited/(charged) to statement of comprehensive income	-	0.6	-	-	(0.2)	0.4
Exchange rate adjustments	-	-	0.3	-	-	0.3
At 30 June 2013	**(3.7)**	**4.6**	**10.8**	**(0.6)**	**1.7**	**12.8**

At 30 June 2013 and 30 June 2012 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. The carrying value of the deferred tax asset in Germany that was recognised in previous years is £3.9m. 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.

23 Deferred tax (continued)

Company	Retirement benefit obligations £m	Tax losses and credits £m	Unrealised capital gains £m	Other £m	Total £m
At 1 July 2011	3.5	0.1	(0.7)	0.5	3.4
(Charged)/credited to the income statement	(0.9)	0.8	-	0.1	-
Credited to statement of comprehensive income	2.3	-	-	-	2.3
At 30 June 2012	4.9	0.9	(0.7)	0.6	5.7
(Charged)/credited to the income statement	(0.9)	(0.5)	0.1	0.3	(1.0)
Credited to statement of comprehensive income	0.6	-	-	-	0.6
At 30 June 2013	**4.6**	**0.4**	**(0.6)**	**0.9**	**5.3**

24 Provisions

Group	Warranty provision £m	Onerous lease provision £m	Dilapidation provision £m	Total provisions £m
At 1 July 2011	1.0	-	-	1.0
Charged to income statement	1.2	-	-	1.2
Released in year	(0.5)	-	-	(0.5)
At 30 June 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**

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.

Analysis of total provisions	**2013 £m**	2012 £m
Non-current	**2.2**	-
Current	**0.4**	1.7
Total	**2.6**	1.7

25 Called up share capital

Group and Company	**2013 Number**	2012 Number	**2013 £m**	2012 £m
Allotted, called up and fully paid ordinary shares of 25p each				
At 1 July	**51,846,929**	51,408,202	**13.0**	12.9
Allotted under share option schemes	**30,654**	33,415	**-**	-
Allotted under LTIP scheme	**127,849**	170,115	**-**	-
Allotted under Share Incentive Plan	**-**	235,197	**-**	0.1
At 30 June	**52,005,432**	51,846,929	**13.0**	13.0

The consideration received for shares allotted under the share option schemes, LTIP and Share Incentive Plan during the year ended 30 June 2013 was £nil (2012: £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 2013 (2012: 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.

Equity-settled Executive Share Options	**2013**		2012	
	Number	**Weighted average share price**	Number	Weighted average share price
Outstanding at 1 July	**120,549**	**278p**	192,781	288p
Lapsed/forfeited	**-**	**-**	(38,817)	300p
Exercised	**(30,654)**	**300p**	(33,415)	306p
Outstanding at 30 June	**89,895**	**271p**	120,549	278p
Exercisable at the end of the year	**89,895**	**271p**	120,549	278p

The outstanding options had a weighted average contractual life of 2.1 years (2012: 3.5 years). The remaining options are exercisable between 268p and 300p.

During the years ended 30 June 2013 and 30 June 2012, 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.

	2013	2012
	Shares Allocated[1]	Shares Allocated[1]
Outstanding at 1 July	**977,814**	1,056,316
Awarded	**340,178**	286,095
Lapsed/forfeited	**(417,917)**	(231,995)
Vested	**(143,083)**	(132,602)
Outstanding at 30 June	**756,992**	977,814

(1) Shares allocated excludes dividend roll up

The outstanding LTIP awards had a weighted average contractual life of 1.4 years (2012: 1.2 years). The weighted average exercise price in both 2013 and 2012 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:

	2013	2012
Weighted average share price of date of award	**363p**	372p
Expected volatility	**27.8%**	33.9%
Expected life	**3 yrs**	3 yrs
Risk free rate	**0.3%**	0.8%
Dividend yield	**3.3%**	3.6%
Possibility of ceasing employment before vesting	**10%**	10%
Weighted average fair value per LTIP as a % of a share at date of award	**55.1%**	64.5%

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.

	2013 Number of deferred shares	2012 Number of deferred shares
Outstanding at 1 July	**175,945**	196,792
Awarded	**206,622**	161,821
Lapsed/forfeited	**(96,306)**	(7,746)
Dividend shares awarded in the year	**8,960**	5,886
Vested	**(10,225)**	(180,808)
Outstanding at 30 June	**284,996**	175,945

The outstanding deferred bonus plans had a weighted average contractual life of 1.9 years (2012: 2.2 years). The weighted average exercise price in both 2013 and 2012 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.

	2013 Number of deferred shares	2012 Number of deferred shares
Outstanding at 1 July	**232,580**	-
Awarded	**-**	235,197
Lapsed/forfeited	**(22,040)**	(9,835)
Dividend shares awarded in the year	**6,534**	7,218
Vested	**-**	-
Outstanding at 30 June	**217,074**	232,580

The outstanding share incentive plan had a weighted average contractual life of 1.3 years (2012: 2.3 years). The weighted average exercise price in both 2013 and 2012 was £nil.

Cash-settled International Notional Share Plan

The International Notional Share Plan is described in the Directors' remuneration report.

	2013 Number of deferred shares	2012 Number of deferred shares
Outstanding at 1 July	**190,530**	-
Awarded	**-**	193,890
Lapsed/forfeited	**(30,378)**	(9,273)
Dividend shares awarded in the year	**4,860**	5,913
Vested	**(3,552)**	-
Outstanding at 30 June	**161,460**	190,530

The outstanding international notional share plan had a weighted average contractual life of 1.3 years (2012: 2.3 years). The weighted average exercise price in both 2013 and 2012 was £nil.

27 Share premium

	Group and Company £m
At 1 July 2011	13.8
Arising on shares issued in 2012	0.1
At 30 June 2012	13.9
Arising on shares issued in 2013	0.1
At 30 June 2013	**14.0**

28 Other reserves

Group	Merger reserve £m	Translation reserve £m	Hedging reserve £m	Total £m
At 1 July 2011	1.0	8.1	(2.7)	6.4
Exchange rate adjustments	-	(2.0)	-	(2.0)
Tax on items recognised directly in equity	-	-	0.3	0.3
At 30 June 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**

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.

29 Retained earnings

	Group £m	Company £m
At 1 July 2011	56.5	39.5
Profit for the year	15.1	13.4
Actuarial losses on the defined benefit pension scheme	(10.0)	(10.0)
Tax on items recognised directly in equity	2.3	2.3
Dividends paid	(6.1)	(6.1)
Share-based payments	0.4	0.4
At 30 June 2012	58.2	39.5
Profit for the year	17.0	39.2
Actuarial losses on the defined benefit pension scheme	(3.0)	(3.0)
Tax on items recognised directly in equity	0.4	0.6
Dividends paid	(6.6)	(6.6)
Share-based payments	0.5	0.5
At 30 June 2013	**66.5**	**70.2**

The Company has not presented its own income statement and statement of comprehensive income as permitted by Section 408 of the Companies Act 2006.

30 Cash generated/(used) by operations

	Group		Company	
	2013 £m	2012 £m	**2013 £m**	2012 £m
Profit before tax	**21.0**	17.6	**37.3**	11.3
Adjustments for:				
Share-based payments	**0.5**	0.4	**0.5**	0.4
Cash flow hedges	**(0.1)**	0.3	**-**	0.2
Dividends received from subsidiaries	**-**	-	**(38.4)**	(15.0)
Finance income	**(0.2)**	(0.3)	**(0.6)**	(0.6)
Finance costs	**1.3**	1.3	**1.4**	1.2
Profit on disposal of property, plant and equipment	**(0.1)**	(0.3)	**-**	-
Depreciation and amortisation	**9.3**	7.8	**1.1**	0.9
Operating cash flows before movements in working capital	**31.7**	26.8	**1.3**	(1.6)
Decrease/(increase) in inventories	**0.3**	(2.8)	**-**	-
Decrease/(increase) in trade and other receivables	**11.7**	3.3	**(0.2)**	(0.1)
(Increase)/decrease in intercompany balances	**-**	-	**(13.5)**	3.2
(Decrease)/increase in payables	**(9.6)**	(0.7)	**1.0**	(0.1)
Increase in provisions	**0.7**	0.7	**-**	-
Pension payments in excess of pension costs	**(3.7)**	(3.0)	**(0.9)**	(1.0)
Cash generated/(used) by operations	**31.1**	24.3	**(12.3)**	0.4

31 Net funds

Net funds is defined by the Group as net cash and cash equivalents less bank loans.

	Group		Company	
	2013	2012	**2013**	2012
At year end	**£m**	£m	**£m**	£m
Cash and cash equivalents (current assets)	**6.8**	10.2	**0.6**	0.8
Bank overdrafts (current liabilities)	**(0.7)**	(0.4)	**(0.5)**	-
Net cash and cash equivalents	**6.1**	9.8	**0.1**	0.8
Bank loans maturing within one year	**-**	(1.9)	**-**	-
Net funds	**6.1**	7.9	**0.1**	0.8

	Group		Company	
	2013	2012	**2013**	2012
Movements in year	**£m**	£m	**£m**	£m
Net funds/(debt) at start of year	**7.9**	1.5	**0.8**	(5.3)
Net (decrease)/increase in cash and cash equivalents	**(3.7)**	5.4	**(0.7)**	6.1
Add back net repayment of bank loans	**2.0**	0.8	**-**	-
Effect of exchange rate changes on bank loans	**(0.1)**	0.2	**-**	-
Net funds at end of year	**6.1**	7.9	**0.1**	0.8

32 Operating leases

By date of commitments:	**2013**	2012
Group	**£m**	£m
Future aggregate minimum lease payments under non-cancellable operating leases falling due:		
Within one year	**4.2**	3.9
Between one and five years	**12.0**	11.4
After five years	**11.8**	13.6
	28.0	28.9

By nature of commitments:	**2013**	2012
Group	**£m**	£m
Future aggregate minimum lease payments under non-cancellable operating leases:		
Land and buildings	**26.9**	27.8
Other	**1.1**	1.1
	28.0	28.9

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

	2013 £m	2012 £m
The Company had the following transactions with Group undertakings:		
Sale of services	**13.5**	11.2
Finance income	**0.5**	0.4
Finance costs	**(0.2)**	(0.1)
Dividend income	**38.4**	15.0
The Company had the following year end balances with related parties:		
Amounts owed by Group undertakings	**46.0**	30.8
Amounts owed to Group undertakings	**(8.2)**	(6.5)

All transactions with Group undertakings, which are disclosed in note 35, occurred on an arms 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 2013 (2012: £0.3m).

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 has 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	USA
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)


POLICE

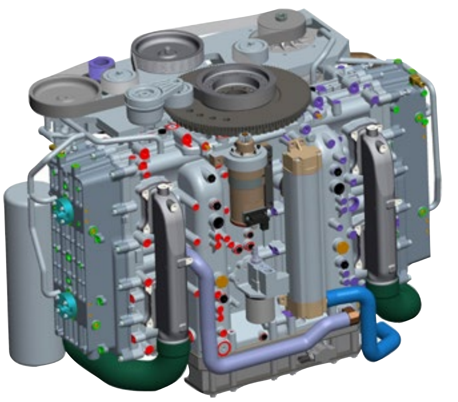


Case Studies

Developing compact, lightweight marine diesel power


POLICE

Ricardo helps Cox Powertrain take its advanced engine concept for military and civilian marine outboard applications towards commercialisation, supporting its strategy for growth as a small, independent technology-based organisation



The Cox opposed piston engine topology promises a power to weight ratio comparable with high performance gasoline engines

Cox Powertrain Ltd was formed in 2005 to develop and commercialise the Cox engine concept, invented by the company's late founder, David Cox, and in which the company holds a growing portfolio of patents. As a small, technology-based company Cox Powertrain needed a strategy for commercialisation of its intellectual property as well as for the development of the organisation so that it could become largely self-sufficient in its engineering capacity while also attracting external investment funding.

Based on a supercharged, two-stroke diesel opposed-piston architecture with a Scotch Yoke crankshaft and a central injector position, the Cox engine concept offers significant potential. It promises a power-to-weight ratio comparable with those of high-performance gasoline engines, while delivering diesel fuel consumption and a package volume around half that of a state-of-the-art diesel engine. The engine concept is thus particularly well suited to marine outboard applications in both the civilian and military sectors.

Cox Powertrain approached Ricardo at an early stage to provide assistance both in developing the Cox engine concept and in supporting the growth and development of the company's business. With its long-standing expertise in engine development and comprehensive resources and facilities, Ricardo was ideally placed to provide exactly the type of sophisticated and multi-faceted support required. On engaging with Ricardo in 2010, Cox Powertrain re-located to secure premises at the Ricardo Shoreham Technical Centre site, and with Ricardo support it was able to successfully complete the detailed design phase for its engine concept. This included an intensive computer aided engineering (CAE) programme using both commercial and proprietary Ricardo software tools, in order to optimise and validate the design to an extremely high level prior to prototype manufacture.

Promising market opportunities

As a compact, high power-to-weight diesel outboard power unit, the Cox engine concept is particularly attractive in small, sub 15-metre hull vessels. These are typically powered either by outboard gasoline engines, with their associated risks due to the volatility of the fuel, or by inboard diesels that are much heavier and more expensive to maintain. The Cox engine thus provides the prospect of an extremely competitive outboard solution, operating on safer diesel fuel yet also avoiding the costs of inboard installation. Typical applications include, for example, ferry and coastal patrol boats, super yacht tenders, fast motor cruisers, and the rapidly growing offshore wind energy sector where small workboats are frequently used for crew transfers and maintenance operations.

Significant interest in the military application of the Cox engine has also been shown by the UK Ministry of Defence, which has placed an order for prototype development of the engine for marine outboard applications on the fast, rigid inflatable boats used by the Royal Navy. With a strategy to reduce the use of gasoline engines at sea, the Royal Navy aims to eliminate the logistical challenges of supporting multiple fuels in theatre, as well as avoiding the safety risks to personnel associated with the use and storage of gasoline in hostile situations.

Collaboration facilitates business growth

With the expert engineering and business support provided by Ricardo, Cox Powertrain has been extremely successful in attracting investors in both the company itself and in its engine technology. By January of 2013 the company had successfully raised £6.7 million in private investment to support its work, in addition to grant funding for accelerated development from the UK Ministry of Defence.

This arrangement has been extremely successful for Ricardo too. In helping Cox Powertrain on its path to commercialisation of its intellectual property and development of its business, Ricardo has benefited from significant contracts from Cox Powertrain for engineering and strategic consulting support. While Cox Powertrain has now matured as a business to the stage where it has relocated to its own premises, the company continues to work extensively with Ricardo on testing and further engineering development. "The collaboration with Ricardo has been extremely useful to Cox Powertrain in enabling us to develop and demonstrate our technology to potential customers and investors," commented Cox Powertrain Ltd managing director John Allen. "The flexibility of the business model applied in this collaboration has been extremely constructive, and one that I believe has delivered significant value to both partners."

As the now independently located Cox Powertrain continues to work with Ricardo to develop its technology towards commercialisation, this extremely successful collaboration serves as a demonstration of Ricardo's ability to work flexibly with companies of all shapes and sizes in the development of world-beating and value-adding products and technologies.

Engineering luxury for the Chinese car market

In the challenging market sector of luxury cars, Jaguar Land Rover has transformed itself into one of the world's fastest-expanding manufacturers – and Ricardo has helped contribute to that success by providing crucial engineering support

Challenging target: inline four-cylinder has to deliver equal refinement to large V6 and V8 units

Jaguar Land Rover's ambitious plan for growth and investment led it to select Ricardo in 2010 as a strategic supplier to help bring its new model line-up to market. The first fruit of this collaboration was a very successful project to integrate the new I4 Ti 240 four-cylinder Jaguar engine in the XF and XJ luxury sedans for the 2013 model year.

This project was based on the strategic supplier arrangement, a framework of collaboration that has seen Ricardo provide assistance to Jaguar Land Rover on the integration of engines, advanced drivelines and chassis systems and, using common processes of budget definition, programme management and execution. This assistance has enabled the selected programmes to be delivered to market exceptionally quickly.

The impetus for this latest project, targeted at the Chinese market, was to provide luxury sedans powered by highly downsized engines to suit Chinese preferences which demand the performance and feel expected of Jaguar products, whilst avoiding the much higher rates of tax that apply to imported vehicles with large-capacity six- and eight-cylinder engines. Naturally, the downsized engine could on no account be allowed to compromise the premium quality of the product; the NVH (noise, vibration and harshness) would have to match that of the V-engine gasoline cars in both front and rear seats.

To meet this challenge, a dedicated Ricardo team was integrated very closely into the Jaguar Land Rover product development framework, both on-site at Jaguar's UK engineering centre and at a dedicated project office at Ricardo. To deliver the programme Ricardo was able to draw on its global resources, pulling in additional specialists from its operations in the Czech Republic, Germany and the United States. The relationship was an interactive one, with weekly project control meetings to ensure every aspect remained on track against a challenging schedule.

The success of this project is a convincing demonstration of Ricardo's ability to deliver complex programmes for top-level customers within very challenging timeframes

Ricardo responsibilities included component design, development and validation, vehicle package management, CAE simulation to validate robustness and attribute performance, management of thermal validation testing and calibration test trips, and management of the prototype test fleet. Ricardo was also granted access to the Jaguar engineering computer network to allow design releases to be made directly into the company's product development system.

The new inline four-cylinder engine has completely different characteristics to a larger capacity V-configuration power unit. Before this application it had been used only in transversely mounted installations, requiring Ricardo to redesign the exhaust, fuel and air intake systems. In the new Jaguar models the I4 engine is coupled with an eight-speed automatic gearbox made by ZF, with whom the Ricardo team worked closely on engine and transmission calibration. Chassis and electrical systems engineering were also key Ricardo responsibilities, including cooling and thermal management to take care of the heat generated by the exhaust system.

On the crucial matter of NVH, especially when the engine is at idle, Ricardo was charged with delivering levels of refinement on much more than just a measured, technical level: subjectively, too, the application needed to deliver the defining character of the brand – or what Jaguar engineers call 'Jaguarness'. That process was made easier by the presence of experienced personnel in the Ricardo team who are accustomed to rating vehicles and who understand the differing priorities of each manufacturer. This meant that much of the work could be completed 'right first time' before being passed to the Jaguar evaluation team for approval.

Ricardo started work on this key Jaguar project in July 2010, with engineering sign-off for the XJ achieved just 19 months later in February 2012. Series production commenced the following July, with the XF just two months later. Ricardo provided support for prototype and production builds, with separate teams of launch engineers assisting with the prototype pilot line at the JLR Engineering Centre and on the production line at Castle Bromwich until 90 days following Job One.

The success of this project, with the cars winning significant numbers of new Jaguar customers in China in particular, is a convincing demonstration of the value of Ricardo's agile approach to engineering and its ability to deliver complex programmes for top-level customers within very challenging timeframes.

Managing air quality in a rapidly urbanising world

Air quality in the built environment is a growing issue of concern to local, regional and national governments worldwide. Ricardo has the experts and the technology to provide much needed help and advice

2.4 million people die each year from causes directly attributable to air pollution

Despite the current downturn in the major industrialised countries, economic growth remains a key driver of urbanisation in many parts of the world. As demonstrated by the very rapid expansion of the Chinese economy in recent years, this brings with it an increase in energy consumption and an associated rise in pollutant emissions. But China is far from alone in this respect, and we are in effect becoming an urban world; the UN estimates that by 2050, seventy percent of the world's population will live in cities, bringing significant further challenges for the management of air pollution and all of its attendant impacts on public health.

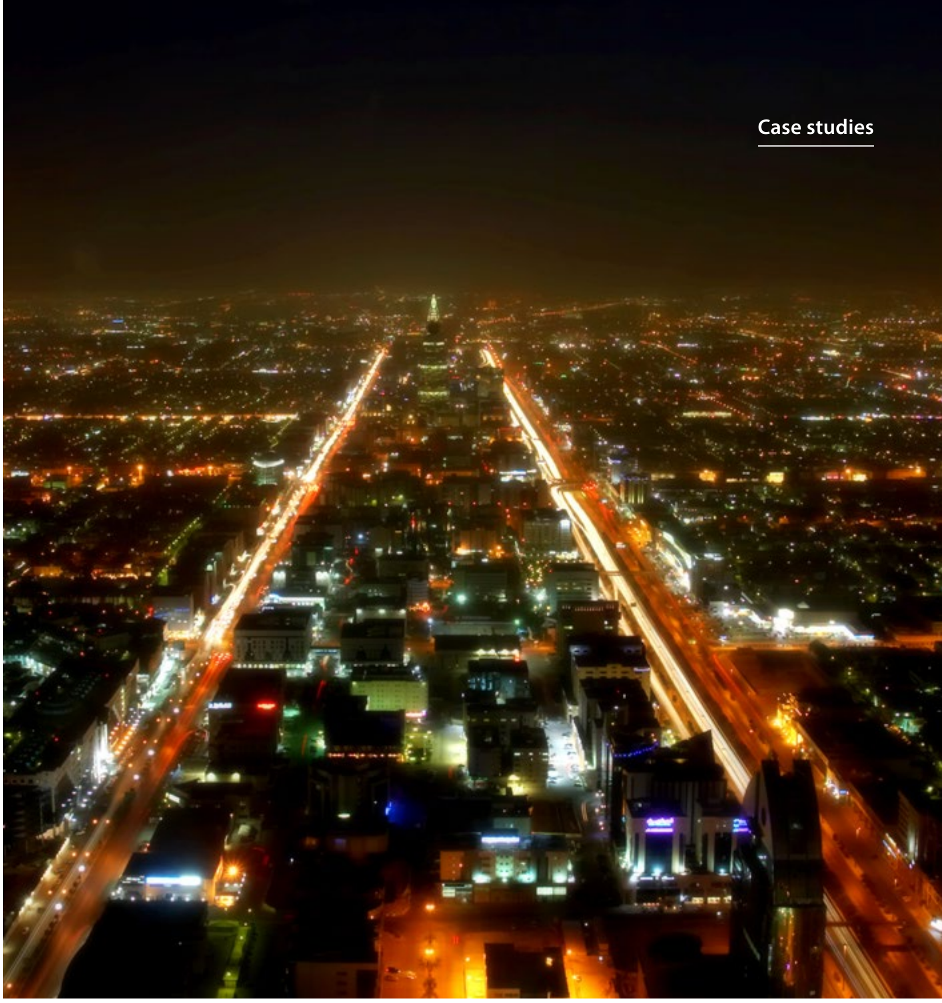
According to the World Health Organisation, 2.4 million people die each year from causes directly attributable to air pollution. In the UK it has been estimated that the health burden of particulate air pollution in 2008 was equivalent to nearly 29,000 deaths, with estimated equivalent health costs of up to £19 billion each year. In the US, health studies suggest that more than 500,000 Americans die each year from cardiopulmonary disease linked to smog.

Ricardo-AEA's track record in addressing the issue of air quality can be traced back to the pioneering work undertaken for the UK government in successfully tackling the sulphurous – and, for some, fatal – London smogs of the 1950s. As the following case studies demonstrate, Ricardo-AEA now provides its expertise on a worldwide basis, enabling cities of all sizes to effectively assess and manage pollutants in order to improve air quality for the benefit of their citizens.

Monitoring air quality on the 'Rock'

While it might at first sight appear to be in a location for good air quality by virtue of its position on a peninsula - close to the strait that bears its name at the mouth of the Mediterranean - Gibraltar faces some significant challenges. One of the busiest ports in the Mediterranean, it has a population of some 29,000 concentrated into just six square kilometres, resulting in

Gibraltar (left) and Riyadh (below and right) are both benefiting from air-quality expertise from Ricardo-AEA



one of the highest population densities in the world. In addition to this, significant regional industrial development, including the presence of a diverse range of sources of pollution, result in EU air quality limit values being exceeded.

To help address this problem Ricardo-AEA is engaged by the Gibraltar Government in an on-going programme to help meet EU legislative limits for ambient air quality and to fulfil public information obligations. This is being achieved through a combination of local air quality measurements, modelling, policy support and data dissemination.

"Since first contracting Ricardo-AEA to set up our air monitoring network and website, our relationship with them has developed to the point that we consider them invaluable," commented Peter Soiza of the Gibraltar Environment Agency. "Ricardo-AEA as an organisation has always given us authoritative, wide-ranging advice and in-depth expertise covering everything from initial concept, through design, to implementation."

Helping the city of Riyadh manage and improve air quality as it grows

The city of Riyadh is currently witnessing rapid development of its metropolitan area. Such growth presents major environmental challenges as urbanisation gives rise to increased emissions from both transport and industry. This can lead to a general deterioration of city air quality and resulting costs in terms of health burdens on the population.

ArRiyadh Development Authority recognises these challenges and has appointed Ricardo-AEA to provide a consolidated air quality evidence base to support future air quality policy within the city. The work will provide expert analysis and advice underpinned by measurement, inventory and city-scale modelling projects. To ensure that an enduring benefit is provided to the city of Riyadh beyond the life of the three-year contract initiated in 2013, a parallel comprehensive programme of knowledge transfer and training will be provided by Ricardo-AEA to the Authority's air quality team.

Low Emission Zones in Europe

In order to address the harmful effects of emissions due to older vehicle fleets, Low Emission Zones (LEZs) have been implemented by city authorities across Europe. Within these zones the most polluting vehicles are either restricted from entering, or face financial charges for doing so. In this way, drivers and operators are incentivised to bring forward the replacement of vehicles with more modern, less polluting successors conforming to the latest emissions regulations. Two of the three current LEZ schemes in the UK – in Oxford and the UK's largest scheme, London – have benefited from Ricardo-AEA consultancy support to develop and implement targeted emissions reduction plans.

With the acquisition of Ricardo-AEA, Ricardo is perhaps the only consulting organisation globally that has the capability to bring together in-depth expertise in engineering the very cleanest, low emission and low carbon vehicles with profound insights into the real-world environmental impacts of pollutant emissions. This combination has the potential to inform the development of pollutant emission technology tuned to real-world impacts, while helping cities and conurbations around the world to deliver improved air quality and consequent health benefits to their citizens.

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Cutting the cost per kW of clean distributed power

Ricardo is working with leading engine builders and generator set operators to exploit new fuels and achieve the lowest possible cost per kilowatt hour of delivered power – and meeting global emissions standards at the same time

Aggreko is a global leader in generator rental, providing efficient and cost-effective industrial generators and power distribution; its ranges include a wide variety of specialised generators, transformers and load banks. In 2009 the company approached Ricardo to launch what has become a highly successful engineering partnership. Aggreko's strategy has been to expand its global presence by making temporary power cost-competitive with permanent generating plant. The key to this competitiveness is the total cost per kilowatt hour and the ability to operate on widely available supplies of low-cost fuel such as marine grade heavy fuel oil (HFO).

Helping to create "the world's most efficient engine" for utility power

With the support of engine manufacturer Cummins, Ricardo and Aggreko set themselves the challenge of creating an upgrade path for the existing fleet of 4500 Cummins KTA50G3-powered Aggreko diesel generator sets. The upgrade needed to be feasible as part of a scheduled engine rebuild and needed to be packaged in a standard 20-foot (6 metre) container together with fuel handling systems and the existing cabling, transformers and switchgear.

Operating on diesel fuel, the new Aggreko G3+ that resulted from this work is believed to be the world's most efficient engine for utility power in the 1 MW class, optimised for this application and producing 14 percent more power at 12 percent lower cost per MW than the standard Cummins G3 engine. The Aggreko G3+ HFO variant is also believed to be currently unique as a low-cost, high-speed engine capable of operation on heavy fuel oil; it, too, provides electrical power at substantially lower cost than diesel alternatives.

An extensive engineering programme was completed, integrating Ricardo design, engineering and development with Aggreko operations and manufacturing; this allowed early fleet trials to develop and prove engine and system robustness. As a result, the new Aggreko G3+ HFO provides an extremely robust solution for power customers wishing to exploit the flexibility of containerised modular power solutions while at the same time benefiting from the very attractive cost advantages of HFO operation.

"The Aggreko G3+ HFO engine is a major step forward in containerised modular power solutions," commented Aggreko CEO Rupert Soames at the

Aggreko's strategy has been to expand its global presence by making temporary power cost-competitive with permanent generating plant. Pictured above is a 30 MW Aggreko power project in Ethiopia

launch of the system in March 2013. "This is a world-class product in terms of both fuel efficiency and operating cost, and is already proving attractive to Aggreko customers. Ricardo provides an excellent fit with Aggreko's in-house engineering team and, together, we can provide a unique development capability which has proved itself in the Aggreko G3+ HFO engine we are now announcing. Aggreko customers can thus be assured that they have access to the very best modular power systems technology available worldwide, delivering unprecedented levels of robustness and reliability in an extremely flexible and cost-competitive package."

Clean, efficient and refined modular power for India

While Ricardo's work with Aggreko has focused on 1 MW-class generators, the company's long-standing collaboration with Cooper Corporation of India has seen the development of a world-class engine family for use in applications as diverse as pumps, construction equipment and industrial off-highway vehicles and generator sets in the 20 to 210 kW range, for both domestic and international markets.

The new engine family that powers these products incorporates the latest 1400-bar common rail direct injection technology for its diesel variants or multipoint gas injection for CNG and LPG applications, using centrally mounted injectors for optimum combustion. Performance and emissions were optimised using Ricardo's WAVE engine performance and gas dynamics simulation software. The robust nature of the engine and its superior NVH signature are facilitated by the use of a structural bed plate configuration, providing strength and solidity while maintaining a competitive product mass. Low cost of ownership was also of paramount importance to the Ricardo and Cooper engineering teams, and the new engine boasts excellent longevity and ease of service.

In May 2013 the latest three-cylinder Cooper ECOPACK 62.5 KVA and 82.5KVA diesel generator sets arising from the collaboration with Ricardo were announced. Commenting on the launch of the new generator family, Cooper Corporation's chairman and managing director Farrokh N Cooper, said: "The three-cylinder ECOPACK engine series enjoys a unique position among other diesel power generators in India. This will set a global platform for Cooper Corporation. It owes this distinction to several outstanding features and benefits such as its 25 percent lower fuel consumption, its 25 percent smaller size and 40 percent lighter weight, its 42 percent saving in maintenance costs and to the fact that it is several times quieter."

Pushing the boundaries of rail fuel economy

Class 70 Powerhaul locomotive incorporates features suggested by Ricardo and offers a potential 18% fuel saving over the familiar Class 66

Helping global locomotive manufacturers and railway operators to maximise fuel economy and explore the use of alternative fuels

Rail freight is in resurgence in many parts of the world – not least in North America where the major railroads are experiencing traffic and investment growth that is unprecedented in recent years. But while the fuel efficiency advantage per consignment of long haul rail may be significant in comparison with on-highway truck movements, fuel remains one of the most significant costs for all rail operators. It is unsurprising, therefore, that maximising locomotive fuel efficiency and exploring alternative fuels such as natural gas are a major focus for Ricardo's rail business.

Locomotive fuel economy testing for GE Transportation

As a part of a major study carried out for the UK Department for Transport in 2012, Ricardo assessed a range of technology packages that could be applied to the Class 66 locomotive, which currently represents the backbone of the UK's rail freight fleet, to improve fuel economy. Following publication of the Department for Transport study, GE Transportation contacted Ricardo expressing interest in a further collaboration to validate some of the findings of the previous project. The US locomotive builder had already introduced its new Class 70 locomotive to the UK market and, fitted with its four-stroke PowerHaul® engine, the model not only incorporates many of the features recommended by Ricardo but also complies with EU Stage IIIa emissions regulations calling for NOx values below 7.4 g per kWh.

To demonstrate the fuel-efficiency credentials of the Class 70 against the Class 66, GE Transportation commissioned back-to-back tests to be carried out in November 2012 at Wabtec Brush Traction's facility in Loughborough, UK. To ensure that the tests were carried out according to a robust methodology and in an accurate and thoroughly objective manner, GE contracted Ricardo to oversee the work and to validate the test and analysis approach taken as well as the results generated.

Using duty cycle data sourced from UK rail freight operators, based on typical Class 66 locomotives used in

Ricardo has worked with Canadian National to evaluate natural gas as a locomotive fuel

Picture courtesy of Brian Haworth

normal traffic, it was possible to estimate the time spent in each power 'notch' setting – this was broadly similar to the duty cycles adopted in Ricardo's earlier work for the Department for Transport. By using the power 'notch' net traction-specific fuel consumption values for each of the locomotives, the fuel consumption over the duty cycle was calculated and compared.

This analysis of the test results showed that the Class 70 PowerHaul® locomotive would save 18 percent in fuel in comparison with the Class 66 currently representing the majority of the UK's locomotive fleet. In addition, further significant fuel savings could be made by the Class 70 locomotive when closing down the engine during extended idling using the automatic engine stop/start system and Auxiliary Power Unit (APU), or by using power from the dynamic brake normally used for driving auxiliary loads.

"The Class 70 PowerHaul® locomotive is one of GE's most technologically advanced, fuel-efficient and low-emissions diesel-electric freight locomotives to date, providing a clean and efficient solution for rail freight operators," said Gary Lacy, PowerHaul® Platform Leader at GE Transportation. "I would like to thank Ricardo for its role in overseeing and validating the testing and analysis methodology. Ricardo's expertise in powertrain technology, together with its international reputation for unbiased opinion, has been crucial in ensuring the accuracy and objectivity of these locomotive fuel consumption tests."

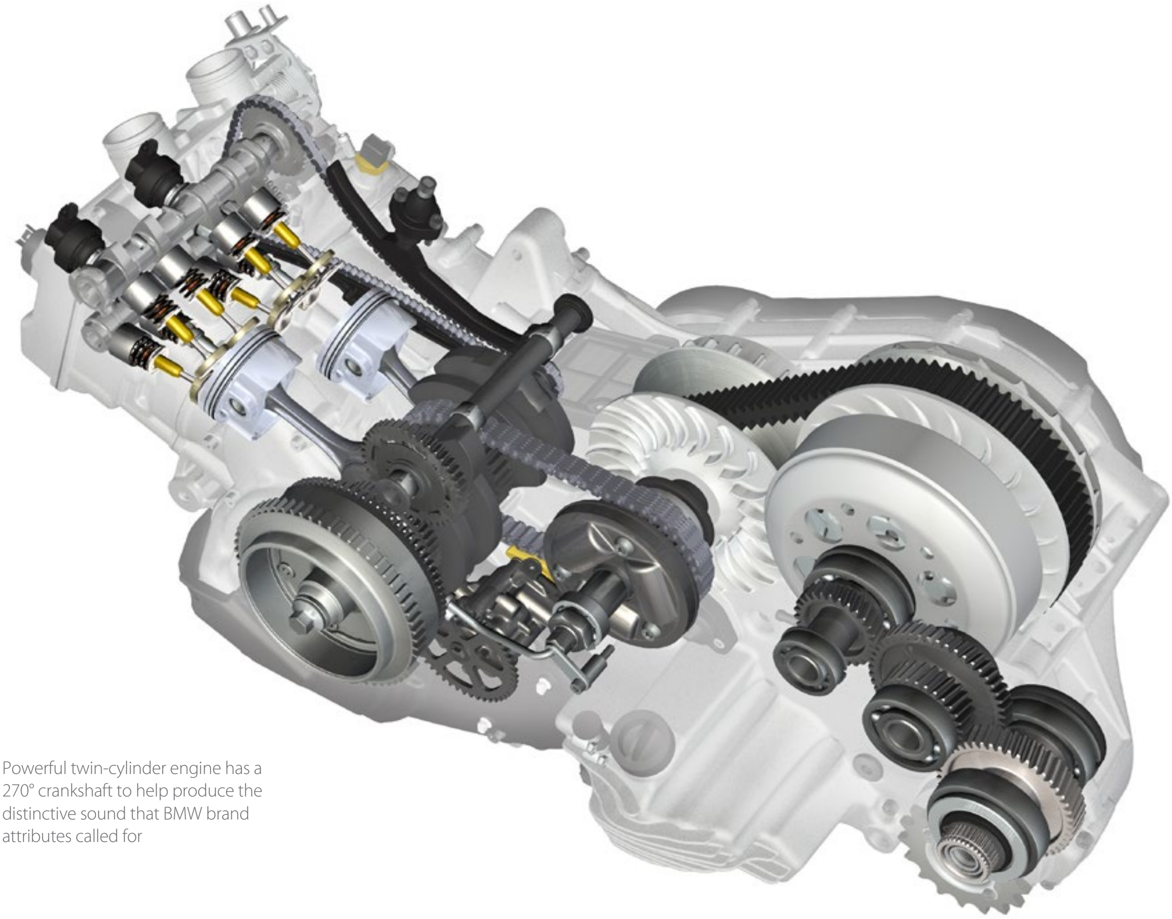
Helping Canadian National assess natural gas traction

Canadian National Railway Company (CN) is one of North America's seven Class 1 railroads, and is widely recognised as a leader in terms of fuel efficiency. The company has a long tradition of examining and exploiting technology and operating practices aimed at reducing fuel consumption and reducing the environmental impact of its operations. CN is exploring the practical implications and benefits of using natural gas as a locomotive fuel as a means to advance the company's sustainability agenda and reduce environmental emissions.

To support CN's research project, Ricardo provided assistance by reviewing engineering options and the impacts of using gas, most importantly identifying any 'Red Flag' issues which could affect viability. Ricardo assessed and evaluated both the currently available engine conversion technologies as well as those known to be in the development pipeline. The company also examined the available technologies for gas storage and distribution, including the development of recommendations for the configuration of the required gas tender car to supply fuel to the locomotive.

Through the work carried out by Ricardo it was thus possible to provide a picture of the most significant commercial impacts of operating railway locomotives on natural gas. CN has since begun testing of two Electro-Motive diesel locomotives converted for operation on natural gas.

Helping BMW move into new territories



Powerful twin-cylinder engine has a 270° crankshaft to help produce the distinctive sound that BMW brand attributes called for

Renowned for its premium touring and sports motorcycles, BMW Motorrad rides into a completely new sector of the market with its C600 Sport and C650 GT maxi scooters – with a powertrain engineered by Ricardo

Providing competitive options for two-wheeled personal mobility is becoming an ever more important area of the market for motorcycle manufacturers, with the need for affordable transport growing at a rapidly accelerating rate. The new BMW 'maxi' scooter, available in both C600 Sport and C650 GT forms, is the company's first entry in this sector but is positioned above the multitude of smaller 125-400 cc scooters in the market. Especially popular in Europe, with Spain and Italy in particular representing the strongest markets, maxi scooters are very much premium products, typically costing in the region of €10,000. The market is however ferociously cost-competitive – so it was imperative that while incorporating all the brand image and quality attributes expected of a BMW, the new scooters would still be affordable.

Ricardo has already completed two other successful engine projects for BMW Motorrad: the four-cylinder K1300 upgrade was featured in our 2009 annual report, while the project to support the design of the six-cylinder K1600 powertrain was covered in 2011. With its already established engineering relationship with BMW and its familiarity both with scooter products and their supply chain, Ricardo's motorcycle engineering team was ideally placed to assist.

A significant engineering challenge

The new maxi scooter project was challenging for a number of reasons, the first being the demanding time schedule for the introduction of a new market sector product. Secondly, despite the relatively high cost of scooters at this level, the final product still had to remain price-competitive within the segment.

Although they may look simple, scooters are complex machines and are if anything even more complex than a conventional motorcycle. Some premium machines like the BMW have ABS, there are a significant number of bodywork components and the driveline is both complicated and

Powerful sound

Ricardo carried out a good deal of detail work to make the design production ready. The usual refinement and analysis of the engine's gas flow and the mechanics of the valve train were achieved using WAVE and VALDYN respectively to optimise combustion efficiency and valve train dynamics. Then Ricardo's design team performed some detailed engineering to integrate certain BMW standard parts into the engine. A considerable amount of analysis was also done on the driveline, again using VALDYN. In addition, Ricardo worked closely with the primary chain supplier, which also performed its own independent analysis to ensure the absolute robustness of the final component.

compact. Ricardo's brief was to support the design of a complete powertrain compatible with BMW's worldwide sourcing strategy, incorporating locally sourced materials whilst employing techniques meeting BMW's exacting manufacturing and quality standards.

The powerful 647 cc engine produces 44 kW [60 hp] and 66 Nm [48 lb ft] torque. It is a twin-cylinder, four-stroke, double overhead camshaft water-cooled design. The cylinders are heavily inclined towards the front at 70°, a typical feature in scooters where a low step-through platform is needed. Crankshaft balance is a crucial aspect of the design. The engine is a parallel twin, which in itself gives a number of options in relation to crankshaft angle. These choices influence balance and sound as well as the manufacturing process. The BMW engine uses a 270° crank giving the same firing interval as a 90° V-twin. Crucially, this provides better inherent vibration levels for a smoother ride, while giving the engine a distinctive sound; something BMW specifically asked for.

Driveline

Scooters in this class usually have a double-sided swing arm for the rear suspension – but for the BMW a single-sided swing arm was selected, also enclosing the final drive chain. Swing arm length is critical to providing good stability for the rider, and in order to achieve this at the same time as locating the engine in the correct place in the chassis, the transmission is angled up at the rear to provide space for the swing arm and final drive. This arrangement of the drivetrain also provides robustness and refinement and keeps unsprung weight to a minimum for good handling.

The layout of a scooter final drive, from the output end of the CVT to the rear wheel, varies considerably from manufacturer to manufacturer. A shaft drive was ruled out on the grounds of cost and because of the relatively short swing arm length of the scooter, so finally BMW decided on a fully enclosed conventional chain drive. It was further decided to run the chain in an oil bath, with the expectation that it will last much longer than a normal chain final drive.

By streamlining the design and basing the engine around globally produced components and BMW standard parts, Ricardo was able to improve overall efficiency and cut the bill of materials for the powertrain from the original concept layout without compromising quality. For BMW, working with Ricardo on this project brought some distinct advantages, according to Thomas Ringholz, project leader powertrain, BMW Motorrad: "Ricardo was already familiar with multi-cultural programmes, and their experience with Asian suppliers helped to save time to fulfil the time schedule. BMW and Ricardo specialists complemented each other in a good way."

The C600 Sport and C650 GT are now in production and clearly represent another success for Ricardo and BMW; an achievement of which both companies are rightly proud. BMW has succeeded in producing a premium product at the right price and, perhaps even more importantly, delivering the kind of performance and brand attributes that its customers demand.

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Key Dates

Final Dividend Record Date	1 November 2013
Annual General Meeting	14 November 2013
Final Dividend Payment Date	22 November 2013

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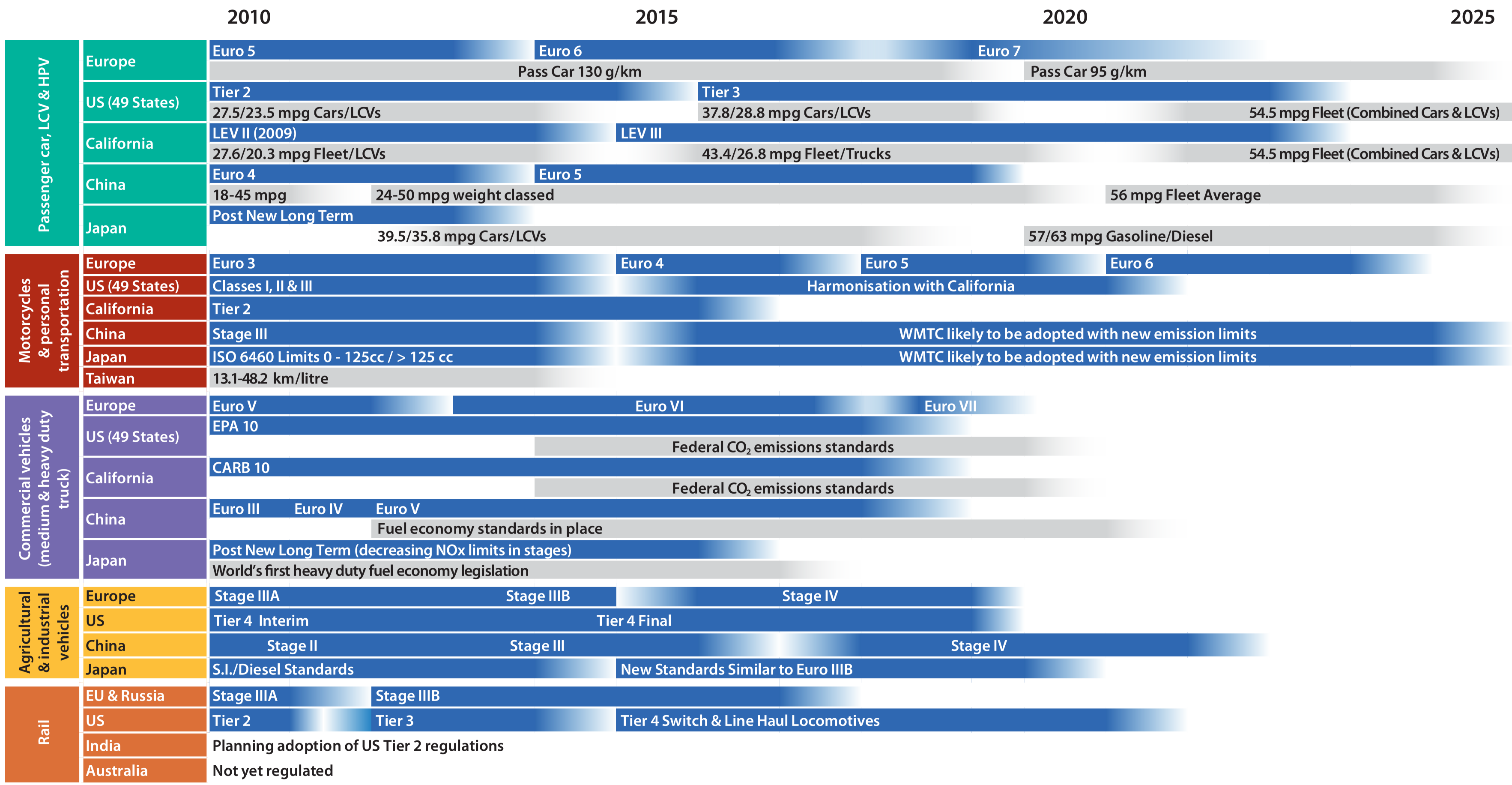
Global tailpipe and CO_2 emissions legislation adherence are "must haves" in the development budget of many of our clients



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