

Ricardo plc Annual Report & Accounts 2011



**Business review** 

# RICARDO

#### Market sectors

10

#### Product groups



|                                  |   | MARKET SECTOR   |       |
|----------------------------------|---|---|-------|
|                                  | GLOBAL ENGINEERING<br>DELIVERY CAPABILITY   | Marine  |       |
|                                  |   | Clean Energy & Power Generation   |       |
|                                  |   | Rail  |       |
|                                  | Project Management<br>Research & Development<br>Powertrain<br>Vehicle<br>Electrical & Electronics<br>Computer Aided Engineering<br>Test & Development<br>Facilities | Defence   |       |
|                                  |   | Agricultural & Industrial Vehicles  |       |
|                                  |   | Commercial Vehicles   |       |
|                                  |   | Motorcycles & Personal Transportation   |       |
|                                  |   | High Performance Vehicles & Motorsport  |       |
|                                  |   | Passenger Car   |       |
|                                  |   | Government  |       |
|                                  |   |   | _     |
| Engines                          |   | gdom<br>States<br>many<br>ublic<br>Japan<br>Japan<br>Korea<br>Russia<br>rance | ltalv |
| Driveline & Transmission Systems |   |   | E H   |
| Vehicle Systems                  |   | H Keiled I Kin  |       |

Hybrid & Electric Systems

Intelligent Transportation Systems

Performance Products

Software

i

Strategic Consulting

PRODUCT

United Kingdom United States Germany Germany Crima India Japan Korea Russia France Italy GEOGRAPHY

Ricardo plc Annual Report & Accounts 2011

**Employees worldwide** 

## 1590

#### Offices worldwide

16

Ricardo is a global world-class, multi-industry consultancy for engineering, technology, project innovation and strategy. With almost a century of delivering value, we employee over 1500 professional consultants, engineers and staff worldwide.

Our people are committed to providing outstanding value through quality engineering solutions focused on high efficiency, low emission, class-leading product innovation and robust strategic implementation.

Our client list includes the world's major transportation Original Equipment Manufacturers (OEMs), supply chain organisations, energy companies, financial institutions & governments.

Guided by our corporate values of respect, integrity, creativity & innovation and passion we enable our customers to achieve sustainable growth and commercial success.

#### **Operational years**



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## Chairman's statement

An encouraging performance

#### Market

The past year has seen an improvement in market conditions. Our encouraging performance reflects the benefit we have derived from our strategy of global and market sector diversification. Our revenue has grown in all regions and regulation continues to be a driver for business growth as CO<sub>2</sub> emissions controls are introduced in many world markets. Stimulus spending has also benefitted us in our low carbon technology research programmes. Our efforts to exploit adjacent industrial sectors have also been extremely encouraging, including the placement of the order for the first 200 Foxhound vehicles for the UK MoD as well as progress in the agricultural and industrial vehicle sectors.

#### Performance

In the year we have achieved strong revenue growth. Profit and EPS growth have been delivered due to our focus on cost control, cash generation and sound project delivery. We have reported a new revenue stream in Performance Products comprising our assembly and software businesses, including contracts for the supply of Foxhound vehicles and McLaren engines, which will underpin this business for a number of years and provide a template and business model for clients facing similar requirements across the globe.

The UK and German Technical Consulting businesses secured increased order intake, and delivered projects for a broad range of clients across multiple sectors and geographies, including a return of multi-year programmes. The US delivered a good profit level but with order intake slower in the second half. Strategic Consulting continued to diversify its client base and welcomed the return of many automotive clients. Profit before tax was £15.4m, up 43% on the previous year, with a closing order book up 6% at £107m. At 30 June 2011 the group held net cash of £1.5m compared to net debt of £7.8m at the end of the previous year.

#### **Employees**

Our employees are crucial to the success of Ricardo and I would like to take this opportunity to express my sincere thanks, together with those of the Board, for the continued energy, enthusiasm, innovation and commitment of the staff, which is testament to the strong values and ethos of the company.

#### Diversity

During the year there has been considerable comment on diversity at Board and senior management level in corporations. Ricardo has for many years sought a diversity which reflects the nature of the Company and its objectives. We have reviewed our position on diversity, including gender diversity, in the light of latest thinking on the subject. We find our **Revenue** (Continuing operations)

#### **Dividends** per share

t21% t7%

overall position to be satisfactory. Diversity in all its aspects will continue to be an important objective for the Company.

#### Dividend

We are recommending a final dividend of 8.1p per ordinary share to deliver a total dividend of 11.5p, up 7% on prior year. This reflects the Board's confidence in the prospects for the Company, the client relationships, the technology portfolio, the team and the positioning of the Company in the markets in which it operates.

#### **Board Changes**

To assist the Board in developing the defence market activities of Ricardo across the globe, Peter Gilchrist CB was appointed to the Board as a Non-Executive Director, on 1 December 2010. The Board now comprises three full-time Executive Directors and five Non-Executive Directors.

#### **Share Schemes**

Ricardo's Remuneration Committee has conducted a detailed review of the remuneration packages offered to the Company's Chief Executive Officer ("CEO") and other executive directors to establish whether any adjustments should be made to those arrangements. This exercise was carried out considering the Company's performance over the last two years during which time it has weathered the recession and returned to profitable growth in 2010/11 whilst facing challenging market conditions.

The Board is recommending, with effect from the 2011/12 financial year, that a number of changes be made to the annual and long term incentive schemes in which the CEO and other executive directors currently participate. The fundamental objective is to provide improved annual bonus potential and medium term value potential based on superior performance and share value appreciation.

Certain aspects of these proposed changes to the executive directors' remuneration arrangements require the approval of shareholders at the AGM and additional information in relation to the relevant resolutions will be provided with the Notice of AGM.

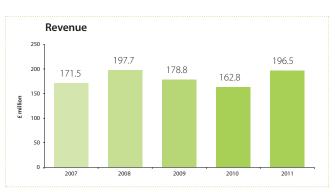
#### **Looking Ahead**

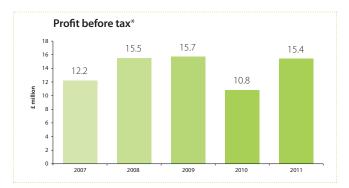
We continue to focus on our strategy of diversification around core competence and technology. We anticipate further cautious global economic recovery and expect Ricardo to continue to make progress in the coming year. In an uncertain world economic environment we remain vigilant in our focus on cost containment and cash generation. This blend of continuous business development against a backdrop of efficient operations and tight cash control has served us well and will ensure that we exploit the growing geographical and client sector base where we operate – to the benefit of all our stakeholders.

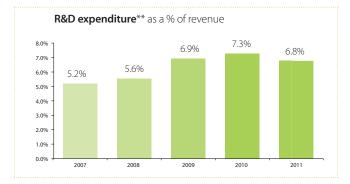
: Michael Harper

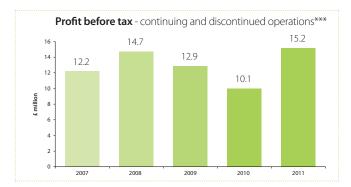
#### **PBT** (Continuing operations)







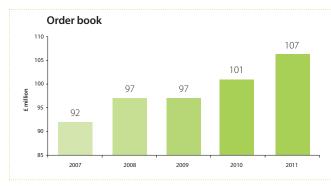


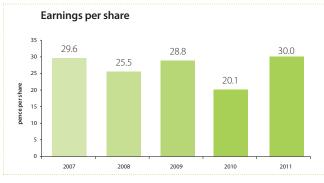


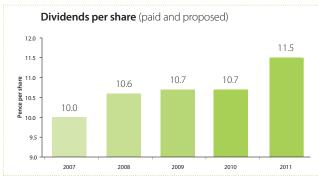
## **PBT** (Continuing and discontinued operations)

**EPS** :









Delivering Value Through Innovation & Technology

Profit before tax for 2008, 2009, 2010 and 2011 exclude discontinued operations.

- Research and development expenditure before deducting related government grant income (see note 4).
- \*\*\* The German exhaust business was held for sale at 30 June 2010 and 30 June 2009 and has been reported under discontinued operations. The business was sold in July 2010. It incurred a loss before tax of £0.2m (2010: £0.7m; 2009:£2.8m), before writing down assets held for sale by £nil (2010:£2.9m; 2009:£3.8m). Therefore for continuing and discontinued operations combined, the profit before tax and writing down assets held for sale was £15.2m (2010:£10.1m; 2009:£12.9m).

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Ricardo is well positioned with its diversification strategy to take advantage of opportunities as markets recover.

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## *"Ricardo is clearly very well placed to exploit the opportunities arising"*

Dave Shemmans, Chief Executive Officer

Over the past year we have seen clear and significant signs of recovery in the global economy, though these are set against the backdrop of increased political turbulence. The spontaneous uprisings across the Middle East and North Africa have triggered a volatility increase in global energy prices, while the continued fiscal instability in the eurozone and the US have created a backdrop of economic uncertainty for Western European and US markets. We have also seen the dramatic effects of natural disasters in the form of the Japanese earthquake and tsunami. These have led to profound economic consequences not just for the immediate region but also for the overseas operations of major Japanese corporations and those reliant upon Japanese component suppliers; many facilities suddenly found themselves starved of inventory and unable to maintain production and fulfil market demand.

In our core automotive market we have focused much of our recent attention on the developing markets of China, India and other newly emerging automotive markets that have remained comparatively buoyant throughout the recession. In the US there is a clear improvement over the position of just two years ago, when parts of the industry were routinely described as being on life support. Even so, the recent recovery amongst the Big Three (GM, Chrysler and Ford) could hardly be described as a complete transformation of their fortunes and the market remains volatile. In the first quarter of 2011 an important milestone in this recovery was marked when, for the first time since 2004, each of the Big Three simultaneously posted quarterly net profits, while also collectively gaining domestic market share for the first time since 1995. Building on its deepening partnership with Fiat, Chrysler has already returned to

the US Treasury (some six years ahead of schedule) the outstanding loans it took out following the intervention of the Obama administration in 2009.

As with previous economic downturns that have affected the motor industry, Ricardo is clearly very well placed to exploit the opportunities currently arising. The painful collective memory of forced downsizing and restructuring means that the big automakers are likely to remain reluctant to significantly expand their own research and development resources until recovery is more firmly entrenched. In the meantime Ricardo, having maintained its own very active technology development programme and highly flexible working practices, has both the resources and the technology that these customers need and is well placed to fulfil the automakers' newly reinvigorated product line-up ambitions.

At Ricardo our unrelenting focus is on developing new advanced technologies, innovations and product solutions that are both energy efficient and clean. This expertise is particularly attractive to customers struggling to meet the ever more stringent requirements of emissions legislation. This is no longer an exclusive concern of the passenger car and truck and bus markets of North America, Japan and Western Europe. Regions in all parts of the economically developed and developing world - most notably the rapidly growing BRIC countries of Brazil, Russia, India and China – are actively bringing forward their own regulatory frameworks echoing those of the more established markets. Along with its geographical reach, the scope of emissions regulation is also extending into new sectors and industries as diverse as agriculture, construction and mining equipment, railway locomotives, powered forest and garden tools - and across all parts of the marine industry from



ocean-going container vessels and bulk crude carriers to small recreational craft. As the radius of regulatory action on emissions extends in this way, so too does the potential market demand for Ricardo services.

The increasing cost of energy is also a key driver for Ricardo, with the price of oil increasing until April 2011 and showing volatility since then. Here, the proactive manner in which we at Ricardo have developed expertise in vehicle electrification is paying dividends in sales enquiries. In Europe we are participating in major R&D programmes investigating next-generation battery electric and range-extended hybrid driveline architectures, taking on some of the toughest challenges in the development and engineering of cost-effective battery systems and other key components. Our Kinergy high-speed flywheel technology is a truly revolutionary energy storage concept and is generating significant customer interest in potential applications across multiple sectors. These range from its application as a regenerative braking energy storage device for railway rolling stock to its use as the basis for low-cost retro-fit mechanical hybridisation of buses.

In parallel we continue our work on further enhancing the efficiency of the internal combustion engine both in conventional applications and when used as a high specific power range extender for electric vehicles. In this work we are actively seeking ways of capturing and harnessing in a useful manner the energy that is lost to heat in the exhaust and cooling system. Even in a state-ofthe-art vehicle approximately two-thirds of the chemical energy of liquid transportation fuel is lost in this way. Furthermore, we are also re-examining the fundamentals of the combustion engine in order to develop solutions that are fundamentally more thermodynamically efficient



and hence lower in their emissions of carbon.

The renewable power sector is a further area in which our proactive efforts to develop a presence in a rapidly growing market appear to have been extremely well received. With the EU member states targeting reductions in carbon emissions of 20 percent by the year 2020 against a baseline of 1990 values, there is significant level of activity in the development of renewable energy technologies. With the widespread expansion of land-based wind farms encountering increasing public opposition in some regions, the marine environment is being looked upon as a significant resource to be harnessed both through offshore wind farms as well as tidal stream generation and wave energy systems. The need for robustness and complete reliability is a pressing requirement in this hostile environment, where equipment failures are extremely costly.

The decision of the German government to

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"We have positioned Ricardo extremely well to capitalise on the recovery in demand – at the same time as also seeking out new and profitable niche markets where our skills and techologies can be applied effectively"

completely curtail its nuclear programme in the immediate aftermath of the Fukushima disaster will clearly lead to a further increase in the demand for lowcarbon power in Europe. It is not yet clear whether other governments across Europe and North America will follow suit and scale back their own nuclear programmes to any significant extent; Ricardo is well placed to assist in the harnessing of genuinely renewable sources of energy, but doing so with an unrelenting focus on costs, reliability and durability. We are building our business across the wind and marine energy sectors, and we are actively developing potentially high-demand technologies such as our MultiLife bearing concept that aims to extend wind turbine bearing life by up to 500 percent.

With the political instability across the Middle East and North Africa, the demand for the types of highly protected defence vehicles such as Ocelot is likely to grow. The long-running conflict in Afghanistan continues and, despite recent statements of intent from NATO allies to draw down existing force levels, the imperative to provide allied forces with versatile, manoeuvrable, highly protected defence vehicles is clearly pressing. This was demonstrated very clearly with the success of the Ocelot in its selection by the UK Ministry of Defence to fulfil the requirements of the Light Protected Patrol Vehicle intended for future use by the country's armed forces.

Renamed Foxhound in its UK forces role, an initial order for 200 vehicles was placed in late 2010. We are in the process of commissioning a new production line at our Shoreham facility, where these advanced vehicles will be built. The need for highly fuel efficient and crew-protected vehicles is leading to many further opportunities for the Ocelot, for example with its evaluation by the Australian government for its Land 121 programme. We continue to explore opportunities for this and other Ricardo defence vehicle products in North America and with a wide range of other NATO and other governments.

Elsewhere in the defence sector there is a significant increase in demand for small Unmanned Aerial Vehicle (UAV) applications. These systems are increasingly used in surveillance roles for both defence and policing applications. Here we have been proactive in developing our Wolverine family of UAV engines from initial concept to prototype flight testing in a matter of months. Following our recent formation of a strategic alliance on UAV engine technology and manufacture with NW UAV and XRDi in the United States, we have already secured our first orders for this advanced family of UAV engines. As such we have identified a market niche, created a high technology concept that meets the precise niche requirements, developed and proved the concept in prototype form, assembled a strategic alliance to deliver it to market, and secured our first orders. Ricardo is perhaps one of only a few companies in the world that has the skills, technology and business acumen to achieve this.

While all aspects of government spending are coming under ever closer scrutiny in the aftermath





of the recession and the emerging need to control budget deficits, there remain certain areas of activity where Ricardo is well placed to benefit. There is a clear resurgence in the development of the railway network throughout Europe and North America, with opportunities to benefit from design, research and development of vehicles and equipment. There is also a high level of activity in public spending to support the development of new low-carbon technologies that hold the prospect of stimulating export-led recovery. In all of the geographical markets in which we are active, we are alert to opportunities arising from the public sector. As we conclude another year in the long and proud history of our Company, the outlook across our global markets and sectors is positive. There is no immediate global economic bounceback – we never expected that there would be – but our expectations of a slow and steady recovery of the global economy have thus far proved correct. With the recession and its long term recovery appearing to be more of a 'U' than a 'V' in its shape, we have positioned Ricardo extremely well to capitalise on the recovery in demand – at the same time as also seeking out new and profitable niche markets where our skills and technologies can be applied effectively and with only modest upfront investment.

Two years ago we rightly described the downturn as perhaps the most challenging commercial climate faced by the Company in almost one hundred years. We also stated that we had already set in place the building blocks that would enable us to capitalise on our investment as the global economy recovered, emerging stronger and more competitive for the challenges of the future. Two years on, this is exactly the outlook we are seeing for Ricardo: a highly competitive global technology developer and innovator capable of serving the most demanding clients across a wide and growing range of territories and industrial sectors. Market sector diversity: motorcycles, motorsport, industrial vehicles, marine engineering

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Long-standing client Jaguar Land Rover – pictured above, the Range Rover Evoque At Ricardo our unrelenting focus is on developing new advanced technologies, innovations and product solutions that are both energy efficient and clean.

Any successful global business needs to adapt to maximise its competitive position over time against the changing imperatives of its technical, legislative and socio-economic environment. For long-term business sustainability it is important that positive characteristics such as flexibility and adaptability are melded with farsighted long-term strategy that enables and ensures success in all climates.

The cornerstones of Ricardo strategy – as first communicated in 2005 – have demonstrably proved their worth in the most extreme economic stress tests: tests that perhaps went beyond anything that could have been expected. Throughout the most severe recession for generations, these guiding principles have enabled us to sustain class-leading performance in the delivery of excellent engineering services and in the creation of genuine innovation for our customers. At the same time we were also able to maintain a strong order book, cash flow and balance sheet and to provide a resilient profit and dividend stream for the benefit of our investors.

#### KPI for client dependency

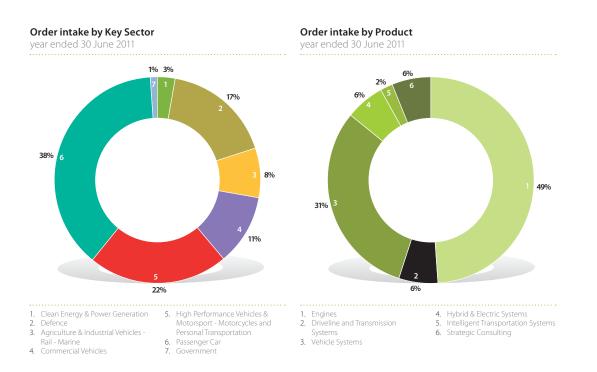
Number of clients generating revenue for Ricardo exceeding 10% of Group revenue targeting avoidance of over dependency on a small number of clients



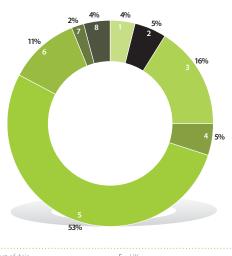
The cornerstones on which the strategy is continually reappraised and developed are defined to deliver growth, with a strong element of risk mitigation to cater for changing market conditions:

- Reduce the impact of cyclicality and dependency, whether that be geographic, technical, sector or customer related
- Promote focused sustainable growth through careful analysis and selection of key sectors, geographies, products and customers – often underpinned by legislation demanding continued technological development
- Provide in-demand services which offer a high value-added content and which bring maximum benefit to the customer
- 4. Maximise operational efficiency through the coordinated and proactive management of resources across the Group on a global basis

The strategy defined by the four cornerstones is delivered through an integrated framework of key operating themes. It is within these themes that various initiatives are developed, implemented and measured. At the top level these themes articulate the overall strategy of the business.



Order intake by Key Territory year ended 30 June 2011

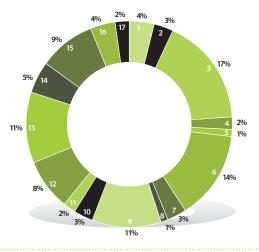


## 1. Rest of Asia 5. UK 2. Japan 6. Germany 3. USA 7. India 4. Rest of Europe (including Russia) 8. China

- Rest of Europe (including Russia)
   8. (
- Global
- World Class Technology and Products
- World Class Infrastructure
- Premium Brand
- Right Team, Right Culture
- One Firm

The Company's strategy and subsequent business plans are reviewed, adapted and measured annually by the Group Board via key performance indicators and strategy review events.

#### Order intake by Key Customer year ended 30 June 2011



| <ol> <li>Global Key Client 1</li> <li>Global Key Client 2</li> <li>Global Key Client 2</li> </ol> | <ol> <li>Key Client 2</li> <li>Key Client 3</li> <li>Key Client 4</li> </ol> | <ol> <li>Rest of Asia</li> <li>Rest of Europe</li> <li>Rest of USA</li> </ol> |
|---|--|---|
| 3. Global Key Client 3  | 9. Key Client 4  | 16. UK Defence  |
| 4. Global Key Client 4  | 10. Key Client 5   |   |
| 5. Global Key Client 5  | 11. Key Client 6   | 17. US Defence  |
| <ol><li>Key Client 1</li></ol>  | 12. Rest of UK   |   |

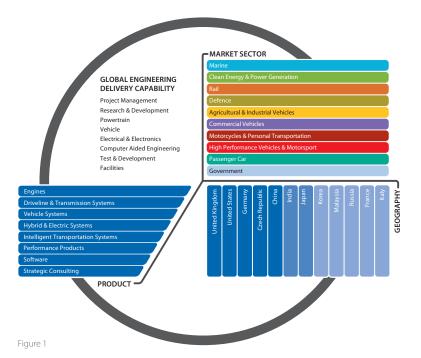
#### Global

Under the "Global" theme our efforts to leverage our global capability and capacity to fulfil client needs was demonstrated in the appointment of Ricardo as a strategic supplier to Jaguar Land Rover. This collaboration continues a long-standing and successful relationship between Ricardo and Jaguar Land Rover. The two firms have an established framework for mutual co-operation on product development to deliver best value within common processes of budget definition and programme management and execution; this enables selected programmes to be delivered to market .....

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Precision manufacturing: V8 engine assembly for McLaren



Inauguration of Cooper engine plant, India

as quickly as possible. A key rationale for Jaguar Land Rover's selection of Ricardo was the Company's global presence, in particular Ricardo's capacity to provide in-territory engineering services benefitting from an understanding of, and empathy with, local tastes and norms, in rapidly developing regions as well as in more mature markets.

We are continuing to seek out opportunities for diversification in adjacent market sectors. The automotive industry, and particularly the passenger car sector, is rightly seen worldwide as something of a pinnacle of industrial achievement. On a global basis it is able to create complex, high-volume products that satisfy extremely high contemporary customer expectations for

#### KPI for technology dependency

#### Number of product groups exceeding 25% revenue targeting an increase in major product groups



performance, quality, durability, safety and low emissions, while doing so at a highly competitive price point. These performance attributes are highly desirable to many newer industries, such as renewable power, as well as to industries such as rail and marine. These latter sectors, though much more traditionally established, have much to learn from the automotive industry as they struggle to reduce costs, improve efficiency and conform to new regulatory norms on emissions to which the automotive industry has been exposed for many years.

#### World Class Technology and Products

Our strategy is to address the needs of neighbouring sectors by drawing upon our pool of world-class engineers and globally admired automotive industry process knowledge and technology. In doing so we are making key investments in experienced leaders from the targeted sectors. These leaders are able to bring with them crucial market knowledge and network contacts, dramatically cutting the barriers to entry and enabling us to marshal our people, skills and resources to maximum effect for new sector-based customers. Although we have been active in many of these markets in the past as individual opportunities arose, our new approach is more strategic and directed, focusing on the requirements of these markets. With this in mind we aim to apply our technological and management consulting expertise to the resolution of key challenges in a manner that will deliver substantial value to all our customers in all our market sectors.

This neighbouring market strategy brings additional economies of scale to our internal R&D efforts as the step into the new market draws heavily on the expertise and technology from existing markets. This is illustrated in our three-dimensional view (see figure 1) of the markets in which we engage. Furthermore, the strategy also sets a structure in place for future growth and risk mitigation,



FTTS and FED military vehicles alongside HMMWV at the Detroit Technology Campus

adding a further level of robustness to the business. In essence, our aim is to ensure Ricardo develops into one of the world's leading value-added industrial consultancies.

The core strategic theme of "World Class Technology and Products" remains a key focus for the continuing development of the Company. This theme warrants a more in-depth discussion in its own subsequent section entitled Research & Development.

#### **World Class Infrastructure**

Our activities under the heading of "World Class Infrastructure" have continued to be marked by an ongoing upgrade of offices and technical facilities across the Group, in order to provide wherever possible an environment conducive to innovative and professional work. Particularly notable in the past year was the creation of the new High Performance Assembly facility at the Shoreham Technical Centre, opened for us by Tim Loughton MP in July 2011. Conceived around the principles of quality-focused production and global best practice fine-tuned for the challenge of niche highperformance product assembly, this advanced facility will produce the engines for the new McLaren MP4-12C supercar in both its road and GT3 race forms. Also at Shoreham we have created a new library facility, which underscores the importance of knowledge management within the Company, providing the hub for a wide range of information services for users visiting in person as well as online.

#### **Premium Brand**

With regard to the "Premium Brand" strategic theme, we continue to protect and build the Ricardo brand throughout the whole organisation and in all the sectors in which we operate. We do this through enhancing both the tangible marketing tools such as the house magazine, RQ, our website and attendance at industry shows. In the



#### KPI for geographical spread

Number of continents which Ricardo Revenue exceeds 20% targeting a good balance of revenue from Europe, the US and Asia



Delivering Value Through Innovation & Technology 13

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RO, the Ricardo guarterly

magazine, is relaunched with a new look

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Expert touch: the McLaren engine assembly team



Military backing: award programme from the National Committee for Employer Support of the Guard

third quarter of 2010 and first quarter of 2011 respectively we implemented a major design uplift of both our corporate web site and RQ magazine. In addition to providing a refreshed, more modern and more easily accessible design, these changes were intended to better reflect the increased market sector diversification of the Company. Collectively, these and other strategic marketing initiatives will significantly improve our ability

#### KPI for premium brand

#### Customer satisfaction

using customer satisfaction ratings out of ten across a range of measures



to communicate with our new market sectors while ensuring that we continue to work effectively with our core market customers to build a premium brand position across all market sectors.

#### **Right Team, Right Culture**

People underpin all that we do at Ricardo, and this is reflected in our "Right Team, Right Culture" strategic theme. We continue both to bring in the best and bring on the best through our internal talent management programme. This serves both to provide a sustainable business model for our existing businesses and to establish a framework for our targeted sector diversifications.

Recognising the growing importance of the energy sector, we were pleased to welcome the appointment of a well known and highly respected gas sector specialist to head the newly created Ricardo Strategic Consulting 'Energy' practice. The new practice will address the needs of this nascent sector and will help the Company take its successful strategic management consulting service into a completely new and rapidly evolving area of activity.

We have also appointed a highly successful Intelligent Transport Systems (ITS) sector specialist with a track record of technology innovation and business development. This will catalyse our efforts to grow in this very promising area of future transportation development. In Defence we have appointed key defence industry professionals in non-executive roles where their long-standing expertise can provide crucial



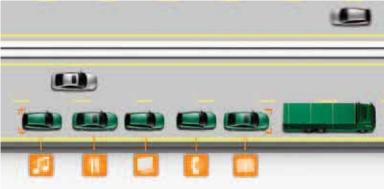
Ricardo led the SARTRE intelligent vehicle platooning project to investigate automated convoy



guidance in the development of our business. In the UK, Major General (retd) Peter Gilchrist, CB, the former Washington-based head of British Defence Staff and Defence Attaché, joined the Board of Ricardo plc as a non-executive director. This was followed by the appointment of long-standing military and defence sector specialist John Stoddart as a non-executive director of our US subsidiary, Ricardo Inc. These advisory roles will be invaluable to Ricardo in enabling the Company to communicate in an appropriate manner with the correct channels and decisionmakers in defence procurement in key global markets.

#### **One Firm**

Finally, a major determinant of success for Ricardo is through our "One Firm" strategic theme. This strategy concentrates our focus on gaining results beyond the sum of the parts, reaping benefits for example through global resourcing and gaining operational effectiveness through increased utilisation, timely deployment of the right resource and the sharing of technology. A key activity under this theme is the development of our One Ricardo business IT system, based on SAP. Following a successful introduction in our US and German businesses, this new system is being rolled out across the entire group. This business system will provide a much improved platform for managing global, complex projects



"A key rationale for Jaguar Land Rover's selection of Ricardo as strategic partner was our global presence"

ensuring consistency of approach and delivery. Enhanced information provided by the system will help us target our investment spend to the most profitable areas of the business.

We believe that these values, in tandem with our strategy and implemented by the world-class team within Ricardo, provide an exciting future for the business. The strategy will enable Ricardo to grow sustainably and deliver substantial value to customers, at the same time providing a stimulating and rewarding workplace for our employees and acting respectfully and responsibly as a global corporate citizen. Highlights

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"Our research and development programme continues to focus a significant amount of resources to create innovative technologies that meet the demand for cost-effective solutions to these regulatory pressures"

## **Research & Development**

Creating the building blocks of innovation and profit

Regulatory pressure to improve efficiency or reduce carbon emissions is a core business driver for Ricardo. While fuel efficiency regulations are now well developed for passenger cars, similar regulations are at various stages of implementation in many other sectors in which Ricardo operates. Our research and development programme continues to focus a significant amount of resources to create innovative technologies that meet the demand for cost-effective solutions to these regulatory pressures.

#### **Electrification**

Low-carbon vehicle technology project in conjunction with Land Rover (top) and Kinergy flywheel energy storage system (below) The electrification of transport continues to be a key area for policymakers, and Ricardo has been very active in this area for over a decade. We are well placed to offer innovative technologies and capabilities created through our investment in both hybrid

and electric vehicle technologies. Over the past year we have been actively engaged with the Low Carbon Vehicle Technology Programme. This landmark UK aovernmentsupported project comprises a combined financial investment worth £17 million from regional development agency Advantage West Midlands, the European **Regional Development** Fund and contributions from

the project's industrial research partners. The project is subdivided into fifteen work streams covering all aspects of low carbon vehicle design and engineering from battery packs and power electronics to aerodynamics and lightweight structures. The project will safeguard jobs in the region's supply chain as businesses switch to low carbon opportunities and make the West Midlands a global centre of excellence in low carbon vehicle engineering.

Technology Demonstration Platform

Through Ricardo's involvement in this project we are actively working to create an advanced electric vehicle technology demonstration platform and are also developing technology in key areas including energy recovery and management, high-efficiency auxiliary power systems and electric vehicle architecture concepts. In addition to this work, our involvement with projects such as the European MERGE consortium and with National Grid in the UK has seen us work with power generation and distribution partners in researching the potential obstacles to, and opportunities for, integration of a future electric vehicle fleet into an increasingly lowcarbon power infrastructure. Through these efforts we are building a stronger and broader capability in a period of growing market demand for such skills.

#### Advanced gasoline and diesel concepts

Whilst electrification is a key part of the move to sustainable transport, combustion engines and lowercarbon fuels are likely to remain the core solution for long-distance road transport. This is why Ricardo continues to invest in advanced technologies that will provide cost-effective solutions for our customers: to this end, we are in the implementation stages of two core powertrain demonstration programmes that will deliver

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Long-standing client Jaguar Land Rover (above); Elektrobay charging station (left, courtesy of Elektromotive), and MultiLife bearing for wind turbines (below)



advanced gasoline and diesel technology demonstrators achieving fuel efficiency that is competitive with much more expensive hybrid systems.

### New market sectors and disruptive technologies

Our market sector strategy also offers a unique opportunity for cross-sector innovation based on the breadth and depth of our knowledge. The interaction between renewable energies, rail, off road, transport and defence technologies is a continuing source of new ideas and opportunities for investment. This includes an element of disruptive technologies (new technologies which unexpectedly displace established technologies) that offer our customers unique capabilities and solutions to old challenges.

We have seen significant progress and some key breakthroughs in our R&D programme over the past year. We have achieved proof of concept and are in the process of validating an innovative wind turbine bearing that can increase service life by a factor of five, a key requirement for the growing offshore wind market. We have also made some major steps forward in the implementation of our magnetically geared high-speed flywheel technology, which now offers a more efficient drive system than the conventional geared systems currently available. In the area of combustion engine technology we have secured government funding for two feasibility studies aimed at evaluating potentially revolutionary technologies in the commercial vehicle sector in which electrification concepts are inherently difficult to implement. The first of these involves a fundamental reexamination of the combustion process in a manner not seen in many decades. We believe that this technology holds the prospect of improving engine thermal efficiency by approximately 40 percent in comparison with current production. Similarly, we are working with an industrial partner on fuel reformation technology that aims to use waste heat to increase the energy content of the fuel and hence reduce net carbon dioxide emissions.

#### KPI for technology development

Research spend (£m) on research projects funded by Ricardo or part funded by government grants, targeting development of Ricardo knowledge and innovation



"Strong performance delivery, profit before tax on continuing operations up 43%, EPS up 49%. Strong cash generation and order book provide a solid platform for growth"

Paula Bell, Group Finance Director

## Performance review

Progress on all fronts



Our strategy to engage with a diverse sector and global client base, who need clean and fuel efficient solutions, has enabled us to benefit as the global economy improved. A gradual return of our traditional automotive client base together with multi-year assembly programmes for the defence and high performance automotive sectors has provided a good business base. With continued focus on pricing and cost management, this has led to a strong trading performance in the financial year.

The order book closed at  $\pm$ 107m compared to  $\pm$ 101m at the end of the previous year, providing a good platform for the coming year. The future order pipeline continues to be strong.

Revenue from continuing operations was £196.5m, up 21% on the prior year (2010: £162.8m). Operating profit from continuing operations grew by 43% to £18.0m compared to the prior year (2010: £12.6m). Total group operating margin was 9.2% (2010: 7.7%).

After financing costs, profit before tax from continuing operations was  $\pm 15.4$ m for the financial year to 30 June 2011, compared to  $\pm 10.8$ m in the previous year.

The Group profit for the year from continuing and discontinued operations was £15.2m compared to £7.6m in the prior year.

Good working capital management led to a closing positive net funds balance of £1.5m (2010: net debt of £7.8m). We continued to invest in R&D, with gross expenditure in the year (before deduction of government grants) of £13.3m (2010: £11.9m). The net expenditure after deducting government grant income was £7.8m (2010: £8.9m).

#### KPI for the outlook

**Orderbook (£m)** being the value of contracts received but not yet taken into revenue, targeting good forward visibility



#### **Technical Consulting results**

Technical Consulting revenues increased to £144.3m compared to £124.5m in the prior year as the automotive sector activity began to recover towards pre-recession levels.

The UK Technical Consulting business saw the return of multi-year programmes in the automotive sector and strategic partnerships continue to flourish. Revenues increased to £88.0m (2010: £79.8m). Operating profit rose to £7.7m from £5.4m in 2010. Operating margins rose to 8.8% from 6.8% last year.

Despite the improvement in operating margin, the operating profit was impacted by the design, development and pre-production costs for a major engineering programme, which were higher than expected. This programme has now moved into the production phase.

In Germany our Technical Consulting business continues to grow with revenues of £23.2m, up from £15.1m in the prior year. Operating profit for the year was £0.3m compared to an operating loss of £0.8m in 2010.

The US Technical Consulting business saw a slower recovery than other geographical areas, with orders slowing in the second half of the year. Despite this, the US business achieved revenues of £33.1m (2010: £29.6m), with operating profit at £3.4m slightly up on the prior year (2010: £3.1m).

#### Strategic Consulting results

Our sector diversification strategy has continued in the Strategic Consulting business. The client base has been extended and we have invested in strengthening the teams internationally.

Revenue levels increased in the year to  $\pm 11.3$ m from  $\pm 9.4$ m in 2010. Operating profit of  $\pm 1.7$ m compared with the prior year remained almost level due to reduced activity levels in the third quarter of the year (2010:  $\pm 1.8$ m).

#### **Performance Products results**

The Performance Products business produced a strong performance in the year, with revenues of £40.9m compared to £28.9m in 2010; operating profit was £5.2m

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£2.1m for new business systems. At the end of the year our capital commitments were £0.7m (2010: £1.3m).

#### Net funds/debt

During the year the Group launched a number of working capital initiatives which, combined with profitable growth, have helped to deliver strong operating cash inflow of £9.3m in the period. As a result, the Group closed the year with net funds of £1.5m (2010: net debt £7.8m).

At the end of the financial year the Group had £30m of committed borrowing facilities, all of which is committed for more than one year. In addition the Group had uncommitted facilities including overdrafts of £21m at the year end.

#### **Exchange rates**

The average value of sterling was 7.5 percent higher against the dollar and 3.3 percent higher against the euro during the year ended 30 June 2011 compared to the previous financial year. This volatility in exchange rates has not led to any significant overall impact on the profit before tax for the year. We have an exposure to the euro/sterling exchange rate arising from some of the work carried out in the UK for European customers, which is contracted in euros. The receivables arising on these contracts are hedged accordingly and hedge accounting is applied.

#### Pensions

The IAS 19 pension deficit at 30 June 2011 was £13.4m (2010: £34.4m). The reduction in the deficit is principally as a result of the improved asset performance and the change in the valuation basis for deferred benefit obligations from Retail Price Index to Consumer Price Index following government legislation and in accordance with the scheme rules.

The last full actuarial valuation was carried out as at 5 April 2008. A schedule of contributions was agreed, following this valuation, which commenced in July 2009 with the aim of eliminating the funding deficit by 2016. The next triennial valuation as at 5 April 2011 is currently underway and is expected to complete by early 2012.

KPI for pension commitments

#### Pension deficit (£m)

valued in accordance with IAS 19, targeting elimination of the deficit



(2010: £3.3m). The result was driven by a very busy defence programme in the first half of the year and improved volumes and profits from motorsport also contributed to the increase. The Performance Products business also commenced production of the McLaren supercar engine in February 2011 resulting in some start up costs as production ramps up into the new financial year.

#### **Discontinued operations**

In July 2010 agreement was reached to sell the non-core German exhaust business to J. Eberspächer GmbH & Co. KG. This resulted in a discontinued operations charge of £0.2m (2010: £2.7m), which comprised loss before tax of £0.2m (2010: £0.7m), an asset write-down of £nil (2010: £2.9m) and a positive tax effect of £nil (2010: £0.9m). The sale agreement included the transfer of the business, employees, plant and equipment, and inventories for a cash consideration of €2 million.

#### Finance income and costs

There has been a net finance cost in the year of £2.6m, compared to £1.8m in 2010. The charge includes the net finance charge for the defined benefit pension scheme of £1.9m (2010: £1.7m). The current year charge includes interest charges resulting from the close-out of a cross-currency interest rate swap of £0.2m.

#### Tax

The tax charge for the year was £nil (2010: £0.5m). We continue to benefit from R&D tax credits in both the UK and the US and following a review in 2011 a further £1.6m of R&D tax credits were recognised (2010: £0.8m).

#### Earnings per share

As a result of increased profits, earnings per share from continuing operations have increased to 30.0p from 20.1p in 2010.

#### Dividend

The total (paid and proposed) dividend for the year has increased to 11.5p per ordinary share (2010: 10.7p). The proposed final dividend of 8.1p (2010: 7.5p) will be paid on 25 November 2011 to all shareholders on the register at the close of business on 21 October 2011, subject to approval at the Annual General Meeting on 17 November 2011.

#### Net assets

Net assets at 30 June 2011 were £89.6m compared to £64.8m for the prior year. A large part of the increase (£14.8m) was due to the reduction in the pension deficit net of taxation. Capital expenditure in the year was £9.1m (2010: £7.6m), including

## **Technical consulting**

Providing innovation, technology and solutions on a global basis

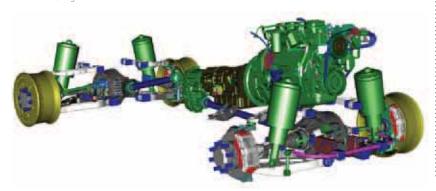
At the very core of our business Ricardo provides a broad range of technical consulting services on a global basis and across all of the market sectors in which the Company is engaged. With many of the imperatives facing these sectors increasingly sharing common themes of energy efficiency, reduced carbon emissions, regulatory controls and the need for ever higher value in terms of product performance, durability and reliability, Ricardo's strategy of market sector diversification is already delivering significant benefits.

#### **Government sector**

In the past year Ricardo has grown and developed its government consulting activity in the area of road transport electrification and its potential impact on the electricity network. We have also provided fuel economy technology forecasts for commercial vehicles applied to both on-highway and off-highway applications.

Despite these promising areas of activity, the government sector has been increasingly challenging during the past year: the combined impact of deficit reduction policies in the UK and eurozone countries and the US Government budget deadlock served to reduce the number of opportunities for new work. However it is important to note that this sector represents only 1% of our order intake.

TARDEC Fuel Efficient Ground Vehicle Demonstrator systems modelling



#### **Passenger Car**

During the past year we have seen the beginnings of a recovery in activity levels among the established global automakers as they begin to benefit from a combination of the organisational streamlining carried out during the downturn, the continued market growth in Asia, and a rebound in demand for their products in the more established markets. This has resulted in a greater display of confidence, with new investments being made in a number of key areas. These include product developments targeted at rapidly growing Asian markets, the freshening of existing product line-ups to remain competitive in terms of performance and functionality, and the ensuring of compliance with increasingly tough emissions and safety regulations. In April 2011 Ricardo was chosen as a strategic supplier by Jaguar Land Rover in the development of new products. A similar agreement was reached with Great Wall Motor Company of China in March 2011

At the same time, with the acceleration of research and development of vehicle electrification and alternative fuelled powertrain concepts, we are seeing the beginning of concerted and co-ordinated action within the industry to address some of the longer-term issues posed by fuel price instability and the need for energy security. In recognition of this emerging requirement we have actively developed our capability and service offering in the crucial area of electric vehicle battery systems, control architecture and systems integration, in energy storage technologies such as our Kinergy high-speed flywheel system, and in high-efficiency electric vehicle range extender engines. In this last area we won a significant project from a premium European OEM to develop a new range extender powertrain for a city car.

We are experiencing an increased demand for our expertise in areas ranging from the creation of advanced technology demonstrators to the execution of performance derivative and large-scale multi-disciplinary new-product design programmes. In addition we have been successful in securing contracts from innovative start-up automakers seeking to challenge established industry conventions and who require our specialist knowledge and capabilities to achieve their vision.

As the passenger car market becomes more and more global, our strategy of geographical diversification provides a competitive advantage as we are being increasingly engaged to develop a product in one region and leverage our resources to support that vehicle's subsequent successful localisation and market launch in another region. This aspect of Ricardo's capability was



instrumental in the Company's selection by Jaguar Land Rover as a strategic supplier.

## High Performance Vehicles, Motorsport and Motorcycles

Ricardo has a long-standing business providing consultancy, design, development and niche production services to motorsport teams and manufacturers. We are also increasingly serving the sport's regulating bodies, in particular the FIA, where we are providing technical advice on advanced powertrain technologies related principally to the new 2013 regulations. Ricardo is also developing a relationship with the Grand-Am regulators in the US for advanced simulation work.

This year saw the design and development of the new McLaren M838T engine for the MP4-12C supercar, along with the opening of the related assembly facility at Shoreham. This product has received very positive reviews and McLaren and Ricardo are continuing to collaborate on future projects.

In the motorcycle arena, following on from the success of the four-cylinder BMW K1300 motorcycle programme, we are now involved in the design and development of the all-new six-cylinder engine and transmission for the K1600 luxury sports tourer.

#### Commercial, Agricultural and Industrial Vehicles

Engine-related business demand has continued strongly across this sector for US and European customers, both in supporting the development of solutions for new

regulations further reducing allowable particulate and NOx emissions in the US, as well as Euro VI legislation due to apply in Europe from 2013 for commercial vehicles.

Following the recent global downturn in business across this sector, we have begun to see production volumes returning to healthier levels. With fuel prices resuming their long-term upward trend, however, pressure remains on manufacturers to reduce fuel consumption, increase whole-vehicle efficiency and, ultimately, to reduce whole-life costs. Over the past months Ricardo has engaged with several multinational clients in the off-highway equipment sector to scope whole-vehicle programmes with the aim of maximising performance from an individual component level to that of the fully integrated vehicle.

Significant interest has also been shown in energy storage and hybrid vehicle powertrains. Work is continuing on the application of the Ricardo Kinergy flywheel-based energy storage system and initial client discussions have generated a significant amount of interest and engagement in the potential opportunities to bring this technology to market in this sector. Vehicle applications involving regularly repeating cycles such as loading or excavating should provide an extremely beneficial value opportunity for this very promising technology.

#### Defence

This has been a landmark year for Ricardo in the defence sector, in which the foundations laid in previous years have developed into significant business for the Company. The highlight was the decision of the UK Ricardo continue to supply transmissions to teams competing in the Japanese Super GT race series Features

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Utility variant of the Ocelot vehicle on trial in Australia Ministry of Defence (MoD) to select the Force Protection Europe Ocelot, developed in collaboration with Ricardo, as the winner of the Light Protected Patrol Vehicle competitive tender. In addition, the Ocelot is also being evaluated as part of the Australian government's Land 121 competition.

In the USA, Ricardo completed a multi-year programme for TARDEC to create a light armoured demonstrator vehicle as a future option for HMMWV replacement. This vehicle demonstrated significant fuel economy improvement over the current vehicle.

A key facet of our future defence market strategy is to move away from a reliance solely on land-based vehicles. An example of this strategy in action has been the development of a range of small heavy-fuel engines for the UAV (Unmanned Aerial Vehicle) market. In this rapidly developing market sector we have moved from concept design, through prototyping and flight testing and signing of an exploitation collaboration agreement with XRDi and NW UAV in the US, to securing our first order – from US Special Operations Forces – in just over a year.

#### Rail

On a global scale we have realised our initial objective of raising awareness of our capabilities, technologies and services amongst key international train manufacturers. This has led to a strong interest in our innovative energy storage technologies such as the Kinergy high-speed flywheel system. Potential collaboration programmes for delivery of this technology in new rolling stock projects are being discussed. Additionally, the potential application of automotive control technology to the rail sector has gained strong interest from train operators seeking fuel cost reduction.

#### Clean energy and power generation

Clean energy remains high on the international agenda which underscores its potential for Ricardo.

Power generation, and in particular the market for larger-scale generator sets, continues to be subject

to pressure to achieve lower emissions levels defined by local legislation, as well as the universal need for cost optimisation. Ricardo continues to collaborate successfully with a major generator set manufacturer and has secured substantial further work this year. Additional business has also been secured with other generator set manufacturers, for example to help improve the durability and general performance of their core technologies.

Wind power remains a major focus of our clean energy strategy and over the past year the Company has successfully secured new orders for the system analysis, design and development of drivetrains in Europe and the USA, across a wide range of both geared and gearless drivetrain systems. Further business in this area is anticipated, as is an emphasis on improving the reliability and cost of energy of larger (over 5 MW) offshore wind drivetrains targeted principally at the UK's Offshore Wind Round 3 programme.

#### Marine

Within the marine sector, Ricardo has completed a range of projects on performance upgrades, including combustion system development and specific engine design for high-performance applications. In all cases a major driver for this work has been the need for compliance with future emission regulations expected in 2016.

We believe there is imminent demand for new technologies such as remote control and onboard diagnosis and condition monitoring, in order to support a new or updated generation of propulsion systems that aim to reduce operating costs and fuel consumption. These new generation systems would also boost useful service life at the same time as satisfying future legislative requirements. "Our ability to offer strategic and commercial insight combined with deep technical know-how across a range of sectors remains a clear differentiator"

## Strategic Consulting

Award-winning advice with tangible results

market sectors, will help us remain attractive to new and current consultants alike.

#### **Recognition of achievement**

Over the last six months the accomplishments of the Strategic Consulting team were formally recognised on two separate occasions. Ford's Gold World Excellence Award was presented in recognition of the support provided in the development and implementation of Ford service parts value management processes; these processes have resulted in very tangible cost savings yet also maintain and improve upon levels of performance, quality and service. The Gold award is presented only to those suppliers demonstrating superior quality, delivery and cost performance.

The second accolade, "UK Consulting Firm of the Year', was awarded by Finance Monthly magazine and acknowledges the achievements of a high-profile due diligence study carried out for Fouriertransform, a Swedish state-owned venture capital company. Due diligence is an increasingly important aspect of Strategic Consulting's business and this award demonstrates we are able to leverage our experience and deep knowledge of innovation and technology to provide objective, wellinformed and truly actionable advice.

#### **Future opportunities**

We are now firmly embedded within many different sectors and have a proven and unique combination of strategic and commercial insight coupled with deep technical knowledge. This positions us perfectly to benefit as the global market continues to recover. Ford Customer Service Division Vice President Frederick Toney (right) congratulates Ricardo's Kevin Hauser (left) and Andy Chien (centre) on the Gold World Excellence Award

only by shielding us from exposure to the economic cycles affecting individual customers or sectors, but also in allowing us to benefit from faster rates of recovery in other sectors. Our ability to offer strategic and commercial insight, combined with deep technical know-how across a range of sectors, remains a clear differentiator and underpins every new assignment we undertake. **Diversification** As well as supporting both new and existing clients in the automotive sector, our consultants have been engaged

The market for strategic and management consultancy

continues to recover but has yet to return to pre-crisis

sector diversification has served us extremely well, not

levels. To this end, the Ricardo strategy of client and

on a broad range of assignments in the occurrengaged vehicle, defence, energy, financial services, government, marine and off-highway sectors. Cost reduction remains an important topic but growth is very clearly back on the agenda for many of our customers. We have executed numerous projects relating to market, product and technology strategies, particularly those which focus on advanced powertrains and electric vehicle strategy.

We formed a new Energy practice in January 2011 after having recognised that the energy sector is going through a significant change as the world moves towards a low-carbon future and that this will have far-reaching implications.

#### People

Our people are our business and over the past year we have invested heavily in strengthening our teams across the globe. In addition to the new Energy practice we have also founded a consulting team in India. As well as serving several clients in the local market, this new team will provide much needed capacity to the wider Asian market where we continue to see encouraging levels of growth.

Talent retention and recruitment will remain high on the agenda. The launch of a comprehensive training programme, coupled with the opportunity to work on a broad range of projects and gain exposure to numerous Features

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## **Performance Products**

Unparalleled performance based on Ricardo design

A core aspect of Ricardo's business for many years has been the low-volume production of high-quality, extreme performance products based on some of the most advanced designs created and developed by the Company. We have a long and successful track record in providing both defence vehicles and motorsport transmission and driveline systems and components. From this year, with the significant expansion of our lowvolume, high-quality production capability into the area of supercar engines, we are reporting our Performance Products activity separately from Technical Consulting.

## High Performance Vehicles, Motorsport and Motorcycles

Our strong reputation in motorsport ensures that we are well placed to continue to grow as we focus on delivering world-class products based on the unique combination of our exceptional design and development skills and our high-quality, niche production capability. We are extremely proud of our association with Peugeot Sport, four of whose endurance racing cars – equipped with state-of-the-art Ricardo transmissions – competed in the Le Mans 24 Hours this year, finishing a fraction behind the winning car.

We continue to supply transmission components to leading Formula 1 teams, and to complement this activity we are providing the Ricardo-designed transmission for the new McLaren MP4-12C GT3 race car. Ricardo has also been selected to provide the transmission for the 2012 World Series by Renault.

The success of our long-standing collaboration with Bugatti continues as customer demand for the Veyron and Grand Sport translates into an extended production requirement for the advanced Ricardo dual clutch transmissions used on this supersports model. We have now further extended this relationship with the supply of the Ricardo transmission system for the new recordbreaking variant of the Veyron, the Super Sport. We have also recently announced completion of the design and assembly facility for the Ricardo-developed McLaren M838T engine for the new McLaren supercar, described in detail in the Features section of this Report on page 40.

#### Defence

Marking the conclusion of a collaboration lasting over ten years, the final delivery of WMIK vehicles has now been made to the UK Ministry of Defence (MoD). This highly successful and versatile vehicle was developed from a Ricardo concept and has seen action with British forces in a number of theatres since its launch. Throughout this time it has been both produced and upgraded in service by our Performance Products team. Work is underway on the establishment and commissioning of the production line for the new Foxhound vehicle - the UK forces service name for the Ocelot. Production has already commenced on the order for the first 200 vehicles: these will be delivered between late 2011 and early 2012. Our already strong relationships with the UK MoD are being strengthened and we are building new ties with leading defence industry organisations.

#### The future

Our Performance Products business proposition, based on the provision of the highest quality production technology applied to low-volume, high-performance Ricardo-designed and engineered products, is clearly a very attractive one: even during the recent difficult economic climate it has remained successful and grown. As recovery takes hold across our more established core markets, we believe that there will be further attractive opportunities to offer low-volume production as an option to those customers seeking the very best in design and engineering services.

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## **Risk management**

Planning and foresight

This section addresses the principal risks, their management processes and the uncertainties to which the Group is exposed and which could have a significant impact on the Group's business, its performance or its financial condition. The principal risks, their impact and mitigating actions are disclosed in the table below.

## Risk management – governance and process

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 UK Corporate Governance 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 three times each year
- Cross-functional risk reviews by Group functional heads and divisional managing directors

The Group's internal audit function provides assurance regarding the systems of internal control and risk management and compliance with applicable legislation and regulations. This is complemented by the internal audits required as part of maintaining certifications to international standards for management systems. These risk management and internal audit processes and their effectiveness are reviewed annually by the Audit Committee. Further information on risk management processes is given on pages 48 to 51.

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. This could cause changes in client product plans, leading to delays in the placement of orders, the redirection, delay or curtailment of contracts or slippage in payments. At worst, this could result in bad debts due to the insolvency of a customer and the curtailment or pause in all programmes for that customer. These could lead to significant reductions in revenue and headcount and to the business delivering reduced performance. 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

Impact

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, geographic spread and technology dependency shown on pages 10 to 13. 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 economically available.

#### Contracts

The majority of the Group's revenue arises from fixed-price contracts for engineering services. The costs and liabilities to complete these contracts may be greater than initially estimated, thus impacting on margins and project timescales. In low-volume manufacturing there is a risk of dependency on specialist suppliers or product liability 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. 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 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

The business is driven by changes in technology to meet the needs of markets, sectors and regulators on varying time scales.

Technology

Impact

Mitigation

and have an impact on delivery and client relationships.

#### and provide appropriate remuneration and working conditions. Employees as stakeholders are reviewed further on pages 27 and 28.

develop and manage staff to encourage their optimum contribution, encourage mobility, professional development

We are focusing on a model of 'bringing in and bringing on' the best talent. We aim to ensure that we actively

The failure to recruit, develop or retain the very best talent would restrict growth and the execution of the strategy

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 Steering Group, which is chaired by the Chief Technology & Innovation Officer. Further details of our R&D programmes are given on pages 16 and 17.

#### **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. During the year we published our Code of Conduct 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 2008 and anticipates deficit recovery contributions being made until 2016. The Group, in agreement with the trustees, has moved part of the assets of the pension fund into lower risk investments, and 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 is normally in a borrowing position, requiring some borrowing from its bankers.

#### Impact

Given the ongoing turmoil 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 22 to the financial statements.

## **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, anticompetitive 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. The policies were updated during the year to align with the Bribery Act guidance.

#### **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 longterm 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 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 concept of 'optimum contribution' as a means for individuals and teams to derive effective performance has been translated into practical tools which underpin 'performance management' within the business operations. The Company Values are clear standards against which employees and new joiners can align their identity with 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.

The changes in the market during the early part of the financial year had the impact of increasing the level of voluntary employee turnover. By the middle of the year the attrition rate had peaked as the employment market became more active, and by the end of the year this started to re-balance to more normal levels closer to 10 percent. Throughout the year the Company continued to

The team behind the GM Global Engine



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Ricardo's Tobias Drews (centre) with the Ricardo-sponsored Steyning Strikers bring in fresh skills in line with the business diversification plans. 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.

At Ricardo we recognise that our people continue to excel in their 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 has also identified 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

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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.

Ricardo promotes the concept of 'thought diversity' as it encompasses all the life experiences and culturally varied aspects that people represent in their work. It plays to our ability to be agile, innovative and creative and to understand our clients' perspective more deeply. All this helps improve the success of the Group. It also avoids becoming over-focused on diversity measures that, in themselves, provide little business value. As such, 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 Governance Code and encourages women into the engineering profession and their subsequent progression.

Through the implementation of the approaches described above, we believe that we are significantly improving both the quality of our recruitment and development efforts. This approach delivers substantial advantages to the management, operation and delivery of our business and, at the same time, supports Ricardo in continuing the tradition of being a great place to work.

#### **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. It should be noted that in the case of some projects, suppliers are nominated by clients in accordance with normal industry practice. 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 to aim to make a positive contribution to all countries and communities in which we operate, particularly in the areas of education and child welfare 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

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Ricardo experts are helping the University of Michigan team with their Quantum solar car (above); Ricardo supports the UK's STEM initiative to encourage children to get involved in engineering (right); below right: women from Ricardo raise money for charity at the 2011 Race for Life

local schools, supporting the UK Science and Engineering Ambassadors scheme, and by employees acting as school and academy governors. Support is provided to promote women in engineering via the ANKe in Germany and the Society of Women Engineers in the US. The Shoreham Technical Centre supports Peter Mitchell, a sprint cyclist.

We occasionally match staff donations to charitable activities, particularly where there is active staff participation in events. We supported Jeans for a Cause in the US, which has a different beneficiary each month. This raised matched funding of £2,215. In the UK we are supporting the Race for Life, where an event supported by Ricardo in Shoreham was held in July 2010. Our Midlands facility supported a local breast cancer charity and the Company donated £2,500 to the charity. We have chosen to actively support military welfare charities as we become more involved in the defence industry. In UK we donated £10,000 to the Royal Marine Charitable Trust Fund. We often allow use of facilities for free of charge charitable activities and we engage with local economic regeneration organisations. Financial contributions to charities in the year to 30 June were £34,441 (2010: £9,713). 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 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. 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 key performance indicator. The number of accidents reduced slightly from 2010: 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. 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 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 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

#### KPI for the environment

CO<sub>2</sub> tonnes per employee calculated using factors from the United Nations Conference on Trade and Development, targeting an efficient use of resources



John Grigson clears away a heavy snowfall at the Shoreham Technical Centre



Martin Fausset (centre), presents the Engineering Excellence Awards to Petr Krejčí (left), and Pavel Jelínek (right) 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 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 two of which are indirect impacts, as the impact is seen in the resulting products of our customers. The first area is the core business of technical consulting for new or improved products across the sectors we serve: these products will have an impact on the levels of emissions, 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.

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 testing operations. This is the area of the business where the majority of the risks of direct impact on the environment exist. Our testing for customer and research programmes uses fuels and electrical energy. The resulting negative environmental impacts are 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. We focus on the underlying energy use (electricity and gas) to avoid the distortion from variable use of test fuels as project workloads change. We have no dominant waste stream.

In order to support our customers and develop relationships where some face-to-face contact is essential, we travel to customers' and other sites when necessary. The decisions on airline routing and how many staff should travel are generally based on cost and timetable availability, with direct flights and modern aircraft being preferred. However, we aim to minimise travel, particularly between Ricardo sites, and for some time we have been using video, audio and internet conferencing. The process used to identify these impact areas is derived from ISO14001, under which we are required to identify areas with potential for significant negative environmental impact. These impacts are reviewed during internal and external audits and subjected to specialist risk assessments.

Projects to reduce energy consumption are actively encouraged and have become more important as unit fuel costs have increased. Regenerative dynamometers enable the re-use of electricity generated by testing operations and thereby lead to savings and environmental benefits which include lower water usage. The proportion of regenerative dynamometers in the UK, the US and Germany has been increased and will continue to grow as further investments are made. Load-sensitive coolant pump drives have also been installed in some test houses to reduce electricity consumption. Our new buildings are as energy efficient as is economically viable. To test our environmental focus we measure energy usage in terms of the tonnes of CO<sub>2</sub> 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 CO2 tonnes per head is targeted. The indirect benefits to the environment from Ricardo's work are not measurable, but almost certainly far outweigh any direct negative impacts.

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 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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The strong performance we achieved in the first half of the financial year continued through the remainder of the year, resulting in a very good full year performance. Revenue was up 21%, profit before tax was up 43%, together with a positive cash balance and a solid order book. In the year we welcomed back some of our long term clients from the automotive sector, collaborated with Force Protection Europe on the Foxhound Light Protected Patrol Vehicle to win a competitive tender from the UK MoD, launched the McLaren supercar engine into production and established a long term engineering relationship with Jaguar Land Rover.

Overall the market for Ricardo remains positive and active, in spite of a continuing uncertain global economy. We continue to focus on developing new advanced technologies, innovations and product solutions that are both energy efficient and clean. We are marketing these solutions to a diverse sector and global client base who require them for competitive and legislative reasons and they are being well received. Operationally our focus on cost, delivery and cash management has underpinned the strong overall performance. We have a market and operational platform which has delivered a good set of results this year. We intend to build upon this performance and thus we remain confident for the future.

Paula Bell

(Group Finance Director)

Dave Shemmans (Chief Executive Officer)

Mark Garrett (Chief Operating Officer)

#### **Cautionary statement**

This business review and certain other sections of this annual report contain forward-looking statements that have been made by the directors in good faith based on the information available to them up to the time of their approval of this report. However they should be treated with caution due to the inherent uncertainties, including both economic and business risk factors, underlying any such forward-looking information. There is clear potential to leverage from the strong performance demonstrated in the year to June 2011, which includes strong cost, delivery and cash management focus to a widening client base.

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# AOTORCYCLES & PERSONNEL TRANSPORTATION

# Leader of the pack

How Ricardo worked with BMW to create "one of motorcycling's most intoxicating engines"

To widespread acclaim, BMW launched its elite segment K1600 range of motorcycles in the spring of 2011. The six-cylinder engine at the heart of the new sports tourer delivers unparalleled levels of power and performance, and is the fruit of the German company's most recent successful collaboration with Ricardo.

Ricardo's impressive track record in motorcycle engine design goes back to the earliest days of the company and has involved partnership work with some of the world's leading two-wheel brands. Following some smaller-scale collaborations, Ricardo was selected by BMW in 2006 as its design partner for the complete redesign of the four-cylinder engine for the K1300 motorcycle range. Even before the successful conclusion of this substantial outsourced project, BMW awarded Ricardo an even bigger task: the clean-sheet design of a six-cylinder engine and transmission for the K1300's ambitious big brother, the K1600.

Ricardo engineers were given responsibility for the design of the engine and for two prototype stages, after which BMW Motorrad took on the tasks of final refinement and production implementation. The project demonstrated the highly developed nature of Ricardo's global capability. The programme was led and directed from Ricardo's Centre of Excellence for motorcycles in Schwäbisch Gmünd, southern Germany, close to BMW's Munich headquarters. Procurement, build, development and validation testing of the engine were all carried out both here and at other Ricardo sites in the UK and the Czech Republic, all in exceptionally close collaboration with BMW engineers. In effect, Ricardo operated as a BMW department for the duration of the project and - uniquely among the German company's suppliers – was allowed full access to the BMW product development database.

A high-performance sports touring bike must handle well, with good steering and agility as well as delivering strong power. With the six cylinders arranged





transversely in the frame, a key engineering challenge was to ensure comfortable ground clearance when cornering. The narrow, closely-spaced cylinder bore layout was an example of the resourcefulness employed to keep the engine compact, especially across the width of the bike. Efficiency, as ever, was the Ricardo watchword, with the choice of bore and stroke made to produce the optimum combustion characteristics for both performance and fuel economy. The same considerations dictated that weight was minimised throughout the powertrain design.

The 1649 cc engine delivers 160 hp via a six-speed helical gearbox, a transmission type more commonly found in car powertrains, but chosen deliberately in order to deliver optimum gear shift guality and NVH. As well as meeting the company's stringent technical specifications, Ricardo personnel worked closely with the BMW team to achieve the exterior look that they wanted - another key customer demand that is absolutely crucial to commercial success.

Ricardo was put in charge of all component procurement, and engaged creatively with Tier 2 suppliers in, for example, securing the use of a superior, though more complex, 'forged in position' crankshaft design. Much creative thinking went into optimising the size of the counterweights to minimise the damaging effects of vibration on the crankshaft, and extensive use was made of Ricardo's ENGDYN CAE modelling software. The result is an engine of exceptionally refined performance, with low noise and vibration characteristics and in which high torgue has been preferred to raw power.

Ricardo was originally selected as a partner primarily on account of the perceived similarity of its development philosophy with that of BMW Motorrad. This point was affirmed by the customer by the strength of the collaboration as the project progressed. "Co-operation with Ricardo was very positive overall," confirmed Heinz



"Co-operation with Ricardo was very positive overall", confirms Heinz Hege, the project leader for BMW Motorrad: "It was characterised by mutual understanding and trust"

Hege, the project leader for BMW Motorrad: "It was characterised by mutual understanding and trust."

The K1600 was designed to be the finest sports touring motorbike in the world, and the press accolades would indicate success in achieving that goal. The UK Daily Telegraph praised the bike's "silky delivery of power", while *Ride* magazine homed in on its "amazingly smooth engine, untroubled by intrusive vibes, rattles or shakes". Motorcycle News simply declared it "one of the most intoxicating engines in motorcycling". Such notices bear testimony to a strong working partnership that has produced a truly exceptional product.

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# Driving down emissions

How Ricardo expertise helps put Volvo at the forefront of CO2 reduction

In the ongoing race to cut CO<sub>2</sub> emissions, Volvo appears to have come out ahead of all major global brands during 2010, cutting European market carbon emissions by 14 percent across its fleet of cars. Still-greater reductions are promised with the latest generation of Volvo models, developed with the assistance of Ricardo, whose engineers are well versed in the art of meeting stringent low-carbon targets while not compromising on performance or driveability.

Key to Volvo's success in driving down emissions has been the company's introduction of DRIVe derivatives - super-economical, low emission diesel versions of its leading models. It was in order to put a further squeeze on the emissions of these already low-carbon variants that the Swedish company brought in Ricardo. This decision stemmed partly from a practical need for more expert engineering resources, but also from a specific desire to use Ricardo's Design of Experiments methodology and Efficient Calibration process. This allows many different engine variables to be optimised simultaneously, a methodology that supports the holistic approach adopted by Ricardo engineers across the board. For the DRIVe project in particular, many other factors had to be taken into account in optimising the engine for CO<sub>2</sub> emissions and the new Euro 5 standards: for a premium brand such as Volvo, the minimisation of combustion noise and vibration were clearly high priorities too.

Ricardo was engaged by Volvo to work on the project early in 2010; DRIVe variants of three of the company's smaller cars – the C30, S40 and V50 – were signed off for production within just nine months. Four larger models – the S60 and S80 sedans and V60 and V70 wagons – were added to the programme in July 2010.





The first of these models was fully validated for emissions in December, with all seven class-leading vehicles signed off for production and certified as fully compliant with new Euro 5 emissions regulations by April this year. This was a successful project conceived and executed with remarkable speed and efficiency – a Ricardo hallmark.

Ricardo's working parameters were largely confined to the engine control software. The control strategy of Volvo's diesel engines is already sophisticated: while this offered the Ricardo team greater scope to make detailed adjustments, the engineering challenge was to achieve the required emissions performance while not disturbing parts of the calibration that had already been validated. These, like the engine hardware, were designated as no-change areas. Once obtained, the first-cut calibration data was applied to the engines in real-world driving scenarios, and the calibration then further refined. Being Volvo, these tests were exceptionally rigorous and involved putting the recalibrated engines through their paces at extremes of temperature and altitude.

With the project almost complete, at the Geneva show in March 2011 Volvo unveiled the new DRIVe versions of the smaller C30, S40 and V50: these models were applauded for undercutting the psychologically (and financially) important figure of 99 grammes per kilometre (g/km) of CO<sub>2</sub> emissions. For the V50, a medium-sized station wagon, this achievement is particularly notable; the calibration has given Volvo a significant market edge by producing a car that is cheaper to buy, licence and refuel than its direct competitors. Similarly impressive were the figures for Volvo's larger cars – the S60 and S80 sedans and V60 and V70 wagons – which each emit less than 120 g/km of CO<sub>2</sub>. With the larger models, NOx emissions were a big additional challenge, especially for the large V70 wagon; It was in order to put a further squeeze on the emissions of the already low-carbon first generation DRIVe variants that Volvo brought in Ricardo

ultimately, Ricardo engineers managed to achieve an impressive 20 percent reduction.

Around half of the carbon emissions reductions achieved may be attributed to the control software modifications made by Ricardo. Crucial among these was the use of different fuel injection patterns, a strategy that improved emissions performance without adverse effect on other areas. The remainder of the drop in emissions was down to changes made by Volvo in the stop-start system and the aerodynamics of the body and chassis; for the latter, Ricardo's V-SIM simulation tool was invaluable in modelling the emissions savings that could be expected from design changes. The companies also worked in close partnership on the design of new gearboxes for the four larger models in the range, allowing further CO<sub>2</sub> reductions to be made.

Significant market penetration has been achieved by DRIVe models already: one in three Volvo cars sold in Europe now bears this designation. This is a tribute not only to the effectiveness of the branding, but also to the quality of the engineering that has gone into these low-carbon flagship models, to which Ricardo is proud to have made a vital contribution. Field testing with the new Volvo engines took in both extreme arctic and very hot climates Highlights

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# Lightweight power, heavy fuel

Ricardo innovation helps with the land, sea and air propulsion requirements of tomorrow's elite armed forces

Modern elite forces present increasing challenges for small engine applications ranging from small Unmanned Aerial Vehicles (UAVs) for tactical operation in remote surveillance and target acquisition, to autonomous mine clearance vehicles and high performance marine outboard propulsion units. While such applications range in scale from single digit horsepower up to orders of magnitude higher capacity, they all tend to share certain requirements. These include the need for ultra-reliability, exceptional power to weight ratio, tight packaging, and multiple fuel tolerance, including the ability to operate on military standard heavy fuels such as JP5 and JP8.

This last consideration is particularly important in a military context. While many new compact power system requirements have been fulfilled to date using gasoline engines derived from units designed for forest, lawn and garden equipment or model planes, such units frequently lack the robustness and reliability required for military operations and are prone to premature failure and hence the risk of compromised missions. Moreover, the requirement for armed forces to carry stocks of gasoline creates logistical difficulties and potential safety risks in theatre. With most modern forces focusing on the use of a single unified heavy fuel for all engine applications - such as the US Army's "One Fuel Forward" initiative - the need to develop small, ultra-reliable, high power to weight ratio engines is thus an extremely pressing requirement.

In mid-2010 recognising the pressing need for compact power units capable of delivering against these exacting requirements, Ricardo announced the design of the first of the Wolverine family of engines. The Ricardo Wolverine 3 was specifically designed to

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power small, lightweight UAVs using military-spec heavy fuels. A two-cylinder, two-stroke, air-cooled engine with spark ignition, direct fuel injection, the Wolverine 3 was specified to provide 3.1-horsepower and 500 watts of onboard power. The design had been taken from concept to first fire in prototype form in just six months. In order to prove the concept in flight trials, the engine was adapted for the airframe of the Nightwind 2 UAV, a blended wing aircraft with 100 percent composite construction and a 2 metre wingspan. Application development work included cooling duct optimisation, airframe to engine electrical interface, electromagnetic interference (EMI) compliance, engine mount design, lubrication system development, propeller drive, calibration refinement and fuel delivery system development. In October 2010 at the United States National Nuclear Security Administration's Nevada National Security Site, the Ricardo Wolverine 3 powered UAV successfully took to the sky in its first test flight.

Having successfully flown the first of the Wolverine family, Ricardo sought industrial partners to team up with it to create very rapidly, a compelling offering of lightweight, militarised, heavy fuel tolerant, high power engines for air, land and sea applications. In June 2011 a strategic business alliance was announced with XRD Inc. and NW UAV to design, develop and manufacture a family of heavy-fuel engine solutions for unmanned systems, pooling the respective strengths of all three partners in design, engine technology and advanced manufacturing.

The success of this strategic business alliance has already been apparent with the selection of the Wolverine 35 horsepower by Robotics and Conceptual Engineering, Inc. to support a multi-fuel engine application for a



The success of the strategic business alliance has been apparent with the selection of the Wolverine 35 horsepower for a multi-fuel engine application for the US Special Operations Forces

maritime outboard propulsion application by US Special Operations Forces. This is the first of the Wolverine family to undergo marinisation, which includes a common system interface to allow the engine to be integrated into multiple platforms. The modifications also allow the engines to perform in the optimal power and torque ranges required by marine systems. In addition to hardware modifications, the engines will be integrated with advanced materials and coatings for increased durability and resistance to seawater corrosion. The Wolverine 35 employs the modular design concept which results in the sharing of many components and features across the Wolverine engine family. The modular design concept approach is planned to lower initial and lifecycle costs, reduce development timelines, simplify logistics and reduce spare inventory which will ultimately lead to improved reliability.

The ability to understand and characterise the specific requirements of a potentially attractive market sector and to pull forward new technologies and innovations to satisfy and exceed them in a profitable manner is pure Ricardo. Very few companies worldwide have the skills, expertise, business acumen and resources to create the first of a new product concept from scratch in just months, and to create a strategic business alliance to satisfy market demands in little more than a year later. The Ricardo Wolverine range of light military engines spans unmanned aircraft (top) as well as land and marine applications (far left)

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HIGH PERFORMANCE VEHICLES & MOTORSPORT

The highly downsized engine represents a new benchmark for high performance turbo-charged engine design, providing an exceptional driving experience with instant throttle response and feedback

# Greenest, meanest and leanest

Designing and developing the world's greenest supercar engine – and creating one of the leanest quality-focused assembly facilities in the process

Designed and developed in partnership with McLaren, Ricardo engineers have helped create what can justifiably be claimed to be the world's greenest supercar engine. The state-of-the-art M838T 90 degree, V8 twin-turbo engine – which will power both the road-going and GT3 competition version of the McLaren MP4-12C supercar – is truly class-leading in many key respects. Using the latest materials and engine design technology, the engine delivers a highly competitive 600 horsepower and yet weighs in at under 200kg. On emissions too it sets a new standard for a product of its class, with carbon dioxide emissions when installed in the vehicle of just 279 g/km. This is also echoed by the car's class-leading fuel economy which together reflects Ricardo's unrelenting focus on the reduction of internal engine friction. The resulting highly downsized engine represents a new benchmark for high performance turbo-charged engine design, providing an exceptional driving experience with instant throttle response and feedback. The brand engineering aspects of the design and development support provided by Ricardo extended also to the definition and creation of a sound quality that will become immediately recognisable by McLaren's very sophisticated and discerning customers.

"I am immensely proud of the teams supporting the launch of the McLaren MP4-12C," said Ron Dennis, executive chairman of McLaren Automotive and McLaren Group. "This is the first car in our new range of bespoke high-performance sports cars and is 'pure' McLaren: every component from the switchgear to the carbon chassis to the innovative and revolutionary engine is designed for this car. That has been a huge challenge for us as we launch a



new British car company, and one that has needed the full support from our technical partners in the projects. Ricardo has joined us in this story and together we have developed a new type of performance car engine; an engine that is already generating critical acclaim for its balance of segment leading power and efficiency as well as driveability."

#### Lean production, extreme performance

Taken from concept to pilot production by Ricardo in just 18 months, the achievements of the design and development of the world's greenest uncompromised performance supercar engine are matched only by the simultaneous creation of a purpose-built low volume assembly facility for its series production. Formally opened in July at the Shoreham Technical Centre, the new Ricardo High Performance Assembly Facility represents a completely new approach to the quality-focused assembly of high performance engines, incorporating some of the very latest thinking and techniques in quality focused lean manufacturing, but recreating these for an extremely complex and high performance product within a low volume context. This brand-new state-of-the-art production facility provides a near clean-room production environment in which each and every process is carried out according to strict quality principles and within a comprehensive 'no faults forward' culture. The facility builds upon the established reputation of the Ricardo Performance Products group which is already well known for the production of the advanced Ricardo-designed transmissions for the iconic Ford GT and the Bugatti Veyron supercar, as well as numerous driveline systems and components for the highest levels of competitive motorsport.

At the core of the new building is a ten station vertical conveyor based mini-line supported by incoming materials inspection and line-side delivery of components. Each station is equipped with a sophisticated 'human-machine interface' (HMI) providing guidance to each operator on the precise sequence of operations required at each stage. The tools and assembly equipment used at each station are instrumented and provide data – down to the level of the torque applied to each fastener - directly into a central warranty database for each engine built, and hence provide complete finished product traceability. In addition to the main production line, the new engine assembly facility includes a cylinder head sub-assembly line, dress area and an end of line hot test cell so that the performance of every engine produced can be fully tested and validated. The facility has a capacity for the assembly of up to 4000 engines annually across two daily shifts. With operations now ramping up to full production levels on the M838T engine of the MP4-12C supercar, work is also progressing at the Midlands Technical Centre on the manufacture of the Ricardo transmission to be used with this engine in the GT3 competition version of the vehicle

#### A new business model

The parallel development of the world's greenest supercar engine and a brand-new lean production facility in which it will be built, represents a potentially very attractive new business model for Ricardo and service line for the company's automotive customers. The supply chain and manufacturing systems of these global organisations are optimised for the efficient delivery of mass-produced products. While premium products can provide a much needed 'halo' effect to the customer's brand, they are often difficult and inefficient to accommodate within the product development and manufacturing operations of an otherwise volume-based company. Ricardo is exceptionally well placed to provide the very latest in new product engineering skills and has long been able to take-on the toughest challenges of performance product design and development. By extending this service to the simultaneous engineering of state-of-theart assembly facilities and the development, qualification and management of the supply chain, Ricardo can add significant value in a highly complementary manner to its customers' premium product aspirations.

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# Offshore wind energy

**CLEAN ENERGY & POWER GENERATION** 

Ricardo technology aims to improve turbine reliability and maximise commercial potential in the harshest of environments

As governments around the world strive to meet their climate change objectives and reduce reliance on fossil fuels (and in some cases nuclear power) in their grid power generating mix, the wind energy industry continues to thrive. In the UK, for example, industry trade body RenewableUK estimates that the installed and operational capacity of wind energy – which a few years ago was almost negligible – has now risen to a total of 5.7 GW – or enough to power more than three million homes. In addition to this impressive existing total, a further 3.3 GW of wind farm capacity is currently under construction, with an additional 5.4 GW subject to planning consent and 8.9 GW in the earlier stages of planning.

However, despite this promising outlook, the perceived negative visual impact of turbine installations means that land-based wind energy in particular is facing increasing public opposition in the more densely populated countries and regions. Offshore wind energy is thus seen as a means of enabling the increasing use of this form of renewable power and responding to these public concerns. Moreover, the offshore environment is an attractive location for wind energy for two very practical operational reasons. Firstly, average wind speeds in offshore wind farm locations are typically significantly higher than those on land. Secondly, while construction and maintenance are inherently more challenging, offshore wind farms can use much larger turbines than their land-based equivalents as they are not hampered by the restrictions of-land based transportation of very large key components such as the turbine blades, the tower and the nacelle.

#### Bearing reliability a key issue

Whether land-based or offshore, gearbox reliability is a key issue for wind farm operators. To date, it is believed that few if any geared wind turbine drivelines have

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met their full design life without significant service intervention. The costs and inconvenience of unplanned maintenance and consequent downtime for land-based wind farms are already a very serious issue but the problem for wind farms operating in the more hostile offshore environment is considerably more challenging. Typically, offshore wind farms are located at least 5 km out to sea, and in many otherwise commercially attractive offshore wind farm locations, major maintenance operations are impossible for a significant part of the year.

Gearbox bearings are subject to a wide range of different operating conditions and installation constraints, resulting in a diversity of failure modes that continue to challenge the wind industry. Forensic investigation undertaken by Ricardo on behalf of clients has unearthed classic fault categories. Some failures are due to unequal load distribution applied to the bearings in epicyclic gears; others arise after running at partial turbine power when the rolling elements are prone to skid rather than roll and cause scuffing of the precisionground surfaces. In many cases, wear on the inner bearing ring is concentrated over a small arc of some 40 degrees and can lead to premature failure, whilst the remainder of the ring remains unworn.

#### The Ricardo MultiLife<sup>™</sup> concept

In 2010 Ricardo first announced its MultiLife<sup>™</sup> concept, an innovation that when applied to a standard bearing can significantly increase its service life. This device is targeted at applications in which the direction of loading on a stationary inner bearing raceway does not vary: this is typical of the epicyclic planet gears found in many wind turbines as well as the main shaft bearings of certain direct-drive turbine designs. The Ricardo MultiLife<sup>™</sup> concept is a compact and elegantly simple mechanism: it consists of a narrow "pancake" device located between standard bearings, allowing it to be applied to new designs as well as offering the potential for retrofit to existing installations to provide a betterthan-new refurbishment service.

Powered by a low-pressure lubricant oil circuit, MultiLife<sup>™</sup> indexes the inner bearing raceway a defined step on a periodic basis in order to distribute the wear loads throughout the service life. This ensures that the fatigue damage or wear never reaches a critical condition during the turbine's life.

#### Testing, development and evaluation

The transformative potential of the MultiLife<sup>™</sup> concept for the commercial economics of large, offshore turbine installations was recognised in 2010 by the Northern Wind Innovation Programme, a collaborative R&D initiative part-funded by the UK Government in which individual projects were selected against strict technical

individual projects were selected against strict technical and economic criteria. A rigorous test regime is underway to confirm the effectiveness of MultiLife™ based on a unique test rig designed by Ricardo to replicate service conditions on a

large wind turbine gearbox, including the effect of the very significant gravity loads imposed by the mass of the turbine blades. Some 30 bearings are being tested under accelerated test conditions with a MultiLife<sup>™</sup> unit able to rotate the outer race of the test bearing whilst keeping the inner fixed. Ultrasonic measurement techniques are applied to measure oil film thickness to ensure a representative operational mode, and acoustic emission sensing is applied to monitor sub-surface fatigue failure propagation.

#### **Commercial potential**

The MultiLife<sup>™</sup> development programme is already delivering results that are validating Ricardo's projections that the concept can increase bearing life by a factor of five. Compounded by the inherent advantage that a single unit can index all bearings on a given shaft, MultiLife<sup>™</sup> looks set to make a valuable contribution to the economics of offshore wind energy. Commercial interest has already been expressed by a number of wind farm operators and leading equipment manufacturers aiming to improve the reliability of the large scale drivetrains. These substantial wind turbines, typically in excess of 5MW in capacity, are likely to form the basis of the significant further expansion of UK wind energy under the latest Offshore Wind Round 3 programme. Highlights

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We aim to bring in the very best skills, expertise and knowledge to the boardroom in order to provide exceptional business performance and best value to our shareholders

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# **Board members**



**David Shemmans BEng** 

Dave Shemmans, aged 45, 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 2005. Prior to joining Ricardo he was Operations Director and co-founder of Wavedriver Limited (a subsidiary of PowerGen plc). He has also gained consulting and management experience in both listed and private companies. He holds a degree in electronics from UMIST and is a graduate of the Harvard Business School, Dave was a board member of the Electronic Leadership Council and Member of the steering group for the New Automotive Innovation Growth Team.



Paula Bell FCMA

Paula Bell joined Ricardo plc and took up the position of Group Finance Director in November 2006. Paula is 44 years old and joined Ricardo from BAA plc where she was the Finance and Property Director for Gatwick Airport. She was previously the Director of Finance for AWG plc and over a ten year period at Rolls-Royce plc, Paula was Finance Director for various divisions before becoming the Business Development Director for their international Power Transmission and Distribution division, where she led on strategy, sales and marketing and a global merger and acquisition programme. Paula is a Fellow of the Chartered Institute of Management Accountants.



Mark Garrett CEng, FIMechE

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 48 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

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 66 years old. He was Chief Executive of Kidde plc until he retired from that position in March 2005. He is

currently Chairman of BBA Aviation plc and Chairman of the Vitec Group plc.





#### David Hall MA, MSc (Non-Executive Director, Ser 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 64 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. David is also Chairman of the Financial Services Compensation Scheme and a member of the board of Hoare & Co, a private bank.



Hans-Joachim Schöpf (Non-Executive Director)

Hans-Joachim Schöpf was appointed nonexecutive director on 1 July 2009. He is 69 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 is non-executive director of Ricardo's Technology Steering Group.



Peter Gilchrist CB (Non-Executive Directo

Peter Gilchrist was appointed non-executive director on 1 December 2010. He is 59 years old. Peter is a leading military figure whose career spanning almost four decades in the British Army has involved him in some of the most senior positions in operations as well as in defence diplomacy, strategic management and procurement. Until his formal retirement and procurement. Until his formal retirement from the service in 2009 he was based at the British Embassy in Washington DC where he was responsible for liaison with key bodies and senior figures in the Pentagon, National Security Council and State Department to ensure that UK priorities, intentions and actions were properly intermented and understead. Before this holds interpreted and understood. Before this he spent a period as Deputy Commanding General, Combined Forces Command Afghanistan, where he was closely involved in facilitating and ensuring that moves towards democracy and Afghan rule were not compromised. Prior to that for 41/2 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 iXion Securities Limited, Push Technology Limited, Electranet Group 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)

lan Lee was appointed as non-executive director on 1 August 2008 and Chairman of the Audit Committee on 18 November 2008. Ian is 64 years old. He is a former senior partner of Ernst & Young LLP in Glasgow. He was a member of the Ernst & Young governing Council for six years, and was a member of the firm's 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 February 2011, is currently a non-executive director, Vice Chair and member of the audit committee of NHS Greater Glasgow and Clyde Board and has recently been appointed as independent external member of the audit committee of the Student Loans Company. Highlights

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# **Corporate governance in practice**

#### The Combined Code on Corporate Governance

The Company has applied the principles set out in Section 1 of the UK Corporate Governance Code issued by the Financial Reporting Council in June 2010 ("the Code"). Section 1 of the Code applies to companies and this statement, together with the Directors' Remuneration Report set out on pages 52 to 59, explains how the Company applied its principles throughout the year ended 30 June 2011.

#### **The Board of directors**

The Board, which is headed by the non-executive Chairman, Michael Harper, also included four other non-executive directors and three executive directors as at 30 June 2011. Peter Gilchrist was appointed non-executive director on 1 December 2010.

The role of the Board is to provide entrepreneurial leadership of the Company within a framework of effective controls which enables risk to be assessed and managed. The Board sets strategic aims, reviews management performance and ensures that the necessary financial and human resources are in place to meet its objectives and its obligations to its shareholders and others. The Board has agreed a schedule of matters reserved for the Board, which includes oversight of risk, approval of the Group's strategy, acquisitions and disposals of businesses, the annual financial budgets, major capital expenditure, major proposals and certain key policies. The Board approves interim dividends and recommends final dividends. It receives recommendations from the Audit Committee in relation to the appointment, re-appointment or removal of auditors, their remuneration and the policy relating to non-audit services. From the Nominations Committee it receives recommendations regarding Board appointments. The Board agrees the policy for executive directors' remuneration with the Remuneration Committee and determines fees paid to non-executive directors other than the Chairman. The full list of matters reserved for the Board and the terms of reference of its sub-committees are available on the Company's website. Board papers are circulated before Board meetings in sufficient time to allow proper consideration of the matters tabled. The Board delegates to management, through the Chief Executive Officer, the implementation of strategy, the overall performance of the Group and the management of the business in a fit and proper manner in keeping with the Company's agreed values and policies.

The division of responsibilities between the Chairman and the Chief Executive Officer is clearly defined and has been approved by the Board. The Chairman's primary responsibility is ensuring the effectiveness of the Board and setting its agenda. The Chief Executive 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. The Chief Executive chairs the Executive Committee which meets formally at least three times each year and includes the Executive Directors of the Board. The Executive Committee is primarily responsible for developing corporate strategy. The Chief Executive also chairs the Ricardo Operating Board which deals with operational issues and delivers corporate strategy. It formally meets quarterly and includes the Managing Directors of subsidiary companies and other senior executives. The minutes of the meetings of both the Ricardo Operating Board and the Executive Committee are circulated to the Board.

The performance of the Board is evaluated internally each year by a rigorous process based around a detailed questionnaire which each director completes. The areas covered include: the quality of leadership and the setting of strategy and values; the Board's setting of its own objectives and review of its progress against those objectives; the composition of the Board, the appropriateness of its skill level and mix of experience and the effectiveness of the various roles; how well the Board members work and communicate together and with others; the appropriateness of Board and senior management succession planning and the induction and training of Board members; the way Board meetings are conducted, the content of those meetings and related processes; the effectiveness of the various committees; and the appropriateness of its risk and control frameworks. The questionnaire also reviews the performance of each individual director, including the Chairman. This information was used by the Chairman as part of his evaluation of the directors and in discussing their personal development. The results of the questionnaire are analysed and reviewed by the Board and appropriate improvements agreed and implemented.

For the year ended 30 June 2011 the Board set itself objectives including supporting the executive in achieving budget performance plans, finalising the 5 year strategic objectives, maintaining focus on talent management and succession planning, completing the addition of a non-executive director with defence experience to the Board and focusing on key risks and mitigations plans.

In support of these objectives various strategy review days have been held during the year. Updates on talent management have been provided to the Board and the programme is progressing to plan. Risk management improvements have been made including improved monitoring processes and identification of risks to the business both before and after related mitigating controls and actions.

Each director is appraised annually through an appraisal process. The Chief Executive Officer is appraised by the Chairman, the other executive Board members are appraised by the Chief Executive Officer, and the non-executive Board members other than the Chairman are appraised by the Chairman. Under the leadership of the senior independent director, having consulted with the executive directors, the non-executive Board members hold a meeting without the Chairman being present to appraise the Chairman's performance.

A new director, on appointment, is briefed on the activities of the Company, and receives a full, formal and tailored induction. Nonexecutive directors including the Chairman are briefed on issues arising at Board meetings if required and non-executive directors have access to the Chairman and the executive directors at any time. Ongoing information is provided as needed, including presentations by the operating units on specific aspects of the business, supplemented by visits to key locations and meetings with key senior executives. Directors are updated continually on the Group's business with monthly performance packs and by means of Board presentations on matters including insurance, pensions, social, ethical, environmental and health and safety issues. In the furtherance of their duties or in relation to acts carried out by the Board or the Company, each director has been informed that they are 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'

|   | Board<br>meetings | Committee meetings |              |            |
|---|-------------------|--------------------|--------------|------------|
|   |                   | Audit              | Remuneration | Nomination |
| Number of meetings in the year              | 8                 | 3                  | 4            | 2          |
| Number attended by each member              |                   |                    |              |            |
| Michael Harper                              | 8                 | 3                  | 4            | 2          |
| Hans Schöpf                                 | 8                 | 3                  | 4            | 2          |
| David Hall                                  | 8                 | 3                  | 4            | 2          |
| lan Lee                                     | 8                 | 3                  | 4            | 2          |
| Peter Gilchrist (appointed 1 December 2010) | 4                 | 2                  | 1            | _          |
| Dave Shemmans                               | 8                 | -                  | -            | 2          |
| Paula Bell                                  | 8                 | _                  | -            | _          |
| Mark Garrett                                | 7                 | -                  | -            | _          |

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 services of the Company Secretary if required.

The non-executive directors including the Chairman are considered by the Board to be independent of management and are free to exercise independence of judgement. They have never been employees of the Company nor have they participated in any of the Company's share schemes, pension schemes or bonus arrangements. They receive no other remuneration from the Company other than the directors' fees disclosed and travel expenses.

From 1 October 2008, there has been a requirement that directors must avoid a situation where they have, or can have, a direct or indirect interest that conflicts, or possibly may conflict, with the Company's interests. Directors of public companies may authorise conflicts and potential conflicts, where appropriate, if a company's Articles of Association permit and shareholders have approved appropriate amendments.

Procedures have been put in place for the disclosure by directors of any such conflicts and also for the consideration and authorisation of these conflicts by the Board. The procedures allow for the imposition of limits or conditions by the Board when authorising any conflict, if they think this is appropriate. No conflicts have been reported during the year under review.

The Board met regularly throughout the year with ad hoc meetings also being held. The table above shows the number of scheduled Board meetings (excluding those held to deal with minor administrative or timecritical matters) and Audit, Remuneration and Nomination Committee meetings held during the year and the attendance of each director.

Directors are subject to election at the Annual General Meeting following their appointment and to annual re-election.

The Chairman met during the year with the other non-executives and without the executive directors being present. David Hall is the senior independent director who is available to shareholders if contact through normal channels is inappropriate or has failed to resolve an issue.

#### Internal control and risk management

The Board is responsible for the Group's system of internal controls and risk management systems and for reviewing their effectiveness. Such systems are designed to manage rather than eliminate the risk of failure to achieve business objectives and can only provide reasonable and not absolute assurance against material misstatement or loss.

Each part of the Group highlights potential financial and nonfinancial risks which may impact on the business as part of the monthly management reporting procedures. The Board receives these monthly management reports and monitors the position at Board meetings.

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. Procedures are in place to ensure that effective control and risk management is embedded in the Group and that the Group is in a position to react as appropriate as new risks arise. The Board confirms that there are ongoing processes for identifying, evaluating and mitigating the significant risks faced by the Group. The processes have been in place during the year under review and up to the date of approval of the Annual Report and Accounts.

The Group's internal control and monitoring procedures include:

- Clear responsibility on the part of line and financial management for the maintenance of good financial controls and the production of accurate and timely management information;
- The 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's risk register;
- Detailed monthly forecasting and reporting of trading results, balance sheets and cash flows, 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 issued by the external auditors.

In the Board's view, the information it received was sufficient to enable it to review the effectiveness of the Company's system of internal control in accordance with the UK Corporate Governance Code.

#### **The Audit Committee**

The Audit Committee is established by, and is responsible to, the Board. It has written terms of reference. 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;

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- 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.

lan Lee was appointed as non-executive director on 1 August 2008 and Chairman of the Audit Committee on 18 November 2008. Ian is 64 years old. He is a former senior partner of Ernst & Young LLP in Glasgow. He was a member of the Ernst & Young governing Council for six years, and was a member of the firm's 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 February 2011, is currently a non-executive director, Vice Chair and member of the audit committee of NHS Greater Glasgow and Clyde Board and has recently been appointed as independent external member of the audit committee of the Student Loans Company. He therefore has recent and relevant experience.

The other members of the Audit Committee: Michael Harper, David Hall, Hans Schöpf and Peter Gilchrist are independent non-executive directors and have gained wide experience in regulatory and risk issues. Appointments to the Audit Committee are made by the Board on the recommendation of the Nomination Committee, which takes into account the particular skills and attributes required to fulfil particular roles. 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. Audit Committee meetings are attended by the Chief Executive Officer, the Group Finance Director and the Chief Operating Officer where the Chairman of the Audit Committee considers it appropriate.

Meetings of the Audit Committee were held three times in the year and include the review of the scope of the external and internal audit, ensuring compliance with regulatory requirements in the Company's overseas subsidiaries, receiving observations arising from work in relation to internal control and the effectiveness of the external audit, and to review and provide recommendations to the Board in relation to half-year and year-end financial statements. The external auditors are invited to all meetings and meet with the Audit Committee without management being present at least once a year. The Audit Committee meeting in September carries out a full review of the year-end financial statements and of the audit, using as a basis reports prepared by the Group Finance Director 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 Audit Committee receives reports from management and internal audit on the effectiveness of the system of internal controls and risk management systems. The Chairman of the Audit Committee meets regularly with the Head of Internal Audit and executive management on matters of risk. 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 internal audit function is centrally managed. Internal audits are led by suitably skilled staff from head office or parts of the business independent from the business or function being audited, and are 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 Audit Committee's review includes:

- The internal audit process, the audit plan and resources;
- The internal audit reports 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.

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 whistleblowing policy is designed to deal with concerns, which must be raised without malice and in good faith, 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 the Chairman of the Audit Committee, 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 external auditors are required to give the Audit Committee information about policies and processes for maintaining their independence and compliance with requirements regarding the rotation of audit partners and staff. The Audit 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. 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 Audit Committee is required. The split between audit and non-audit fees for the year ended 30 June 2011 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. 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.

The Audit 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 Audit Committee considers 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 the external auditors be proposed to shareholders at the 2011 Annual General Meeting.

#### **The Remuneration Committee**

The Remuneration Committee, which is chaired by David Hall, comprises the non-executive directors including the Chairman and is described in the Directors' remuneration report on pages 52 to 59, which is the subject of a vote by shareholders at the 2011 Annual General Meeting.

#### **The Nomination Committee**

The Nomination Committee, having evaluated the balance of skills, knowledge and experience on the Board, makes recommendations to the Board of 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. 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 Committee has written terms of reference, and comprises Michael Harper (Chairman), the other non-executive directors (Ian Lee, Hans Schöpf, David Hall and Peter Gilchrist) and Dave Shemmans (Chief Executive Officer) and meets at least once a year and at other times as appropriate. 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. The leadership needs and succession planning of the Company are regularly monitored, as are the size and structure of the Board, with consideration being given to the training needs of the executive and non-executive members. Non-executive directors, including the Chairman, are subject to rigorous review when they are continuing to serve on the Board for any term beyond six years.

#### Shareholder communications

The Chief Executive Officer and the Group Finance Director regularly meet with institutional shareholders to foster a mutual understanding of objectives. Additionally, the Chairman communicates with key shareholders at least once per annum and both the Chairman, the Senior Independent Director and the Chairman of the Audit Committee are available for discussions with major shareholders if required. Surveys of shareholder opinion are normally carried out following announcements of results and are circulated to the Board.

The Annual General Meeting ("AGM") in November 2010 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. The Annual Report and Accounts is mailed to shareholders and others who request it and is published on the Company's website at www.ricardo.com.

#### 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 22 of the Financial Statements.

After completing this work, the directors have confidence that the Company and the Group have adequate resources to continue in operational existence for the foreseeable future. For this reason they continue to adopt the going concern basis in preparing the Report and Accounts.

#### Compliance with the Code

The Board confirms that it complied throughout the year ended 30 June 2011 with all relevant provisions contained in section 1 of the UK Corporate Governance Code.

On behalf of the Board

**Michael Harper** Chairman

lan Lee Chairman of the Audit Committee

23 September 2011

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# **Directors' remuneration report**

#### Introduction

This report describes the Group's remuneration policy as it applies both to directors and more generally to senior executives. Detailed disclosures in relation to directors' remuneration are provided. The report explains how the Group has applied the principles of the UK Corporate Governance Code in relation to the remuneration of directors and has been prepared in accordance with Regulation 11 and Schedule 8 of the Large and Medium-Sized Companies and Groups (Accounts and Reports) Regulations 2008. These regulations require that part of the information is subject to audit, and this information is set out on pages 58 to 59.

The Company will seek the approval of this report by shareholders at the forthcoming Annual General Meeting on 17 November 2011.

#### **The Remuneration Committee**

The Board of Directors is responsible for executive remuneration policy. During the year under review the Remuneration Committee (the "Committee") was chaired by David Hall. The Committee also comprised all the non-executive directors – Michael Harper, David Hall, Ian Lee, Hans 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 46 and 47, details of attendance at the meetings of the Committee during the year ended 30 June 2011 are shown on page 49, and directors' shareholdings are shown on page 59. 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 and senior management, including their individual annual remuneration and pension arrangements;
- Agreeing the targets for any performance-related bonus and share schemes;
- Agreeing the remuneration of the Chairman of the Board (which is done in his absence);
- 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 for the purpose of giving advice.

Towers Watson Limited is the appointed independent remuneration advisor to the Committee, the original appointment date being April 2009. During the year under review, Towers Watson also provided services in connection with Ricardo pension funds. The cost of each of these services was £50,000 for remuneration services and £518,465 for pension services. The pension related costs include fees for administrative and trustee secretarial services for the defined benefit scheme of £360,825 and the defined contribution scheme of £157,640. Towers Watson complies with the Remuneration Consultants' Code of Conduct, maintains separate teams for the different advisory services and operates Chinese walls between these where appropriate. The Committee regularly reviews its selected advisers and remains confident that this arrangement presents no undue risks and remains practical and cost-efficient.

#### **Executive 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 broadly median 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 performance, compared with relevant companies of similar size and complexity to Ricardo. The proportion of variable pay in the total remuneration package is typically around 60 percent for achieving 'maximum' performance .

The above policy also seeks to ensure that the long-term interests of executive directors are appropriately aligned with those of shareholders. This is achieved through participation in the Company's share incentive schemes and the operation of the share retention policy (see page 57 below).

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;
- consistency with good 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).

For the avoidance of doubt, no director is involved in deciding his or her own remuneration.

#### Basic salary

The annual review date for basic salaries is 1 January each year. A number of factors are taken into account when salaries are reviewed: principally market rates 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. Salaries were reviewed in January 2011. The average review across the Group was 3% with specific awards for the CEO of 6%, Group Finance Director of 3%, and Chief Operating Officer of 14.3% as we continued to bring the base salary nearer to market rate for the role.

#### Annual performance related bonus

Salaries and percentage maximum bonus potential for the year ended 30 June 2011 are summarised overleaf. For this period, the executive directors' bonus plan was based on achievement against the financial targets of £15.3m profit before tax and £3.6m net borrowings as well as personal objectives. In the light of the actual performance against all three targets, the Committee concluded that bonus should be paid. The cash and profit-before-tax target achievements were achieved in full. Annual progress included 43% increase in profit before tax of continuing operations to £15.4m (2010: £10.3m), profit for the year (i.e. after tax and discontinued operations) was £15.2m (2010: £7.6m) and an overall cash inflow in the period of £9.3m compared to a £4.3m outflow in the prior year; personal targets were achieved by 85% for the CEO, 75% for the Chief Operating Officer and 90% for the Group Finance Director. The nature of

<sup>52</sup> Ricardo plc Annual Report & Accounts 2011

#### Basic annual salary and maximum bonus potential

| For the year ended 30 June 2011 |                               |
|---------------------------------|-------------------------------|
| Basic¹<br>salary<br>£'000       | Maximum<br>bonus<br>potential |
| 401                             | 100%                          |
| 243                             | 80%                           |
| 200                             | 80%                           |
|                                 |                               |

1 Basic salary as of 1 January 2011 review.

the personal targets included such topics as strengthening succession plans to the Board, updating the compensation approach through the Company in line with the remuneration policy, and driving operational effectiveness through specific project activities. The total bonus for each Executive Director was 97% of maximum bonus for the CEO, 95% for the Chief Operating Officer and 98% for the Group Finance Director.

#### Bonus deferral

Bonus payouts are subject to a policy of compulsory deferral into ordinary shares, the release of which is normally subject to continued employment for a three-year period from the award date. The Committee also retains the discretion to reduce the number of shares to be released in the event of significant misstatement of the Company's financial results in respect of the financial year to which the bonus relates.

- The principal purpose of this bonus deferral mechanism is to:Provide for further alignment of executives' and shareholders' interests;
- Provide for further alignment of executives and shareholders
- Provide an additional retention element; and
- Facilitate attainment of a target shareholding to a value of at least basic annual salary within five years of appointment.

For the year ended 30 June 2011 and earlier periods, the Committee's policy was to require all executive directors to defer one third of their bonus into shares.

#### Long-term incentives

The Committee's policy is that the main form of long term incentive is performance shares, awarded under the terms of the 2006 Long Term Incentive Plan ("2006 LTIP").

The diversity of the Company's business in terms of geography and sector also requires the flexibility to grant share awards or 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 and promotion circumstances, and in other circumstances in order to create further alignment with shareholders and to incentivise further business growth.

2006 LTIP and 2004 ESOP awards are intended to focus motivation on the long-term performance of the Group in order to incentivise shareholder value creation. At present, the maximum 2006 LTIP and 2004 ESOP awards that can be made to any executive is 100% of basic salary each year under each plan. However, for the year ended 30 June 2011 and earlier periods, the Committee's policy has been only to make annual grants to the executive directors under the 2006 LTIP. In the case of the CEO, such grants have historically been at the level of 100% of salary, with awards of 75% of salary being made to the other executive directors.

2006 LTIP awards are subject to the following performance conditions:

- 50% of any award vests according to Total Shareholder Return (share price movement plus dividends reinvested – "TSR") relative to the FTSE Small Cap Index (excluding financial services companies and investment trusts); and
- 50% of any award vests according to normalised earnings per ordinary share ("EPS") growth performance.

The Committee believes that TSR and EPS are appropriate measures for the LTIP as they are strongly aligned to shareholder value creation.

The Committee sets, for each plan cycle, scaled normalised EPS performance targets, which are suitably stretching, taking into account the economic/market outlook, the business plan and investor expectations at the time of each award.

For the LTIP award that vested in October 2010, the extent to which each of the two EPS and TSR targets were reached was nil and 71.2% respectively.

#### 2006 LTIP awards – TSR performance condition

### Awards made during financial years ending 30 June 2008, 2009, 2010 and 2011

| Vesting level   | TSR performance compared to<br>FTSE Small Cap Index |
|---|---|
| Nil vesting of that element of award subject to TSR     | Below median  |
| 25% vesting of that element of<br>award subject to TSR  | At median   |
| 100% vesting of that element of<br>award subject to TSR | At upper quartile                                   |
| Straight line basis                                     | Between median and upper quartile                   |

#### 2006 LTIP awards – EPS growth performance condition

|  | will performance condition                               |  |  |
|--|--|--|--|
| Vesting level  | Awards made during financial year<br>ending 30 June 2008 | Awards made during financial years<br>ending 30 June 2009 and 2010 | Awards made during financial year<br>ending 30 June 2011 |
| Nil vesting of that element of award subject to EPS    | Less than RPI plus 3% per annum                          | Less than RPI plus 4% per annum                                    | Less than RPI plus 4% per annum                          |
| 30% vesting of that element<br>of award subject to EPS | RPI plus 3% per annum                                    | RPI plus 4% per annum  | RPI plus 4% per annum                                    |
| 100% vesting of that element of award subject to EPS   | RPI plus 10% per annum                                   | RPI plus 11% per annum   | RPI plus 12% per annum                                   |
| Straight line basis                                    | Between RPI plus 3% and plus 10% per annum               | Between RPI plus 4% and plus 11% per annum                         | Between RPI plus 4% and plus 12% per annum               |

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Planned and existing LTIP awards under plan cycles not yet complete are as follows:

| Maximum awards in<br>relation to basic salary<br>at time of award (actual<br>amounts vesting will<br>depend on performance) | Plan cycle<br>ending<br>30 June<br>2011 | Plan cycle<br>ending<br>30 June<br>2012 | Plan cycle<br>ending<br>30 June<br>2013 |
|---|---|---|---|
| Dave Shemmans   | 100%                                    | 100%                                    | 100%                                    |
| Paula Bell  | 75%                                     | 75%                                     | 75%                                     |
| Mark Garrett  | 30%                                     | 75%                                     | 75%                                     |

## Review of executive directors' remuneration arrangements for the year commencing 1 July 2011

As part of its 2011 annual review of the remuneration packages offered to the executive directors, the Committee also conducted a more in-depth analysis of the Company's incentive schemes in order to establish whether any adjustments could or should be made to those arrangements in order to:

- provide a stronger and more effective link between pay and performance;
- further enhance the alignment between the interests of the senior management team and those of our shareholders; and
- assist the Company to retain the key executive talent that will be required to drive the business forward.

The above exercise, which was undertaken with the assistance of Towers Watson, was carried out against the backdrop of the Company's strong performance over the last two years during which time it has remained profitable and maintained payment of dividends despite facing unprecedented market conditions.

Further information in relation to the decisions reached, and the changes that have been proposed, following the completion of the above review, is provided below. In summary, the Committee concluded that:

- the maximum award opportunity available to the executive directors under the annual bonus plan should be increased, with a corresponding reduction applied to the level of awards granted to these individuals under the Company's long term incentive plan on an ongoing basis;
- the proportion of an executive director's annual bonus that is compulsorily deferred into shares should be increased from onethird to one-half and a new "matching share" facility introduced with maximum possible share match of 1:1;
- a special, one-off award should be made to the CEO over shares worth one year's salary, such grant to be made pursuant to the rules of the existing long term incentive plan.

Resolutions relating to certain aspects of the above proposals will be put forward for the approval of shareholders at the 2011 Annual General Meeting.

The Committee is firmly of the view that the combination of these amendments will create an incentive structure that is more motivational for the executive directors and places an increased emphasis on the creation of long-term shareholder value. The Committee also believes that the proposed one-off award to the CEO, Dave Shemmans, is an appropriate way in which to recognise his outstanding performance in recent years and provide him with an increased level of participation in the Company's future success that will be derived from his leadership.

Finally, it should be noted that, during the course of the above review, a selection of the Company's largest institutional shareholders were consulted and asked for their input. In general, the responses received from these organisations were positive and, where suggestions for variations or refinements to the Committee's proposals were made, they were accommodated wherever possible.

#### Executive remuneration policy

The objective of Ricardo's executive remuneration policy remains unchanged. The proportion of variable pay in the total remuneration package for the Chief Executive Officer (including the special award) at maximum (full bonus, full match on 50% of bonus at 1:1 matching ratio and 100% vesting of LTIP) becomes 72.25% of total pay; for other executive directors it is 63%.

#### Basic salary

The next review will take place by the end of the calendar year 2011 for all roles, with any awards to be made effective 1 January 2012. Such awards will be reported in next year's Annual Report and Accounts.

#### Annual performance related bonus

As highlighted above, for the year commencing 1 July 2011 the maximum award opportunity available to the CEO under Ricardo's annual bonus plan has been increased from the previous level of 100% of salary to 125%, with an increase from 80% of salary to 100% being applied to the other executive directors. There is, however, a corresponding reduction in long term incentive plan award and greater deferment of bonus, described in later sections.

Annual performance related bonus for the year commencing 1 July 2011 is based on achievement against the financial measures of profit before tax (60 percent of bonus opportunity for each director), cash (15 percent for the CEO and 20 percent for the other executive directors) and personal targets (25 percent for the CEO and 20 percent for the other executive directors).

#### Basic annual salary and maximum bonus potential

|               | For the year comm         | For the year commencing 1 July 2011 |  |
|---------------|---------------------------|-------------------------------------|--|
|               | Basic¹<br>salary<br>£'000 | Maximum<br>bonus<br>potential       |  |
| Dave Shemmans | 401                       | 125%                                |  |
| Paula Bell    | 243                       | 100%                                |  |
| Mark Garrett  | 200                       | 100%                                |  |

1 Basic salary as of 1 January 2011 review.

#### Bonus deferral

For any bonus awarded in respect of the financial year commencing 1 July 2011 (and later years), the proportion that will be deferred in this way will be increased to one-half.

In connection with the above bonus deferral, it is also proposed that a new facility be introduced in terms of which the individual in question will be granted a "matching award" over further shares (on a 1 for 1 basis), the vesting of which will be subject to both continued employment and the satisfaction of performance conditions over a three year period.

These matching awards will be granted pursuant to the rules of a new arrangement, the Ricardo plc 2011 Deferred Bonus Plan, for which shareholder approval is being sought at the 2011 Annual General Meeting. Further information in relation to this plan is set out in the Chairman's letter accompanying the AGM notice.

If approved by shareholders, the 2011 Deferred Bonus Plan will replace the Company's existing bonus deferral scheme which has been in place since 2006.

#### Long-term incentives

In view of the changes identified for other parts of the executive directors' package, it is proposed that a corresponding reduction will be applied to the level of awards granted to these individuals under the 2006 LTIP in the current and future financial years. In the case of the CEO, the level of annual awards will be reduced to 75% of salary with the other executive directors being granted awards worth 55% of salary.

However, and as noted above on page 54, a special, one-off award under the 2006 LTIP is also to be made to the CEO over shares worth one year's salary. It is intended that this additional grant will be made in two equal parts, such that shares worth 50% of salary will be awarded to the CEO shortly after the 2011 AGM with a further 50% of salary grant being made in the financial year to 30 June 2013. The terms on which these additional LTIP awards are made (including, for the avoidance of doubt, the applicable performance conditions) will be identical to those applied to the "regular" grants that take place in the same period.

The combined result of the above is that, in both the current financial year to 30 June 2012 and the next financial year to 30 June 2013, it is intended that LTIP awards over shares with an aggregate market value of 125% of salary will be made to the CEO (i.e. the regular annual grant for that year of 75% of salary plus a further 50% of salary under the one-off award proposal). However, making grants at these levels would breach the existing 100% of salary limit contained within the rules of the 2006 LTIP. Accordingly, in order to accommodate these intended grant levels to the CEO during the financial years to 30 June 2012 and 2013, shareholder approval is being sought at the 2011 Annual General Meeting to increase this annual limit to 125% of salary. Further information in relation to this proposed amendment to the 2006 LTIP is set out in the Chairman's letter accompanying the AGM notice.

2006 LTIP awards – EPS growth performance condition

2006 LTIP awards are subject to the following performance conditions:

- 50% of any award vests according to Total Shareholder Return (share price movement plus dividends reinvested – "TSR") relative to the FTSE Small Cap Index (excluding financial services companies and investment trusts); and
- 50% of any award vests according to normalised earnings per ordinary share ("EPS") growth performance.

The Committee believes that TSR and EPS are appropriate measures for the LTIP as they are strongly aligned to shareholder value creation.

The Committee sets, for each plan cycle, scaled normalised EPS performance targets, which are suitably stretching, taking into account the economic/market outlook, the business plan and investor expectations at the time of each award.

#### 2006 LTIP awards - TSR performance condition

Awards made during financial years ending 30 June 2008, 2009, 2010 and 2011 and current intention for all awards made during financial year ending 30 June 2012

| Vesting level  | TSR performance compared to<br>FTSE Small Cap Index |
|--|---|
| Nil vesting of that element of award subject to TSR  | Below median  |
| 25% vesting of that element of award subject to TSR  | At median   |
| 100% vesting of that element of award subject to TSR | At upper quartile                                   |
| Straight line basis                                  | Between median and upper quartile                   |

The Committee reviewed the EPS growth target range for awards for the year ending 30 June 2012 and believes they will be appropriately stretching, taking account of current business forecasts and plans. 2006 LTIP performance targets will be reviewed for any subsequent awards, taking account of prevailing conditions at the time.

| Maximum awards in relation to basic salary at time of award (actual amounts vesting will depend on performance) | Plan cycle<br>ending<br>30 June<br>2014 |
|---|---|
| Dave Shemmans   | 75%+50%1                                |
| Paula Bell  | 55%                                     |
| Mark Garrett  | 55%                                     |

1 In the case of Dave Shemmans, the awards for the Plan cycle ending 30 June 2014 include both his regular 75% of salary annual grant during the year to 30 June 2012 plus a further 50% of salary grant under the one-off award proposal.

|  | Current intention for all awards made during<br>financial year ending |
|--|---|
| Vesting level  | 30 June 2012  |
| Nil vesting of that element of award subject to EPS  | Less than RPI plus 4% per annum                                       |
| 30% vesting of that element of award subject to EPS  | RPI plus 4% per annum   |
| 100% vesting of that element of award subject to EPS | RPI plus 11% per annum  |
| Straight line basis                                  | Between RPI plus 4% and RPI plus 11% per annum                        |

End of review of specific arrangements for the year commencing 1 July 2011

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#### Executive share options

Share options granted under the terms of the 2004 ESOP are subject to scaled EPS growth performance conditions, although it is recognized that in most circumstances the key performance driver for such grants is share price growth.

The EPS growth performance condition is again subject to review at the time of any grant. No share option grants have been made during the year ending 30 June 2011. The terms of the 2004 ESOP are:

#### 2004 ESOP grants - EPS growth performance condition

| Vesting level         | EPS growth over<br>three years for grants<br>made in the year<br>ended 30 June 2005 | EPS growth over<br>three years for grants<br>made in the years<br>ended 30 June 2006<br>to 2011 |
|-----------------------|---|---|
| Nil vesting           | Less than RPI plus<br>3% pa   | Less than RPI plus<br>3% pa   |
| 30% of grant vesting  | RPI plus 3% pa  | RPI plus 3% pa  |
| 100% of grant vesting | RPI plus 6% or more pa  | RPI plus 10% or more pa   |
| Straight line basis   | Between RPI plus 3%<br>and<br>RPI plus 6%   | Between RPI plus 3%<br>and<br>RPI plus 10%  |

#### All-employee share plans

For its UK employees the Company operates from time to time HMRCapproved Share Incentive Plan ("SIP") and Save As You Earn ("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 and free shares, either by delivery of market purchased or newly issued shares. The Company has to date offered partnership shares only.

In the forthcoming year the Company is also anticipating that it will make an award of £1,000 worth of free shares to all UK based employees (with overseas employees being provided with a broadly equivalent benefit via a cash based "notional" share arrangement). The shares (and the cash equivalent awards) will normally vest on the third anniversary of grant, subject to continued employment.

The SAYE is an all-employee savings contract scheme. No SAYE options have been granted since October 2002 and the existing plan has now terminated. A resolution to approve a new ten-year SAYE plan will be proposed at the 2011 AGM.

The tax-approved status of the SIP and SAYE only applies to UK employees and therefore neither of these arrangements nor any approximate equivalents currently apply to Ricardo's overseas employees, although this position is reviewed from time to time.

#### 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 4.83% of which 3.54% 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.

#### Pensions

The Company operates a Defined Contribution Scheme, the Ricardo International Pension Scheme (RIPS).

The policy for executive directors continues to be a pension benefit of 20% of base salary over the Lower Earnings Limit for the period to 30 June 2011. Pension is calculated on basic salary only. The actual pension benefit for the Chief Executive Officer is 21.2% as a result of the protected company contribution level up to the earnings cap from the former defined benefit scheme, which is now closed to further accruals.

Effective from 1 July 2011 the method of providing this benefit has been simplified and made consistent for all executive directors: employee and employer contributions are made to maximise the annual allowance limit, as defined in the March 2011 budget, and the rest of the monies paid in cash in lieu of pension.

The previous, more complex arrangements are contained in the 2010 annual report and accounts should reference be required.

The death in service is a protected term as carry-over from the Defined Benefit arrangement such that Dave Shemmans 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 below.

On death in service, all executive directors, subject to the medical requirements of the insurance company, are entitled to a lump sum of four times annual salary at date of death.

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.

#### Other benefits

The Company provides other cash benefits and benefits in kind in line with market practice. These include a company car or cash alternative, private fuel, private medical insurance and life assurance. The car allowance for Dave Shemmans is £17,500 p.a. and has not been amended since 1 July 2009 and for Paula Bell and Mark Garrett £12,000 p.a.

The Company also pays or reimburses non-executive directors in respect of taxable travel expenses.

#### Service agreements

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.

All current executive directors have rolling service agreements terminable on one year's notice. The dates of the service contracts of the executive directors are as follows:

|               | Date of service contract |
|---------------|--------------------------|
| Dave Shemmans | 7 April 2005             |
| Paula Bell    | 9 October 2006           |
| Mark Garrett  | 1 July 2008              |

The contractual termination provision is payment in lieu of notice equal to one year's basic salary and benefits or if termination is part way through the notice period the amount of any unexpired notice and any accrued bonus to the date of termination. There is an obligation

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on directors to mitigate any loss which they may suffer if the Company terminates their service contract: The Committee when determining what compensation, if any, should be paid to the departing director will consider this. In the case of the contracts for the executive directors, specific mitigation provisions are included. No compensation is paid for summary dismissal.

#### 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 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.

#### External appointments

The Board recognises the benefit that Ricardo can obtain if executive directors of Ricardo serve as non-executive directors of other companies. Subject to review in each case, the Committee's general policy is that executive directors may accept one non-executive directorship with another company, so long as there is no conflict of interest and their effectiveness is not impaired. Non-executive appointments in other companies are summarised in the Directors' biographies on pages 46 and 47. Directors may retain any fees in respect of such appointments.

#### Non-executive directors

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. The aggregate limit for fees paid to non-executive directors is laid down in the Articles of Association.

Non-executive director fees for the year ended 30 June 2011 are as follows:

|  | £′000 |
|--|-------|
| Chairman's total fees                              | 120   |
| Other non-executive fees:                          |       |
| Basic fee  | 38    |
| Additional fee for Audit and Remuneration          | 6     |
| Committee Chairmen                                 |       |
| Additional fee for the Senior Independent Director | 6     |

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 two or 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 at 30 June 2011 are:

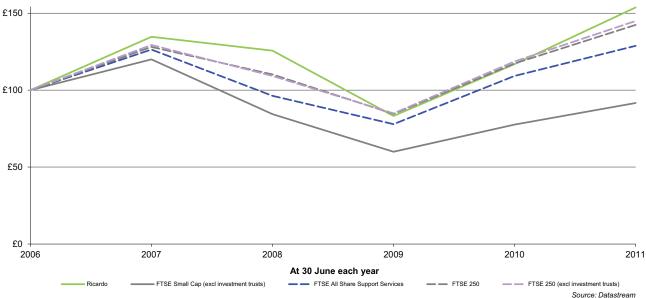
| Michael Harper                   | 24 months |
|----------------------------------|-----------|
| David Hall                       | 12 months |
| lan Lee                          | 1 month   |
| Hans-Joachim Schöpf <sup>1</sup> | 12 months |
| Peter Gilchrist                  | 29 months |
|                                  |           |

1 Non-Executive member of the Technical Steering Group for which he receives a fee of €16,000 pa.

#### Performance graph

The chart below shows, for a notional amount invested of  $\pm 100$ , the Company's Total Shareholder Return ("TSR") over the last five financial years compared to the performance of three indices, using the average data for the three months prior to each data point. The chart shows that the benchmark has been exceeded.

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. Other indices are shown for information.



#### TSR chart for the 5 years 1 July 2006 to 30 June 2011

#### **Auditable part**

The auditable part of the directors' remuneration report is set out below on pages 58 to 59.

| <i>Directors' emoluments</i><br>for the year ended 30 June 2011: | Basic salary<br>and fees | Performance<br>related bonus<br>as cash | Performance<br>related bonus<br>as deferred<br>shares (1/3rd) | Other<br>benefits(a) | Termination<br>benefits | Total<br>2011 | Total<br>2010 |
|--|--------------------------|---|---|----------------------|-------------------------|---------------|---------------|
|  | £′000                    | £′000                                   | £′000   | £′000                | £′000                   | £′000         | £′000         |
| Executive Directors  |                          |   |   |                      |                         |               |               |
| Dave Shemmans (b)  | 391                      | 259                                     | 130   | 94                   | -                       | 874           | 523           |
| Paula Bell   | 240                      | 127                                     | 64  | 21                   | -                       | 452           | 273           |
| Mark Garrett (c)   | 188                      | 101                                     | 51  | 41                   | -                       | 381           | 239           |
| Non-executive Directors  |                          |   |   |                      |                         |               |               |
| Hans-Joachim Schöpf  | 37                       | -                                       | -   | 5                    | -                       | 42            | 37            |
| Michael Harper (d)   | 120                      | -                                       | -   | 3                    | -                       | 123           | 91            |
| David Hall   | 48                       | -                                       | -   | 1                    | -                       | 49            | 43            |
| lan Lee  | 43                       | -                                       | -   | 4                    | -                       | 47            | 43            |
| Peter Gilchrist (e)  | 22                       | -                                       | -   | 2                    | -                       | 24            | -             |

Notes (a) to (c) below reflect the way in which the pension benefit of 20% of base salary was derived, as reported in the previous annual report and accounts, and these have now been simplified as reported on page 56.

(a) Other benefits include payments in lieu of pension provision for UK earnings over the notional earnings cap and other benefits (such as company car, private fuel, private medical insurance and life assurance)

- (b) In respect of Dave Shemmans, a cash benefit amount of £69,397 was paid in lieu of pension provision for UK earnings over the notional cap, and a supplementary pension payment as a consequence of having been transferred out of the defined contributions scheme in February 2010
- (c) In respect of Mark Garrett, a cash benefit amount of £24,484 was paid in lieu of pension provision for UK earnings over the notional cap, and a payment in lieu of pension provision such that the total Employer's contributions were made at the rate of 20%
- (d) Michael Harper assumed the role of Chairman at the AGM in November 2010
   (e) Peter Gilchrist joined the Board in January 2011

#### Directors' pensions

(a) With respect to defined benefit pension

The defined benefit scheme is closed and there are no active members of it. During the year ended 30 June 2011 the transfer value increased, primarily as a result of the revised investment approach agreed between the Company and the Pension Trustee. This has affected the

benefit level of the Chief Executive Officer as a deferred pensioner; the transfer value at 30 June 2011 was £231,000, an increase of £47,000 from prior year.

(b) With respect to defined contribution pension schemes

| Employer contributions payable in the year | £′000 |
|--|-------|
| Dave Shemmans                              | 13    |
| Paula Bell <sup>(1)</sup>                  | 73    |
| Mark Garrett                               | 13    |

(1) For Paula Bell this includes £26,000 in respect of past employer pension contributions on bonus. The loss of investment return of £11,000 was applied In July 2011 and will be annotated in the 2012 report and accounts. This did not affect other executive directors. The pension scheme Deed and Rules have been changed so that bonus is not pensionable going forward.

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

|               |                 |                   | Share price<br>at award |                   |           |                                    |                       |                       |                                   |                 |
|---------------|-----------------|-------------------|-------------------------|-------------------|-----------|------------------------------------|-----------------------|-----------------------|-----------------------------------|-----------------|
|               | Cycle<br>Ending | Award<br>Date (1) | date in<br>pence        | At 1 July<br>2010 | Allocated | Dividend<br>roll up <sup>(2)</sup> | Lapsed <sup>(2)</sup> | Vested <sup>(2)</sup> | At 30 June<br>2011 <sup>(3)</sup> | Vesting<br>Date |
| Dave Shemmans | 2010            | Oct 07            | 283.60                  | 98,906            | -         | 12,635                             | 71,833                | 39,708                | -                                 | 18.10.10        |
|               | 2011            | Oct 08            | 299.90                  | 120,040           | -         | -                                  | -                     | -                     | 120,040                           | 22.10.11        |
|               | 2012            | Oct 09            | 246.40                  | 124,188           | -         | -                                  | -                     | -                     | 124,188                           | 21.10.12        |
|               | 2013            | Oct 10            | 301.70                  | -                 | 126,483   | -                                  | -                     | -                     | 126,483                           | 25.10.13        |
| Paula Bell    | 2010            | Oct 07            | 283.60                  | 37,376            | -         | 4,775                              | 27,146                | 15,005                | -                                 | 18.10.10        |
|               | 2011            | Oct 08            | 299.90                  | 56,769            | -         | -                                  | -                     | -                     | 56,769                            | 22.10.11        |
|               | 2012            | Oct 09            | 246.40                  | 69,094            | -         | -                                  | -                     | -                     | 69,094                            | 21.10.12        |
|               | 2013            | Oct 10            | 301.70                  | -                 | 58,687    | -                                  | -                     | -                     | 58,687                            | 25.10.13        |
| Mark Garrett  | 2011            | Oct 08            | 299.90                  | 15,005            | -         | -                                  | -                     | -                     | 15,005                            | 22.10.11        |
|               | 2012            | Oct 09            | 246.40                  | 53,267            | -         | -                                  | -                     | -                     | 53,267                            | 21.10.12        |
|               | 2013            | Oct 10            | 301.70                  | -                 | 43,503    | -                                  | -                     | -                     | 43,503                            | 25.10.13        |

Awards made under the 2006 LTIP: performance conditions as outlined on page 53.

The 2007 (cycle 1) and 2008 (cycle 2) awards are subject to dividend roll up on the same basis as the deferred bonus plan. The 2007 totals include dividends, as will the 2008 award when it vests. The mid-market closing price of the Company's shares on 30 June 2011 was 406.00p (2010: 274.50p).

(3)

(4)The market price per share of the shares that vested on 18 October 2010 was 304.00p

The value of shares vested under the October 2007 awards was £121,000 for Dave Shemmans and £46,000 for Paula Bell. The market price of these shares that vested on 18 October 2010 was 304.00p.

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|               |            |                 | Share price<br>at award |                   | Number  | of provisional sł               | nares               |                    |
|---------------|------------|-----------------|-------------------------|-------------------|---------|---------------------------------|---------------------|--------------------|
|               | Award date | Deferral period | date in pence           | At 1 July<br>2010 | Awarded | Dividend<br>shares <sup>1</sup> | Vested <sup>2</sup> | At 30 June<br>2011 |
| Dave Shemmans | Oct 07     | 3 yrs           | 283.60                  | 21,473            | -       | -                               | 21,473              | -                  |
|               | Oct 08     | 3 yrs           | 299.90                  | 22,345            | -       | 843                             | -                   | 23,188             |
|               | Oct 10     | 3 yrs           | 301.70                  | _                 | 7,799   | 295                             | -                   | 8,094              |
| Paula Bell    | Oct 07     | 3 yrs           | 283.60                  | 8,368             | -       | -                               | 8,368               | -                  |
|               | Oct 08     | 3 yrs           | 299.90                  | 12,760            | -       | 481                             | -                   | 13,241             |
|               | Oct 10     | 3 yrs           | 301.70                  | _                 | 3,129   | 118                             | _                   | 3,247              |
| Mark Garrett  | Oct 07     | 3 yrs           | 283.60                  | 3,062             | -       | -                               | 3,062               | -                  |
|               | Oct 08     | 3 yrs           | 299.90                  | 5,417             | -       | 204                             | -                   | 5,621              |
|               | Oct10      | 3 yrs           | 301.70                  | _                 | 2,578   | 98                              | -                   | 2,676              |

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

Amounts allocated include shares equivalent to dividends on provisional shares. The market price per share of the shares that vested on 18 October 2010 was 304.00p.

#### The 2004 Executive Share Option Plan

|               | At 1 July 2010 | Granted | Exercised | Lapsed | At 30 June<br>2011 | Exercise price<br>in pence | Date from<br>which<br>exercisable | Expiry date |
|---------------|----------------|---------|-----------|--------|--------------------|----------------------------|-----------------------------------|-------------|
| Dave Shemmans | 80,000         | -       | -         | -      | 80,000             | 267.50                     | 22.02.08                          | 21.02.15    |
| Paula Bell    | 25,000         | -       | _         | -      | 25,000             | 300.00                     | 20.10.09                          | 19.10.16    |
| Mark Garrett  | 16,672         | _       | _         | -      | 16,672             | 305.00                     | 22.10.11                          | 21.10.18    |

The performance conditions are outlined on page 56 of the Remuneration Report.

The closing mid-market price of the Company's shares on 30 June 2011 was 406.00p pence. The highest closing price during the year was 406.00p and the lowest closing price during the year was 235.50p.

The interests of Directors and their connected persons in ordinary shares, excluding any interests in share options and shares provisionally awarded under the Long Term Incentive Plan and Deferred Bonus Plan, are all beneficial interests and are as follows:

|                     | Number of shares | Number of shares |
|---------------------|------------------|------------------|
|                     | At 30 June 2011  | At 30 June 2010  |
| Dave Shemmans       | 97,883           | 67,906           |
| Paula Bell          | 31,220           | 19,768           |
| Mark Garrett        | 6,625            | 5,125            |
| Michael Harper      | 30,000           | 25,000           |
| David Hall          | 20,000           | 20,000           |
| lan Lee             | 10,000           | 10,000           |
| Hans-Joachim Schöpf | 10,000           | 10,000           |
| Peter Gilchrist     | 2,650            | -                |

At 23 September 2011, the interests in shares of the directors who were still in office were unchanged from those at 30 June 2011.

On behalf of the Board

is S. Hall

David Hall Chairman of the Remuneration Committee 23 September 2011

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# **Directors' report**

The directors present their report and the financial statements for the year ended 30 June 2011

#### **Business review**

The principal activities of the Group are the provision of technical and strategic 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 6 to 31 and amongst other things covers:

- a review of the Group's marketplace, strategy, research and development and principal risks;
- business operations, performance and prospects;
- employee involvement and diversity; and
- corporate social responsibility.

A segmental analysis is given in note 2 to the financial statements, and financial risks and policies are given in note 22 to the financial statements with the principal risks outlined in the Risk Management report on pages 25 to 26.

#### Directors

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

Non-executive directors:

Michael Harper, MSc, CCMI, FRAeS

- David Hall, MA, MSc
- Ian Lee BA, CA, CPA
- Hans-Joachim Schöpf
- Peter Gilchrist CB (appointed 1 December 2010)

#### Executive directors:

- Dave Shemmans, BEng
- Paula Bell, FCMA
- Mark Garrett, CEng, FIMechE

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, all directors will retire at the annual general meeting in November 2011 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 Articles of Association also allow shareholders to remove a director from office by ordinary resolution of which special notice has been given.

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; David Hall; Hans-Joachim Schöpf and Peter Gilchrist (upon appointment on 1 December 2010);

Remuneration Committee: David Hall (Chairman); Ian Lee, Michael Harper; Hans-Joachim Schöpf and Peter Gilchrist (upon appointment on 1 December 2010);

Nomination Committee: Michael Harper (Chairman); David Hall; Ian Lee; Hans-Joachim Schöpf; Peter Gilchrist (upon appointment on 1 December 2010) and Dave Shemmans.

Details of the roles of the Board of Directors and Board Committees can be found on pages 48 to 51 and of the role of the Remuneration Committee on page 52.

# Statement of directors' responsibilities in respect of the Annual report, the Directors' remuneration report and the 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 European Union. 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 Group for that period.

In preparing those financial statements, the directors are required to select suitable accounting policies and then apply them consistently, make judgements and estimates that are reasonable and prudent, state whether the financial statements comply with IFRSs as adopted by the European Union, and prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group will continue in business. The directors confirm that they have complied with these requirements in preparing the financial statements.

The directors are responsible for keeping proper 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 ("the Act") 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 corporate and financial information included on the Company's website. Legislation in the United Kingdom governing the preparation

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and dissemination of financial statements may differ from legislation in other jurisdictions.

Each of the directors, whose names and functions are listed on pages 46 and 47 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 pages 6 to 31, 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.

#### Directors' interests and indemnity arrangements

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.

The Company has purchased and maintained throughout the year 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.

Details of directors' remuneration, service contracts and interests in the shares of the Company are set out in the Directors' remuneration report on pages 52 to 59.

#### 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, however, 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 2011 were 37 days (2010: 29 days).

#### **Donations**

During the year the Group made various charitable donations which are summarised in the Corporate social responsibility report on page 29. The Group made no political donations during the year to 30 June 2011.

#### **Investment property**

At 30 June 2011, the fair value of investment properties exceeded the carrying value by  $\pm 0.8$ m.

#### **Disclosure of information**

So far as the directors in service at the date of approval of this report are aware, there is no information needed by the Company's auditors in connection with preparing their report of which the Company's auditors are unaware. 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 fairly treated and that their training and career development needs are carefully managed. The policies are considered to operate effectively. For those employees becoming disabled during the course of their employment, the Group Is supportive, whether through re-training or re-deployment, so as to provide an opportunity for them to remain with the Group whenever possible.

#### Diversity

The Group 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 in its employees and aims to recruit the best person for the role in all its positions Group wide.

Women make up approximately 12% of the workforce in the Group worldwide and the average percentage of women represented on the boards of the Group companies is 24% and of the Company board itself is 12.5%.

#### **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 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 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 2010 Annual General Meeting, shareholder resolutions were passed authorising the directors to allot relevant securities of the Company up to a maximum nominal amount of £4,234,290. In addition, at the same meeting shareholders authorised the Company to make market purchases of its own ordinary shares up to a maximum of 5,132,473 shares (although as at the date hereof this authority has not been used). As described below, it is proposed that both of these authorities be renewed at the forthcoming Annual General Meeting.

#### Share Capital – Voting and other rights

As at 23 September 2011 the Company's share capital is divided solely into 51,408,202 ordinary shares of 25 pence each. 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 ······

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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 7 September 2011, being a date not more than one month prior to the date of the notice of Annual General Meeting, the following are holders of more than 3% of the Company's issued share capital, all of which are non-beneficial interests:

|  | Number of<br>Shares | % of issued share capital |
|--|---------------------|---------------------------|
| Delta Lloyd Asset Management           | 7,126,537           | 13.86                     |
| Artemis Fund Managers                  | 4,767,691           | 9.27                      |
| Legal & General Investment Mgmt        | 3,305,760           | 6.43                      |
| Baillie Gifford & Co                   | 3,204,996           | 6.23                      |
| Montanaro Investment Management        | 3,145,000           | 6.12                      |
| Schroder Investment Management         | 2,751,477           | 5.35                      |
| J P Morgan Asset Management            | 2,650,677           | 5.16                      |
| Scottish Widows Investment Partnership | 2,266,195           | 4.41                      |
| BlackRock Investment Management        | 2,035,253           | 3.96                      |

#### **Articles of Association**

There are no restrictions on the amending of the Articles of Association of the Company other than the need to pass a special resolution of the shareholders.

#### **Annual General Meeting**

The 2011 Annual General Meeting of the Company will take place at 10.00 a.m. on 17 November 2011 at the offices of Royal Bank of Scotland, 250 Bishopsgate, London. A separate notice of meeting will be sent to shareholders.

#### Dividend (resolution 3)

The directors propose a final dividend of 8.1 pence (2010 - 7.5 pence) per share, amounting to 4,164,064 £ (2010 - £3,859,354) payable on 25 November 2011 to shareholders on the register at close of business on 7 October 2011. The final dividend proposed will make a total of 11.5 pence ( $2010 \ 10.7$  pence) per share for the year.

#### Auditors (resolution 4)

The directors propose that PricewaterhouseCoopers LLP be reappointed as auditors of the Company, and a resolution to that effect will be proposed at the Annual General Meeting.

#### Election and Re-election of directors (resolutions 5 to 12)

The following directors offer themselves for re-election:

- Peter Gilchrist be elected as a director of the Company.
- Michael Harper be re-elected as a director of the Company.
- Ian Lee be re-elected as a director of the Company.
- David Hall be re-elected as a director of the Company.
- Hans-Joachim Schöpf be re-elected as a director of the Company.
- Dave Shemmans be re-elected as a director of the Company.

- Paula Bell be re-elected as a director of the Company.
- Mark Garrett be re-elected as a director of the Company.

Biographical details of these directors and the other directors in office at 30 June 2011 are shown on pages 46 and 47.

All the directors and the Board as a whole are subject to rigorous performance evaluation. All the directors continue to be effective and are committed to their roles. All directors are planning to be present at the Annual General Meeting and welcome that opportunity to meet with shareholders.

#### Items of Special Business (resolutions 13 to 15)

#### Amendment of the long term incentive plan (resolution 13)

The directors are asking shareholders to approve an amendment to the rules of the Ricardo plc 2006 Long Term Incentive Plan in terms of which the annual limit on the value of ordinary shares over which awards can be granted to any one individual will be increased from 100% of basic salary to 125%.

Further background information in relation to the proposed amendment is contained in the Notice of Annual General Meeting and accompanying letter from the Chairman.

#### Approval of a new deferred bonus plan (resolution 14)

The directors will seek authority to establish the Ricardo plc 2011 Deferred Bonus Plan (the "DB Plan") which will:

- (a) enable a proportion of the annual bonus of selected employees and executive directors to be delivered in the form of deferred awards of ordinary shares; and
- (b) allow matching awards over further shares to be granted to those individuals, the vesting of which will be subject to the satisfaction of specified performance conditions.
- (c) If approved by shareholders, the DB Plan will replace the existing deferred bonus structure that has been operated by the Company since 2006.

Further background information in relation to the adoption of the DB Plan, together with a summary of its principal terms, is contained in the Notice of Annual General Meeting and accompanying letter from the Chairman.

#### Approval of a new SAYE option scheme (resolution 15)

The directors are asking shareholders to approve the adoption of a new "all employee" share option scheme, namely the Ricardo plc 2011 SAYE Option Scheme (the "SAYE Scheme").

This arrangement will be used to grant tax approved share options to employees at all levels within the organisation and is being introduced to replace the Company's previous savings-related share option scheme following its expiry on the tenth anniversary of its adoption.

The principal terms of the SAYE Scheme are summarised in an appendix to the Notice of Annual General Meeting.

#### Sections 551 and 561 authorities, (resolutions 16 and 17)

The directors will seek to renew authorities under Sections 551 and 561 of the Act at the Annual General Meeting, empowering them respectively to allot shares and to allot shares for cash other than pro rata to existing shareholders (as would otherwise be required by Section 561 of the Act), in both cases subject to specified limits and periods as stated in the notice. The authority to allot shares will, if passed, be in respect of ordinary shares with a maximum nominal value of £4,241,177, which represents 33 percent of the issued ordinary share capital at the date hereof and will expire 15 months following the date of passing of the resolution or, if earlier, at the conclusion of the 2012 Annual General Meeting. The directors have no present intention to exercise this authority, but would then have the flexibility to issue new shares up to this limit should they decide that it would be in the interests of the Company to do so.

The maximum nominal value of shares which may be allotted for cash otherwise than pro rata to existing shareholders would be £642,603, equivalent to 5 percent of the issued ordinary share capital at the date hereof.

No issue will be made which would effectively alter the control of the Company, or the nature of its business, without the prior approval of the shareholders in general meeting. In addition, in accordance with institutional investor guidelines, the Company would not seek to issue shares equivalent to more than 7.5 percent of its issued ordinary share capital in any rolling three year period without suitable advance consultation and explanation, other than to existing shareholders on a pro rata basis.

#### Purchase of own shares (resolution 18)

The directors will seek authority for the purposes of section 701 of the Act to make market purchases of up to 10 percent of the Company's issued shares. The authority has not been exercised since the previous Annual General Meeting, and the directors will exercise it only if circumstances arise in which they consider such purchases to be in the interests of shareholders generally and earnings per share ("EPS") can be improved further. Performance targets based on EPS attaching to employee incentive schemes will be adjusted accordingly if the authority is exercised.

The Company can either cancel shares which have been purchased or hold them as treasury shares or a combination of both. Treasury shares are shares which have been repurchased by the Company and which the Company is allowed to hold pending either reselling them for cash, cancelling them or using them for the purposes of employee share plans. The directors believe that it is desirable for the Company to have that choice. The Company holds no treasury shares at the date hereof.

#### Calling of General Meetings (resolution 19

The directors will seek authority that a general meeting other than an annual general meeting may be called by notice of not less than 14 clear days provided that the Company offers the facility to members to vote by electronic means.

#### **Electronic voting**

This year the Company is again offering those members who wish to do so the choice of recording a proxy vote electronically. Details of how to do this are to be found in the notice of the Annual General Meeting and on the proxy form. Recording a proxy vote, either electronically or by filling in the form by hand, does not preclude members from attending and voting at the meeting should they so wish.

By order of the Board

#### Patricia Ryan Group General Counsel and Company Secretary 23 September 2011

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# Independent auditors' report

#### to the members of Ricardo plc

We have audited the financial statements of Ricardo plc for the year ended 30 June 2011 which comprise the Consolidated Income Statement, Consolidated Statement of Comprehensive Income, the Group and Parent Company Statements of Changes in Equity, the Group 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 Directors' Responsibilities Statement, 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 2011 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 in Practice 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 51, in relation to going concern;
- the parts of the Corporate Governance Statement relating to the company's compliance with the nine provisions of the June 2008 Combined Code specified for our review; and
- certain elements of the report to shareholders by the Board on directors' remuneration.

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

23 September 2011

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# **Financial statements**

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### Consolidated income statement for the twelve months ended 30 June 2011

| Continuing operations   | Notes    | Year<br>ended<br>30 June<br>2011<br>£m | Year<br>ended<br>30 June<br>2010<br>£m |
|---|----------|--|--|
| Revenue<br>Cost of sales  | 3        | 196.5<br>(123.0)                       | 162.8<br>(103.7)                       |
| Gross profit<br>Administration expenses<br>Other income                     |          | 73.5<br>(55.7)<br>0.2                  | 59.1<br>(46.5)<br>–                    |
| Operating profit  | 4        | 18.0                                   | 12.6                                   |
| Finance income<br>Finance costs   | 6<br>6   | 0.2<br>(2.8)                           | 1.2<br>(3.0)                           |
| Profit before taxation  |          | 15.4                                   | 10.8                                   |
| Taxation  | 7        | _                                      | (0.5)                                  |
| Profit for the period from continuing operations                            |          | 15.4                                   | 10.3                                   |
| Discontinued operations<br>Loss for the period from discontinued operations | 9        | (0.2)                                  | (2.7)                                  |
| Profit for the period   |          | 15.2                                   | 7.6                                    |
| Earnings per ordinary share<br>From continuing operations                   |          |  |  |
| Basic<br>Diluted  | 10<br>10 | 30.0р<br>29.7р                         | 20.1p<br>20.0p                         |

### Consolidated statement of comprehensive income for the twelve months

ended 30 June 2011

|   | Notes | Year<br>ended<br>30 June<br>2011<br>£m | Year<br>ended<br>30 June<br>2010<br>£m |
|---|-------|--|--|
| Profit for the period   |       | 15.2                                   | 7.6                                    |
| Other comprehensive income  |       |  |  |
| Currency translation on foreign currency net investments            | 29    | 1.2                                    | 0.6                                    |
| Fair value gain on foreign currency net investment hedges           | 29    | 0.3                                    | -                                      |
| Fair value loss on foreign currency cash flow hedges                | 29    | (0.1)                                  | (0.7)                                  |
| Actuarial gains/(losses) on defined benefit scheme                  | 23    | 19.1                                   | (7.2)                                  |
| Deferred tax on items taken directly to equity                      | 24    | (5.5)                                  | 2.1                                    |
| Total other comprehensive income/(loss) for the period (net of tax) |       | 15.0                                   | (5.2)                                  |
| Total comprehensive income for the period                           |       | 30.2                                   | 2.4                                    |

### Statements of changes in equity for the twelve months ended 30 June 2011

|   |       | Share<br>capital | Share<br>premium | Other<br>reserves | Retained<br>earnings | Total<br>equity |
|---|-------|------------------|------------------|-------------------|----------------------|-----------------|
| Group                                     | Notes | £m               | £m               | £m                | £m                   | £m              |
| At 1 July 2010                            |       | 12.9             | 13.8             | 5.2               | 32.9                 | 64.8            |
| Total comprehensive income for the period |       | -                | -                | 1.2               | 29.0                 | 30.2            |
| Share-based payments                      | 27    | -                | -                | -                 | 0.2                  | 0.2             |
| Ordinary share dividends                  | 8     | -                | -                | -                 | (5.6)                | (5.6)           |
| At 30 June 2011                           |       | 12.9             | 13.8             | 6.4               | 56.5                 | 89.6            |
| At 1 July 2009                            |       | 12.9             | 13.7             | 5.2               | 35.1                 | 66.9            |
| Total comprehensive income for the period |       | -                | -                | -                 | 2.4                  | 2.4             |
| Share-based payments                      | 27    | -                | -                | -                 | 0.9                  | 0.9             |
| Proceeds from shares issued               | 28    | -                | 0.1              | -                 | -                    | 0.1             |
| Ordinary share dividends                  | 8     | _                | -                | -                 | (5.5)                | (5.5)           |
| At 30 June 2010                           |       | 12.9             | 13.8             | 5.2               | 32.9                 | 64.8            |
|   |       | Share            | Share            | Other             | Retained             | Total           |
|   |       | capital          | premium          | reserves          | earnings             | equity          |
| Company                                   | Notes | £m               | £m               | £m                | £m                   | £m              |
| At 1 July 2010                            |       | 12.9             | 13.8             | -                 | 18.5                 | 45.2            |
| Total comprehensive income for the period |       | -                | -                | -                 | 26.4                 | 26.4            |
| Share-based payments                      | 27    | -                | -                | -                 | 0.2                  | 0.2             |
| Ordinary share dividends                  | 8     | -                | -                | -                 | (5.6)                | (5.6)           |
| At 30 June 2011                           |       | 12.9             | 13.8             | -                 | 39.5                 | 66.2            |
| At 1 July 2009                            |       | 12.9             | 13.7             | -                 | 20.4                 | 47.0            |
| Total comprehensive income for the period |       | -                | —                | -                 | 2.7                  | 2.7             |
| Share-based payments                      | 27    | -                | -                | -                 | 0.9                  | 0.9             |
| Proceeds from shares issued               | 28    | -                | 0.1              | -                 | -                    | 0.1             |
| Ordinary share dividends                  | 8     | -                | -                | -                 | (5.5)                | (5.5)           |
| At 30 June 2010                           |       | 12.9             | 13.8             | -                 | 18.5                 | 45.2            |

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### Consolidated and parent company statements of financial position at 30 June 2011

| •                                |       |         | •       |         |         |  |
|----------------------------------|-------|---------|---------|---------|---------|--|
|                                  |       |         | oup     | Company |         |  |
|                                  |       | 30 June | 30 June | 30 June | 30 June |  |
|                                  |       | 2011    | 2010    | 2011    | 2010    |  |
|                                  | Notes | £m      | £m      | £m      | £m      |  |
| Assets                           |       |         |         |         |         |  |
| Non current assets               |       |         |         |         |         |  |
| Goodwill                         | 11    | 16.7    | 15.4    | -       | -       |  |
| Other intangible assets          | 12    | 5.6     | 3.7     | 4.1     | 2.3     |  |
| Property, plant and equipment    | 13    | 45.8    | 47.7    | 8.5     | 8.7     |  |
| Investment property              | 14    | 1.9     | -       | -       | =       |  |
| nvestments                       | 15    | -       | -       | 48.5    | 36.3    |  |
| Trade and other receivables      | 17    | 1.2     | -       | -       | -       |  |
| Derivative financial assets      |       | -       | 0.1     | -       | -       |  |
| Deferred tax assets              | 24    | 15.6    | 20.4    | 4.1     | 10.7    |  |
|                                  |       | 86.8    | 87.3    | 65.2    | 58.0    |  |
| Current assets                   |       |         |         |         |         |  |
| Inventories                      | 16    | 5.2     | 7.7     | -       | _       |  |
| Trade and other receivables      | 17    | 61.9    | 55.2    | 31.2    | 46.0    |  |
| Derivative financial assets      |       | 0.2     | 0.3     | 0.1     | 0.1     |  |
| Current tax assets               |       | 0.7     | 0.7     | _       | -       |  |
| Cash and cash equivalents        | 32    | 9.9     | 7.8     | 0.2     | 0.1     |  |
| Assets held for sale             | 9     | _       | 1.4     | -       |         |  |
|                                  |       | 77.9    | 73.1    | 31.5    | 46.2    |  |
| Total assets                     |       | 164.7   | 160.4   | 96.7    | 104.2   |  |
| Liabilities                      |       |         |         |         |         |  |
| Current liabilities              |       | ()      | (       | ()      |         |  |
| Bank loans and overdrafts        | 20    | (8.2)   | (15.2)  | (5.5)   | (10.9   |  |
| Trade and other payables         | 19    | (48.8)  | (39.9)  | (10.0)  | (11.2   |  |
| Derivative financial liabilities |       | -       | (0.1)   | -       | (0.1    |  |
| Current tax liabilities          |       | (2.8)   | (3.6)   | (0.9)   | (0.9    |  |
| Provisions                       | 25    | (1.0)   | (0.5)   | -       | _       |  |
|                                  |       | (60.8)  | (59.3)  | (16.4)  | (23.1   |  |
| Net current assets               |       | 17.1    | 13.8    | 15.1    | 23.1    |  |
| Non current liabilities          |       | (2.2)   | (2, 1)  |         |         |  |
| Bank loans                       | 22    | (0.2)   | (0.4)   | -       | -       |  |
| Retirement benefit obligations   | 23    | (13.4)  | (34.4)  | (13.4)  | (34.4   |  |
| Derivative financial liabilities |       | -       | (0.2)   | -       | (0.2    |  |
| Deferred tax liabilities         | 24    | (0.7)   | (1.3)   | (0.7)   | (1.3    |  |
|                                  |       | (14.3)  | (36.3)  | (14.1)  | (35.9   |  |
| Total liabilities                |       | (75.1)  | (95.6)  | (30.5)  | (59.0   |  |
| Net assets                       |       | 89.6    | 64.8    | 66.2    | 45.2    |  |
| Shareholders' equity             |       |         |         |         |         |  |
| Share capital                    | 26    | 12.9    | 12.9    | 12.9    | 12.9    |  |
| Share premium                    | 28    | 13.8    | 13.8    | 13.8    | 13.8    |  |
| Other reserves                   | 29    | 6.4     | 5.2     | -       | -       |  |
| Retained earnings                | 30    | 56.5    | 32.9    | 39.5    | 18.5    |  |
| Total equity                     |       | 89.6    | 64.8    | 66.2    | 45.2    |  |
|                                  |       |         |         |         |         |  |

The financial statements of Ricardo plc (registered number 222915) on pages 65 to 97 were approved by the Board of Directors on 23 September 2011 and signed on its behalf by:

-

Dave Shemmans (Chief Executive Officer)

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Paula Bell (Group Finance Director)

### Consolidated and parent company cash flow statements for the twelve months

ended 30 June 2011

|   | Notes | Group              |                    | Company            |                    |
|---|-------|--------------------|--------------------|--------------------|--------------------|
|   |       | June<br>2011<br>£m | June<br>2010<br>£m | June<br>2011<br>£m | June<br>2010<br>£m |
|   |       |                    |                    |                    |                    |
|   |       |                    |                    |                    |                    |
| Cash flows from operating activities                                |       |                    |                    |                    |                    |
| Cash generated/(used) by operations                                 | 31    | 28.3               | 11.9               | (0.3)              | (4.2)              |
| nterest received  |       | 0.2                | 1.3                | 0.8                | 1.5                |
| nterest paid  |       | (0.9)              | (1.6)              | (0.6)              | (0.9)              |
| Defined benefit pension scheme financing costs                      |       | (1.9)              | (1.7)              | -                  | 0.4                |
| Tax paid  |       | (2.1)              | (1.8)              | -                  | -                  |
| Net cash generated/(used) by operating activities                   |       | 23.6               | 8.1                | (0.1)              | (3.2)              |
| Cash flows from investing activities                                |       |                    |                    |                    |                    |
| Proceeds of sale of property, plant and equipment                   |       | -                  | 0.1                | -                  | -                  |
| Net proceeds on disposal of discontinued operations                 |       | 1.4                | -                  | -                  | -                  |
| Purchase of intangible assets                                       |       | (2.6)              | (2.0)              | (1.9)              | (1.7)              |
| Purchase of property, plant and equipment – continuing operations   |       | (6.5)              | (5.5)              | (0.1)              | -                  |
| Purchase of property, plant and equipment – discontinued operations |       | -                  | (0.1)              | -                  | -                  |
| Purchase of investments in subsidiary undertakings                  |       | -                  | -                  | -                  | (0.8)              |
| Net cash used by investing activities                               |       | (7.7)              | (7.5)              | (2.0)              | (2.5)              |
| Cash flows from financing activities                                |       |                    |                    |                    |                    |
| Net proceeds from issue of ordinary share capital                   |       | -                  | 0.1                | -                  | 0.1                |
| Net proceeds from issue of new bank loan                            |       | 16.1               | 8.6                | 14.5               | 6.2                |
| Repayment of borrowings   |       | (25.9)             | (9.3)              | (23.5)             | (9.1)              |
| Dividends paid to shareholders                                      | 8     | (5.6)              | (5.5)              | (5.6)              | (5.5)              |
| Dividends received from subsidiaries                                |       | -                  | -                  | 13.2               | 8.5                |
| Net cash (used)/generated by financing activities                   |       | (15.4)             | (6.1)              | (1.4)              | 0.2                |
| Effect of exchange rate changes                                     |       | (0.8)              | 0.3                | -                  | -                  |
| Net decrease in cash and cash equivalents                           |       | (0.3)              | (5.2)              | (3.5)              | (5.5)              |
| Cash and cash equivalents at 1 July                                 |       | 4.7                | 9.9                | (1.8)              | 3.7                |
| Net cash and cash equivalents at 30 June                            |       | 4.4                | 4.7                | (5.3)              | (1.8)              |
| At 1 July   |       |                    |                    |                    |                    |
| Cash and cash equivalents   | 32    | 7.8                | 16.8               | 0.1                | 4.2                |
| Bank overdrafts   | 32    | (3.1)              | (6.9)              | (1.9)              | (0.5)              |
|   | 32    | 4.7                | 9.9                | (1.8)              | 3.7                |
| At 30 June  |       |                    |                    |                    |                    |
| Cash and cash equivalents   | 32    | 9.9                | 7.8                | 0.2                | 0.1                |
| Bank overdrafts   | 32    | (5.5)              | (3.1)              | (5.5)              | (1.9)              |
|   | 32    | 4.4                | 4.7                | (5.3)              | (1.8)              |
|   | JZ    | -1.4               | 4./                | (3.3)              | (1.0)              |

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### 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 2010 and 30 June 2011.

#### (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, with the following exceptions: equity-settled share-based payments, derivative financial instruments and defined benefit pension assets which are measured at fair value; and defined benefit pension liabilities which are measured at present value, adjusted for unrecognised past service cost.

In the year, the Group adopted International Reporting Standard: Annual Improvements to IFRSs (2009); amendments to International Reporting Standards: IFRS 1 'First-time Adoption of International Financial Report Standards', IFRS 2 'Share-based Payments', IAS 32 'Financial Instruments: Presentation', IAS 36 'Impairment of Assets', IAS 39 'Financial Instruments: Recognition and Measurement' and IFRS 3 'Business Combinations'; and International Financial Reporting Interpretations: IFRIC 15 'Arrangements for Construction of Real Estates' and IFRIC 19 'Extinguishing Financial Liabilities with Equity Instruments'.

None of the new, 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(x).

#### (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 period. Businesses acquired are accounted for as acquisitions with effect from the date control passes. Those disposed of are accounted for up until control passes at the date of disposal. 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.

#### (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. While fixed price contracts are in progress, revenue is recognised based on their expected profitability and extent of completion. Profit is only taken once the outcome of the contract can be estimated reliably, however unforeseen future events may adversely impact the accuracy of those estimates. Further details are given in note 18.

#### 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 23.

#### 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 24.

#### Goodwill

The Group carries out an impairment review on Goodwill on an annual basis. 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.

#### 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.

#### (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. The results and total assets of discontinued operations are shown in note 9.

#### (e) Revenue

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

#### Professional services

The majority of the Group's revenue is earned from contracts for professional services. The mix of fixed price and time and materials projects varies as projects close and new orders are received.

Where the outcome can be estimated reliably, contract revenue recognition is based on the extent to which the services have been performed. For fixed price contracts, performance is measured based on costs incurred to date as a percentage of total expected costs. For contracts awarded on a time and materials basis, performance is measured based on the expected sales value of the time worked and costs incurred to date.

Profit is not recognised on a contract, and revenue is not recognised in excess of recoverable costs, unless its outcome can be estimated reliably. A loss on a contract is recognised immediately when it becomes probable that the contract cost will exceed the total contract revenue.

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 contracts are treated as separate contracts.

Revenue derived from the sale of software licences and supply of related services is recognised on a straight line basis over the period during which the service is supplied.

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 in advance within trade and other payables.

#### Supply of products

Revenue from the sale of goods is measured at the fair value of the consideration. Revenue from the sale of goods 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, typically on delivery of goods.

The Group's revenue from the sale of tangible goods is principally derived from the sale of high-performance products produced in our assembly operations. In practice, revenue is typically recognised for such sales on delivery to the customer.

A small proportion of products revenue is 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.

#### (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 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. The

expenditure relates both to research expenditure and to development expenditure for which either there is no identifiable and separable intangible asset, or the way in which the output is expected to be used is such that it is not possible to demonstrate satisfactorily the existence of a market for the intangible asset's output.

#### (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. 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 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 as a payment in advance.

#### (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.

#### (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, based on the Group's estimate of participants eligible to receive shares at the point of vesting.

Fair value is measured by using the Monte Carlo model as explained in note 27. 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. Highlights

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#### (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 period.

#### 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 period 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.

#### (I) 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 period 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 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 units 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

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.

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 software products, which have finite useful lives.

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

| <ul> <li>Purchased software</li> </ul> | Between 2 and 10 years |
|--|------------------------|
| – Capitalised software development     | Between 2 and 10 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.

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
- Long and short leasehold property
  Plant and machinery
- Over the term of the lease Between 4 and 10 years Between 2 and 10 years

Between 25 and 50 years

Fixtures, fittings and equipmentFreehold land is not depreciated

#### (q) Investment Properties

Investment properties are properties held to earn rentals and/or for capital appreciation. The Group measures investment property

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at its cost less accumulated depreciation and accumulated impairment losses.

Depreciation is provided to write off the depreciable amount of freehold investment properties on a straight-line basis over its estimated useful life of between 25 and 50 years. The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each balance sheet date.

#### (r) Investments

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

#### (s) 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 cashgenerating 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 cashgenerating unit is estimated to be less than its carrying amount, the carrying amount of the 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.

#### (t) Non-current assets held for sale

Disposal groups held for sale are stated at the lower of carrying amount and fair value less costs to sell when the sale is highly probable and expected to be completed within a year of the reporting date. The disposal group is also to be available for immediate sale and being actively marketed at a price that is reasonable in relation to its current fair value. Businesses acquired with the intention to sell are held at fair value less costs to sell.

#### (u) 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.

#### (v) 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. Cash and cash equivalents comprise cash balances and deposits with maturities of three months or less at inception and, for the purpose of cash flow statements only, bank overdrafts repayable on demand.

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 or net investment hedging instrument as described below.

The Group employs derivative financial instruments, 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 reporting 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.

Gains or losses on retranslation of net investment hedges are recognised in equity until the foreign operation is disposed of, at which point accumulated gains and losses are recycled to the income statement.

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

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

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#### Embedded derivatives

Derivatives embedded in non-derivative host contracts are recognised separately as derivative financial instruments where their risks and characteristics are not closely related to those of the host contract. Changes in the fair value of separately-recognised embedded derivatives are reported in the income statement.

#### (w) 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.

#### (x) New standards and interpretations

At 30 June 2011, the International Accounting Standards Board and IFRIC had issued the standards and interpretations, shown below, that subject to adoption by the EU, are effective, for accounting periods commencing on or after 1 July 2011.

| lssued standards and interpretations not yet effective    | Effective date<br>(periods<br>commencing) | Endorsed<br>by EU |
|---|---|-------------------|
| International Financial Reporting Standards               |   |                   |
| May 2010 Annual Improvements to IFRSs                     | 01-Jan-11                                 | Yes               |
| IFRS 9 Financial Instruments                              | 01-Jan-13                                 | No                |
| Amendments to International Financial Reporting Standards |   |                   |
| IAS 24 Related Party Disclosure                           | 01-Jan-11                                 | Yes               |
| IFRS 7 Financial Instruments: Disclosures                 | 01-Jul-11                                 | No                |
| IAS 12 Income Taxes                                       | 01-Jan-12                                 | No                |
| IAS 1 Presentation of Financial Statements                | 01-Jul-12                                 | No                |
| International Financial Reporting Interpretations         |   |                   |
| IFRIC 14 Prepayments of a minimum funding requirement     | 01-Jan-11                                 | Yes               |

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

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# 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 for continuing operations are Technical Consulting, Strategic 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. Technical Consulting is further analysed by geographical sector to reflect the differing economic factors in these markets. This is consistent with the information provided to the Chief Operating Decision Maker.
- Strategic Consulting generates income from management and operational consultancy.
- Performance Products generates income from manufacturing, assembly, software sales and related services.

Following an increase in activity in our Performance Products business, the financial information provided to the Chief Operating Decision Maker has been amended to separately disclose this segment for the first time. Prior year comparatives have been restated to reflect this.

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.

No operating segments have been aggregated to form the above reportable operating segments. 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 before exceptional items. 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 2011 |
|------------|--------------|
|------------|--------------|

|   | Tech<br>UK<br>£m  | nical Consulting<br>Germany<br>£m | US<br>£m      | Technical<br>Consulting<br>Total<br>£m | Performance<br>Products<br>£m | Strategic<br>Consulting<br>£m | Head Office<br>and<br>Consolidation<br>adjustments<br>£m | Total<br>£m          |
|---|-------------------|-----------------------------------|---------------|--|-------------------------------|-------------------------------|--|----------------------|
| Revenue from external customers<br>Inter-segment revenues                         | 89.5<br>5.2       | 19.1<br>5.6                       | 36.0<br>1.2   | 144.6<br>12.0                          | 41.0<br>0.1                   | 10.9<br>1.4                   |  | 196.5<br>13.5        |
| Total revenues<br>Revenues carried out by other<br>segments                       | 94.7<br>(6.7)     | 24.7<br>(1.5)                     | 37.2<br>(4.1) | 156.6<br>(12.3)                        | 41.1<br>(0.2)                 | 12.3<br>(1.0)                 | -  | 210.0<br>(13.5)      |
| Revenue earned  | 88.0              | 23.2                              | 33.1          | 144.3                                  | 40.9                          | 11.3                          | -  | 196.5                |
| Operating profit from continuing<br>operations<br>Finance income<br>Finance costs | 7.7<br>_<br>(2.2) | 0.3<br>_<br>(0.1)                 | 3.4<br>_<br>_ | 11.4<br>_<br>(2.3)                     | 5.2<br>-<br>-                 | 1.7<br>_<br>_                 | (0.3)<br>0.2<br>(0.5)                                    | 18.0<br>0.2<br>(2.8) |
| Profit before taxation from continuing operations                                 | 5.5               | 0.2                               | 3.4           | 9.1                                    | 5.2                           | 1.7                           | (0.6)  | 15.4                 |
| Total assets per financial<br>statements<br>Total liabilities per financial       | 61.4              | 37.7                              | 24.7          | 123.8                                  | 19.2                          | 4.0                           | 17.7   | 164.7                |
| statements  | (26.9)            | (5.5)                             | (6.0)         | (38.4)                                 | (8.3)                         | (1.1)                         | (27.3)   | (75.1)               |
| Depreciation and amortisation<br>Capital expenditure – Intangible                 | 3.4               | 1.5                               | 1.8           | 6.7                                    | 0.8                           | -                             | 0.4  | 7.9                  |
| assets<br>Capital expenditure – Property, plant<br>and equipment                  | 0.3<br>2.2        | 0.1<br>0.6                        | 0.1<br>2.0    | 0.5<br>4.8                             | 0.1                           | -                             | 2.0<br>0.1   | 2.6<br>6.5           |

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#### Year ended 30 June 2010

|   | Tech              | inical Consulting<br>(Restated) |               | Technical<br>Consulting P<br>Total | erformance<br>Products | Strategic  | Head Office<br>and<br>Consolidation |                      |
|---|-------------------|---------------------------------|---------------|------------------------------------|------------------------|------------|-------------------------------------|----------------------|
|   | UK                | Germany                         | US            | (Restated)                         | (Restated)             | Consulting | adjustments                         | Total                |
|   | £m                | £m                              | £m            | £m                                 | £m                     | £m         | £m                                  | £m                   |
| Revenue from external customers   | 80.3              | 16.4                            | 28.6          | 125.3                              | 28.3                   | 9.2        | -                                   | 162.8                |
| Inter-segment revenues  | 7.5               | 5.6                             | 1.7           | 14.8                               | 0.6                    | 0.9        | -                                   | 16.3                 |
| Total revenues<br>Revenues carried out by other                                   | 87.8              | 22.0                            | 30.3          | 140.1                              | 28.9                   | 10.1       | -                                   | 179.1                |
| segments  | (8.0)             | (6.9)                           | (0.7)         | (15.6)                             | -                      | (0.7)      | -                                   | (16.3)               |
| Revenue earned  | 79.8              | 15.1                            | 29.6          | 124.5                              | 28.9                   | 9.4        | -                                   | 162.8                |
| Operating profit from continuing<br>operations<br>Finance income<br>Finance costs | 5.4<br>_<br>(2.4) | (0.8)<br>0.2<br>(0.1)           | 3.1<br>_<br>_ | 7.7<br>0.2<br>(2.5)                | 3.3<br>                | 1.8<br>    | (0.2)<br>1.0<br>(0.5)               | 12.6<br>1.2<br>(3.0) |
| Profit before taxation from<br>continuing operations                              | 3.0               | (0.7)                           | 3.1           | 5.4                                | 3.3                    | 1.8        | 0.3                                 | 10.8                 |
| Total assets<br>Discontinued operations   | 57.8              | 35.2                            | 22.6          | 115.6                              | 15.4                   | 5.2        | 22.8                                | 159.0<br>1.4         |
| Total assets per financial statements   |                   |                                 |               |                                    |                        |            |                                     | 160.4                |
| Total liabilities<br>Discontinued operations                                      | (22.0)            | (7.8)                           | (3.4)         | (33.2)                             | (5.4)                  | (3.8)      | (53.2)                              | (95.6)<br>–          |
| Total liabilities per financial statements  |                   |                                 |               |                                    |                        |            |                                     | (95.6)               |
| Depreciation and Amortisation<br>Capital expenditure – Intangible                 | 3.7               | 1.6                             | 1.9           | 7.2                                | 0.6                    | -          | 0.4                                 | 8.2                  |
| assets<br>Capital expenditure – Property, plant                                   | 0.1               | 0.1                             | -             | 0.2                                | 0.1                    | -          | 1.7                                 | 2.0                  |
| and equipment   | 3.0               | 0.8                             | 1.2           | 5.0                                | 0.5                    | -          | -                                   | 5.5                  |

Revenues from one customer represent approximately £22.3m (2010: £11.5m) of the Group's external revenue, of which £0.6m is reported in the Technical Consulting segment and £21.7m in the Performance Products segment. Revenues from another customer represent approximately £21.6m (2010: £1.9m) of the Group's external revenue, of which £21.4m is reported in the Technical Consulting segment and £0.2m in the Performance Products segment. In the prior year one customer of the Technical Consulting segment represented approximately £21.1m of the Group's total external revenue.

#### Non Current Assets by geographical location

|                   | 2011 | 2010 |
|-------------------|------|------|
| Asset location    | £m   | £m   |
| UK                | 38.1 | 35.2 |
| US                | 7.0  | 7.3  |
| Germany           | 25.6 | 23.8 |
| Rest of the World | 0.5  | 0.5  |
|                   | 71.2 | 66.8 |

#### 3 Revenue

#### a) Revenue by category

|                         | 2011  | 2010  |
|-------------------------|-------|-------|
| Continuing Operations   | £m    | £m    |
| Rendering of services   | 159.4 | 148.7 |
| Sale of goods           | 37.1  | 14.1  |
|                         | 196.5 | 162.8 |
| Discontinued Operations |       |       |
| Sale of goods           | 0.9   | 11.5  |
| Total Revenue           | 197.4 | 174.3 |

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# b) Revenue by customer location

| External Revenue – continuing operations | 2011<br>£m | 2010<br>£m |
|--|------------|------------|
| UK                                       | 70.0       | 42.7       |
| Germany                                  | 23.7       | 21.6       |
| Rest of Europe                           | 16.8       | 27.5       |
| Europe Total                             | 110.5      | 91.8       |
| US                                       | 47.8       | 40.6       |
| China                                    | 8.0        | 10.2       |
| Japan                                    | 13.8       | 9.8        |
| Malaysia                                 | 9.6        | 2.0        |
| Rest of Asia                             | 6.5        | 7.7        |
| Asia total                               | 37.9       | 29.7       |
| Rest of the World                        | 0.3        | 0.7        |
|  | 196.5      | 162.8      |
|  |            |            |

# 4 Operating profit

|   | 2011  | 2010  |
|---|-------|-------|
|   | £m    | £m    |
| The following items have been charged in arriving at operating profit:  |       |       |
| Amortisation of intangible assets (note 12)   | 0.7   | 0.8   |
| Depreciation of property, plant and equipment (note 13)   | 7.2   | 7.4   |
| Cost of inventories recognised as expense   | 19.9  | 19.6  |
| Operating lease rentals payable:  |       |       |
| – plant and machinery   | 0.4   | 0.4   |
| – property  | 3.3   | 3.6   |
| Repairs and maintenance on property, plant and equipment  | 2.7   | 2.1   |
| Other income - rental   | 0.2   | -     |
| Redundancy and termination costs  | 1.2   | 0.2   |
| Loss on disposal of fixed assets  | 0.1   | -     |
| Trade receivables impairment  | 0.7   | 0.4   |
| Foreign exchange losses   | 0.4   | 1.2   |
|   |       |       |
|   | 2011  | 2010  |
|   | £m    | £m    |
| With respect to the Group research and development activities the following items have been charged/(credited) in arriving at operating profit: |       |       |
| Research and development expenditure in the period  | 13.3  | 11.9  |
| Government grant income received in respect of part of this expenditure   | (5.5) | (3.0) |
|   | 7.8   | 8.9   |
|   |       |       |
|   | 2011  | 2010  |
|   | £m    | £m    |
| During the year the Group obtained the following services from the Group's auditors and network firms:  |       |       |

| es payable to the company's auditor and its associates for other services                              | 0.2 | 0.1 |
|--|-----|-----|
| es payable to parent company auditor for the audit of the parent and consolidated financial statements | 0.3 | 0.3 |

Fees payable to the company's auditors for other services comprise £49,000 (2010: £42,000) for the interim review, £49,000 (2010: £42,000) for advisory services in relation to project assurance, £30,000 (2010: £nil) for advisory services in relation to the effect of future IFRS developments, £6,000 (2010: £4,000) for taxation advisory services, £22,000 (2010: £22,000) for the statutory audit of the Group's German subsidiaries and £9,000 (2010: £nil) for other services.

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# 5. Employees

| Staff costs  | 2011<br>£m                | 2010<br>£m                |
|--|---------------------------|---------------------------|
| Wages and salaries<br>Social security costs<br>Other pension costs (note 23)<br>Share-based payments (note 27) | 73.7<br>9.6<br>3.0<br>0.2 | 66.1<br>9.5<br>2.5<br>0.9 |
|  | 86.5                      | 79.0                      |
| Average number of employees (including executive directors) during the year                                    | 2011<br>Number            | 2010<br>Number            |
| Production and engineering staff<br>Management, administration and sales                                       | 1,220<br>292              | 1,256<br>274              |
|  | 1,512                     | 1,530                     |
| Key management compensation  | 2011<br>£m                | 2010<br>£m                |
| Salaries and short-term employee benefits<br>Share-based payments<br>Post-employment benefits                  | 3.2<br>0.3<br>0.2         | 1.9<br>0.3<br>0.3         |
|  | 3.7                       | 2.5                       |

The key management personnel are the Board of Directors and the Managing Directors of the Technical Consulting businesses in the UK, US and Germany and the Managing Director of Strategic Consulting. The number of key management personnel at 30 June 2011 has increased from 30 June 2010.

# 6 Finance income and costs

|   | 2011<br>£m | 2010<br>£m |
|---|------------|------------|
| Finance income                                    |            |            |
| Bank interest receivable                          | 0.2        | 0.3        |
| Interest on other financial assets                | -          | 0.9        |
|   | 0.2        | 1.2        |
| Finance costs                                     |            |            |
| Interest payable on bank borrowings               | 0.7        | 0.6        |
| Defined benefit pension financing costs (note 23) | 1.9        | 1.7        |
| Interest on other financial liabilities           | 0.2        | 0.7        |
|   | 2.8        | 3.0        |

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# 7 Taxation

|   | 2011  | 2010  |
|---|-------|-------|
|   | £m    | £m    |
| Current tax                                       |       |       |
| UK corporation tax at 27.5% (2010: 28%)           | -     | -     |
| Adjustment in respect of prior years              | -     | (0.1) |
| Total UK tax                                      | -     | (0.1) |
| Foreign corporation tax                           | 1.2   | 2.7   |
| Total current tax                                 | 1.2   | 2.6   |
| Deferred tax                                      |       |       |
| Credit for year relating to temporary differences | (1.5) | (1.4) |
| Adjustment in respect of prior years              | 0.3   | (0.7) |
| Total deferred tax                                | (1.2) | (2.1) |
| Taxation  | -     | 0.5   |
| Tax on items recognised directly in equity        | 5.5   | (2.1) |
| Total current tax charge                          | 1.2   | 2.6   |
| Total deferred tax charge/(credit)                | 4.3   | (4.2) |

Finance Act (No 2) 2010 included legislation to reduce the main rate of UK corporation tax from 28% to 27% with effect from 1 April 2011. A resolution passed by Parliament on 29 March 2011 further reduced the main rate of corporation tax to 26% from 1 April 2011. Closing deferred tax balances in the UK have therefore been valued at 26%.

The June 2010 and March 2011 Budget Statements also included proposals for additional reductions of the main rate of corporation tax by 1% per year to 23% on 1 April 2014. 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 (2010: lower) than the standard rate of corporation tax in the UK. The differences are set out below.

|  | 2011  | 2010  |
|--|-------|-------|
|  | £m    | £m    |
| Profit for the year before tax   | 15.4  | 10.8  |
| Profit for the year multiplied by rate of corporation tax in the UK of 27.5% (2010: 28%) | 4.2   | 3.0   |
| Effects of:  |       |       |
| Expenses not deductible for tax purposes   | 0.2   | 0.1   |
| Government tax incentives  | (5.4) | (2.8) |
| Irrecoverable overseas tax <sup>(2)</sup>  | 0.8   | 1.4   |
| Adjustments to taxation in respect of prior years (1)                                    | (0.7) | (1.4) |
| Other differences in tax rate/other  | 0.9   | 0.2   |
| Total taxation   | -     | 0.5   |

(1) Including 23% regarding £3.5m of R&D tax credits (2010: 34% regarding £3.7m)
 (2) Mainly relates to withholding taxes

# 8 Dividends

|  | 2011<br>£m | 2010<br>£m |
|--|------------|------------|
| Final paid 7.5p per share (2010 : 7.5p)<br>Interim paid 3.4p per share (2010 : 3.2p) | 3.9<br>1.7 | 3.9<br>1.6 |
| Equity dividends paid  | 5.6        | 5.5        |

The directors are proposing a final dividend in respect of the financial year ended 30 June 2011 of 8.1p per share which will absorb £4.2m of retained profits. It will be paid on 25 November 2011 to shareholders who are on the register of members at the close of business on 21 October 2011, subject to approval at the Annual General Meeting on 17 November 2011.

# 9 Discontinued operations

At 30 June 2010, the Group's exhaust business in Germany was classified as held for sale, and as a discontinued business.

The sale agreement for the transfer of the business, plant and equipment and inventories for cash consideration of €2.0m was signed on the 28 July 2010.

|  | 2011  | 2010   |
|--|-------|--------|
| Results of discontinued operations                       | £m    | £m     |
| Revenue  | 0.9   | 11.5   |
| Operating costs  | (1.1) | (12.0) |
| Operating loss   | (0.2) | (0.5)  |
| Finance costs  | -     | (0.2)  |
| Loss before tax  | (0.2) | (0.7)  |
| Attributable tax credit                                  | -     | 0.2    |
| Write down of assets held for sale                       | -     | (2.9)  |
| Tax effect of write down                                 | -     | 0.7    |
| Net loss attributable to discontinued operations         | (0.2) | (2.7)  |
|  | 2011  | 2010   |
| Assessment the latter is a set final and which for works | 2011  | 2010   |
| Assets and liabilities classified as held for sale       | £m    | £m     |
| Property, plant and equipment                            | -     | 0.2    |
| Inventories  | -     | 1.2    |
| Total assets classified as held for sale                 | _     | 1.4    |
| Net assets of the disposal group                         | -     | 1.4    |
|  |       |        |

There is no net expense recognised directly in equity contained in the consolidated statement of comprehensive income relating to discontinued operations (2010: £nil).

# 10 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 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.

|   | 2011<br>£m  | 2010<br>£m |
|---|-------------|------------|
| Earnings attributable to equity shareholders<br>Adjustments to exclude loss for the year from discontinued operations | 15.2<br>0.2 | 7.6<br>2.7 |
| Earnings from continuing operations   | 15.4        | 10.3       |

|  | Number of<br>shares<br>millions | Number of<br>shares<br>millions |
|--|---------------------------------|---------------------------------|
| Basic average number of shares in issue<br>Effect of dilutive potential shares | 51.4<br>0.4                     | 51.3<br>0.2                     |
| Diluted average number of shares in issue                                      | 51.8                            | 51.5                            |

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| Farnings per share                             | Per share<br>amount | Per share<br>amount |
|--|---------------------|---------------------|
| Earnings per share                             | pence               | pence               |
| From continuing operations<br>Basic<br>Diluted | 30.0<br>29.7        | 20.1<br>20.0        |
| From continuing and discontinued operations    |                     |                     |
| Basic<br>Diluted                               | 29.6<br>29.3        | 14.8<br>14.8        |
| From discontinued operations                   |                     |                     |
| Basic  | (0.4)               | (5.3)               |
| Diluted  | (0.4)               | (5.2)               |

#### 11 Goodwill

| Group                | fm    |
|----------------------|-------|
| At 1 July 2009       | 16.0  |
| Exchange adjustments | (0.6) |
| At 30 June 2010      | 15.4  |
| Exchange adjustments | 1.3   |
| At 30 June 2011      | 16.7  |

At the reporting date £14.0m of the net book value relates to the German Technical Consulting business (2010: £12.7m) and £2.7m (2010: £2.7m) of the net book value relates to two businesses which have been fully integrated into Ricardo UK Limited (Gemini and Tarragon).

The recoverable amounts were evaluated based on the value-in-use calculations. The key assumptions for the value in use calculations are those regarding the discount rates, growth rates and operating cashflow projections.

These calculations use pre-tax cash flow projections based on financial budgets approved by management covering a five year period, which for the German Technical Consulting business includes higher rates of growth due to wider and deeper client penetration as it builds its brand leading to follow on business. Management estimate discount rates using pre-tax rates that reflect current market assessments of the Group's time value of money and the risks specific to the cash generating unit ("CGU"). The growth rate assumed after this five year period is based on long-term GDP projections for the market that the CGU operates within of 3%. The growth rates assume that demand for our services in the German and UK businesses remain broadly in line with the underlying economic environment in the long term future. Taking account of future market conditions we believe that the evolution of selling prices and direct costs will reflect past practices. The pre-tax discount rate used to discount the German and the UK cashflows were 9.7% (2010: 10.3%), and 9.6% (2010: 11.1%) respectively.

The recoverable amounts of both the UK and German Technical Consulting businesses (CGU's) are in excess of the carrying values, and so no impairment has arisen in the year (2010: nil). At 30 June 2011, the date of the Group's annual impairment test, the estimated recoverable amount of the German Technical Consulting CGU exceeded its carrying value by a substantial amount. 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 CGU's.

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# 12 Other intangible assets

| Group  | Purchased<br>software<br>£m | Software<br>development<br>costs<br>£m | Total<br>£m                 |
|--|-----------------------------|--|-----------------------------|
|  | LIII                        | £111                                   | 2111                        |
| Cost<br>At 1 July 2009<br>Additions<br>Disposals   | 9.2<br>2.0<br>(0.5)         | 0.6<br>                                | 9.8<br>2.0<br>(0.5)         |
| At 30 June 2010  | 10.7                        | 0.6                                    | 11.3                        |
| Additions<br>Disposals<br>Transfer from held for sale<br>Exchange rate adjustments           | 2.5<br>(0.2)<br>0.3<br>0.1  | 0.1<br>_<br>_<br>_                     | 2.6<br>(0.2)<br>0.3<br>0.1  |
| At 30 June 2011  | 13.4                        | 0.7                                    | 14.1                        |
| Accumulated amortisation<br>At 1 July 2009<br>Charge for the year<br>Disposals               | 7.2<br>0.8<br>(0.5)         | 0.1                                    | 7.3<br>0.8<br>(0.5)         |
| At 30 June 2010  | 7.5                         | 0.1                                    | 7.6                         |
| Charge for the year<br>Disposals<br>Transfer from held for sale<br>Exchange rate adjustments | 0.6<br>(0.2)<br>0.3<br>0.1  | 0.1<br>                                | 0.7<br>(0.2)<br>0.3<br>0.1  |
| At 30 June 2011  | 8.3                         | 0.2                                    | 8.5                         |
| Net book amounts   |                             |  |                             |
| At 30 June 2011  | 5.1                         | 0.5                                    | 5.6                         |
| At 30 June 2010  | 3.2                         | 0.5                                    | 3.7                         |
| At 30 June 2009  | 2.0                         | 0.5                                    | 2.5                         |
| Company  |                             |  | Purchased<br>software<br>£m |
| <b>Cost</b><br>At 1 July 2009<br>Additions   |                             |  | 0.7<br>1.7                  |
| At 30 June 2010  |                             |  | 2.4                         |
| Additions  |                             |  | 1.9                         |
| At 30 June 2011  |                             |  | 4.3                         |
| Accumulated amortisation<br>At 1 July 2009<br>Charge for the year                            |                             |  | 0.1                         |

| Charge for the year | -   |
|---------------------|-----|
| At 30 June 2010     | 0.1 |
| Charge for the year | 0.1 |
| At 30 June 2011     | 0.2 |
| Net book amounts    |     |
| At 30 June 2011     | 4.1 |
| At 30 June 2010     | 23  |

 At 30 June 2010
 2.3

 At 30 June 2009
 0.6

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 £3.2m (2010: £2.2m) in respect of assets under construction, which are not being amortised.

# 13 Property, plant and equipment

|                                 | Land and bu | Land and buildings<br>Short |                        | Fixtures,              |       |
|---------------------------------|-------------|-----------------------------|------------------------|------------------------|-------|
|                                 | Freehold    | leasehold                   | Plant and<br>machinery | fittings and equipment | Total |
| Group                           | £m          | £m                          | £m                     | £m                     | £m    |
| Cost                            |             |                             |                        |                        |       |
| At 1 July 2009                  | 16.3        | 7.5                         | 91.6                   | 15.6                   | 131.0 |
| Additions                       | 1.2         | 0.1                         | 2.9                    | 1.3                    | 5.5   |
| Disposals                       | _           | -                           | (3.7)                  | (2.9)                  | (6.6) |
| Reclassified from held for sale | 3.5         | -                           | 0.1                    | 0.1                    | 3.7   |
| Exchange rate adjustments       | (0.5)       | 0.1                         | 1.8                    | 0.4                    | 1.8   |
| At 30 June 2010                 | 20.5        | 7.7                         | 92.7                   | 14.5                   | 135.4 |
| Additions                       | 0.1         | 0.1                         | 4.5                    | 1.8                    | 6.5   |
| Disposals                       | _           | -                           | (1.2)                  | (0.4)                  | (1.6) |
| Reclassification                | 0.5         | (0.3)                       | 0.1                    | (0.3)                  | -     |
| Transfer to Investment property | (3.1)       | -                           | -                      | -                      | (3.1) |
| Exchange rate adjustments       | 0.8         | (0.1)                       | (0.9)                  | -                      | (0.2) |
| At 30 June 2011                 | 18.8        | 7.4                         | 95.2                   | 15.6                   | 137.0 |
| Accumulated depreciation        |             |                             |                        |                        |       |
| At 1 July 2009                  | 2.2         | 2.6                         | 66.4                   | 12.5                   | 83.7  |
| Charge for the year             | 0.5         | 0.3                         | 5.3                    | 1.3                    | 7.4   |
| Disposals                       | -           | -                           | (3.7)                  | (2.8)                  | (6.5) |
| Reclassified from held for sale | 1.2         | -                           | 0.1                    | 0.1                    | 1.4   |
| Exchange rate adjustments       | (0.1)       | 0.1                         | 1.4                    | 0.3                    | 1.7   |
| At 30 June 2010                 | 3.8         | 3.0                         | 69.5                   | 11.4                   | 87.7  |
| Charge for the year             | 0.4         | 0.3                         | 5.1                    | 1.2                    | 7.0   |
| Disposals                       | -           | -                           | (1.1)                  | (0.4)                  | (1.5) |
| Reclassifications               | 0.3         | (0.3)                       | -                      | -                      | -     |
| Transfer to Investment property | (1.1)       | -                           | -                      | -                      | (1.1) |
| Exchange rate adjustments       | 0.2         | (0.1)                       | (0.9)                  | (0.1)                  | (0.9) |
| At 30 June 2011                 | 3.6         | 2.9                         | 72.6                   | 12.1                   | 91.2  |
| Net book amounts                |             |                             |                        |                        |       |
| At 30 June 2011                 | 15.2        | 4.5                         | 22.6                   | 3.5                    | 45.8  |
| At 30 June 2010                 | 16.7        | 4.7                         | 23.2                   | 3.1                    | 47.7  |
| At 30 June 2009                 | 14.1        | 4.9                         | 25.2                   | 3.1                    | 47.3  |
|                                 |             |                             |                        |                        |       |

The carrying value of assets under construction included in property, plant and equipment amounts to £1.1m (2010: £1.7m). At 30 June 2011, contracts had been placed for future capital expenditure, which have not been provided for in the financial statements, amounting to £0.7m (2010: £1.3m).

|                                 | Land and buildings<br>Short |           | Fixtures,<br>fittings and |       |  |
|---------------------------------|-----------------------------|-----------|---------------------------|-------|--|
|                                 | Freehold                    | leasehold | equipment                 | Total |  |
| Company                         | £m                          | £m        | £m                        | £m    |  |
| Cost                            |                             |           |                           |       |  |
| At 1 July 2009 and 30 June 2010 | 5.6                         | 6.1       | -                         | 11.7  |  |
| Additions                       | -                           | -         | 0.1                       | 0.1   |  |
| At 30 June 2011                 | 5.6                         | 6.1       | 0.1                       | 11.8  |  |
| Accumulated depreciation        |                             |           |                           |       |  |
| At 1 July 2009                  | 1.1                         | 1.5       | -                         | 2.6   |  |
| Charge for the year             | 0.1                         | 0.3       | -                         | 0.4   |  |
| At 30 June 2010                 | 1.2                         | 1.8       | -                         | 3.0   |  |
| Charge for the year             | 0.1                         | 0.2       | _                         | 0.3   |  |
| At 30 June 2011                 | 1.3                         | 2.0       | -                         | 3.3   |  |
| Net book amounts                |                             |           |                           |       |  |
| At 30 June 2011                 | 4.3                         | 4.1       | 0.1                       | 8.5   |  |
| At 30 June 2010                 | 4.4                         | 4.3       | -                         | 8.7   |  |
| At 30 June 2009                 | 4.5                         | 4.6       | _                         | 9.1   |  |

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# 14 Investment property

| Group   | Investment<br>Property<br>£m |
|---|------------------------------|
| Cost  |                              |
| At 1 July 2009 and 30 June 2010                             | -                            |
| Transfer from Property, plant and equipment                 | 3.1                          |
| Exchange rate adjustments                                   | 0.1                          |
| At 30 June 2011   | 3.2                          |
| Accumulated depreciation<br>At 1 July 2009 and 30 June 2010 | _                            |
| Transfer from Property, plant and equipment                 | 11                           |
| Charge for the year   | 0.2                          |
| At 30 June 2011   | 1.3                          |

| At 30 June 2011 | 1.9 |
|-----------------|-----|
| At 30 June 2010 | _   |
| At 30 June 2009 | -   |

The investment properties were valued at £2.7m as at 30 June 2011 (no valuation was performed in 2010) by qualified professional valuers working for Immobilien Ostalb GmbH, acting in the capacity of external valuers. The valuers are registered under ISO/IEC 17024 by the HypZert GmbH and are members of the valuers' committee of the city of Schwäbisch Gmünd. The properties were valued on the basis of market value. As the investment property is held at depreciated historic cost, this valuation has not been reflected in the carrying value of the assets.

Rental income from investment properties was £0.2m (2010: £nil).

#### 15 Investments

| Company   | Share in<br>subsidiaries<br>£m |
|---|--------------------------------|
| At 1 July 2009<br>Additions   | 50.9<br>0.8                    |
| At 30 June 2010   | 51.7                           |
| Additions   | 12.2                           |
| At 30 June 2011   | 63.9                           |
| Provisions for impairment at 1 July 2009, 30 June 2010 and 30 June 2011 | 15.4                           |
| Net book amounts  |                                |
| At 30 June 2011   | 48.5                           |
| At 30 June 2010   | 36.3                           |
| At 30 June 2009   | 35.5                           |

Additions relate to increasing the investment in Ricardo UK Limited by £9,999,998, transferring Ricardo Prague S.R.O from another Group company and establishing Ricardo Russia Limited. Details of the principal operating subsidiaries are shown in note 36.

The directors consider that the fair value of investments is not less than the carrying value.

#### 16 Inventories

| Group   | 2011<br>£m | 2010<br>£m |
|---|------------|------------|
| Raw materials and consumables<br>Work in progress | 4.3<br>0.9 | 6.8<br>0.9 |
|   | 5.2        | 7.7        |

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# 17 Trade and other receivables

|   | Group |       | Company |      |
|---|-------|-------|---------|------|
|   | 2011  | 2010  | 2011    | 2010 |
|   | £m    | £m    | £m      | £m   |
| Trade receivables                                 | 39.2  | 27.2  | _       | -    |
| Less : provision for impairment of receivables    | (0.7) | (0.8) | -       | -    |
| Trade receivables – net                           | 38.5  | 26.4  | _       | -    |
| Amounts recoverable on contracts (note 18)        | 17.9  | 23.8  | -       | -    |
| Amounts owed by Group undertakings                | -     | -     | 30.6    | 45.1 |
| Prepayments and accrued income                    | 4.4   | 2.5   | 0.6     | 0.9  |
| Other receivables                                 | 2.3   | 2.5   | -       | -    |
|   | 63.1  | 55.2  | 31.2    | 46.0 |
| Trade and other receivables analysis by category: |       |       |         |      |
| Non current assets                                | 1.2   | _     | _       | _    |
| Current assets                                    | 61.9  | 55.2  | 31.2    | 46.0 |
|   | 63.1  | 55.2  | 31.2    | 46.0 |
| Provision for doubtful debts:                     |       |       |         |      |
| At 1 July   | (0.8) | (0.7) | -       | -    |
| Income statement charge                           | (0.7) | (0.4) | -       | -    |
| Amounts utilised                                  | 0.8   | 0.4   | -       | _    |
| Reclassified from held for sale                   | -     | (0.1) | -       | -    |
| At 30 June  | (0.7) | (0.8) | -       | -    |

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

The provision for doubtful debts has been calculated based on past experience and is in relation to specific customers.

# 18 Contracts in progress

| Group   | 2011<br>£m       | 2010<br>£m       |
|---|------------------|------------------|
| Amounts due from customers:   | 17.0             | 22.0             |
| Amounts expected to be recovered within 12 months<br>Amounts due to contract customers:                                   | 17.9             | 23.8             |
| Amounts expected to be settled within 12 months   | (15.6)           | (10.8)           |
| Net amounts due from contract customers   | 2.3              | 13.0             |
| Analysed as:<br>Contract costs incurred plus recognised profits less recognised losses to date<br>Less: progress billings | 238.4<br>(236.1) | 236.5<br>(223.5) |
| Contracts in progress at reporting date   | 2.3              | 13.0             |
| IAS 11 contract revenue   | 150.8            | 142.9            |

# 19 Trade and other payables

|                                    | Group      |      | Company |          |    |
|------------------------------------|------------|------|---------|----------|----|
|                                    | 2011<br>£m | 2010 | 2011    | 2010     |    |
|                                    |            | £m   | £m      | £m £m £m | £m |
| Trade payables                     | 6.5        | 7.6  | 0.7     | 0.7      |    |
| Tax and social security payable    | 4.1        | 2.6  | 0.3     | 0.1      |    |
| Amounts owed to Group undertakings | _          | -    | 3.1     | 5.8      |    |
| Accruals                           | 14.1       | 14.0 | 3.9     | 2.7      |    |
| Payments received in advance       | 20.0       | 12.4 | -       | -        |    |
| Other payables                     | 4.1        | 3.3  | 2.0     | 1.9      |    |
|                                    | 48.8       | 39.9 | 10.0    | 11.2     |    |

In respect of the Company, amounts owed to Group undertakings are interest-free, have no fixed repayment date and no security has been given.

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# 20 Bank loans and overdrafts

|                          |      | Group |      | Company |  |
|--------------------------|------|-------|------|---------|--|
|                          | 2011 | 2010  | 2011 | 2010    |  |
|                          | £m   | £m    | £m   | £m      |  |
| Bank overdrafts          | 5.5  | 3.1   | 5.5  | 1.9     |  |
| Current bank loans       | 2.7  | 12.1  | -    | 9.0     |  |
| Total current borrowings | 8.2  | 15.2  | 5.5  | 10.9    |  |

The current bank loans mature within one year of the reporting date and are denominated in Euros and US dollars (in 2010 there were also loans denominated in Sterling and Swiss francs). All current loans have variable rates of interest. The variable interest rates vary from 0.9% above Euribor to 1.6% above the People's Bank of China base rate. There are no longer any loan balances in respect of Ricardo Deutschland GmbH secured on buildings belonging to the company (2010: £2.5m).

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.

#### 21 Fair value of financial assets and liabilities

There are no differences between the fair value of financial assets and liabilities and their carrying value.

| The fair value of short term deposits, loans and overdrafts approximates to the carrying amount        |
|--|
| because of the short maturity of these instruments.  |
| 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.  |
| 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:

|   | 2011  | 2010  |
|---|-------|-------|
| Net exchange gains/(losses)               | £m    | £m    |
| Profit/(loss):                            |       |       |
| On loans and receivables                  | 0.3   | (0.8) |
| On other financial assets and liabilities | (1.4) | 1.6   |
|   | (1.1) | 0.8   |
| Equity:                                   |       |       |
| On other hedging instruments              | 0.2   | (0.8) |
|   | 0.2   | (0.8) |

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# 22 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 statement of financial position plus net debt.

|                            | Gro   | Group |      | Company |  |
|----------------------------|-------|-------|------|---------|--|
|                            | 2011  | 2010  | 2011 | 2010    |  |
| Gearing ratio              | £m    | £m    | £m   | £m      |  |
| Net (funds)/debt (note 32) | (1.5) | 7.8   | 5.3  | 10.8    |  |
| Total equity               | 89.6  | 64.8  | 66.2 | 45.2    |  |
| Total capital              | 88.1  | 72.6  | 71.5 | 56.0    |  |
| Gearing ratio              | -     | 10.7% | 7.4% | 19.3%   |  |

#### (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.

At the year end, the Group held total facilities of £50.6m (2010: £48.9m). This included committed facilities of £30.0m (2010: £28.2m). No committed facilities were drawn at 30 June 2011, whereas £6.6m was drawn at 30 June 2010. A £10m facility was replaced during the year with a £15m facility which is now available for the period to November 2015. A further committed facility of £15m was granted during the previous year and is available until December 2012. A committed facility for £2.4m matured in July 2010 and others for £0.8m matured in November 2010. In addition the Group had uncommitted facilities including overdrafts of £20.6m (2010: £20.7m) at 30 June, which mature throughout the year to June 2012 with the exception of one uncommitted facility in Germany for £0.4m which matures in 2014. The uncommitted facilities are renewable annually, with the exception of two uncommitted facilities in Germany, which are renewable monthly.

|                                     | Group |        | Company |       |
|-------------------------------------|-------|--------|---------|-------|
|                                     | 2011  | 2010   | 2011    | 2010  |
| Maturity of bank loans              | £m    | £m     | £m      | £m    |
| Maturing                            |       |        |         |       |
| Within 1 month                      | (1.9) | (11.5) | -       | (9.0) |
| After 1 month and within 3 months   | (0.7) | -      | _       | -     |
| After 3 months and within 12 months | (0.1) | (0.6)  | _       | -     |
| After 12 months and within 5 years  | (0.2) | (0.4)  | -       | -     |
| After 5 years                       | -     | -      | -       | -     |
|                                     | (2.9) | (12.5) | -       | (9.0) |
|                                     | (     | Group  | Comp    | bany  |
|                                     | 2011  | 2010   | 2011    | 2010  |
| Maturity of trade payables          | £m    | £m     | £m      | £m    |
| Maturing                            |       |        |         |       |
| Within 1 month                      | (4.5) | (5.0)  | (0.7)   | (0.7) |
| After 1 month and within 3 months   | (1.5) | (2.2)  | -       | -     |
| After 3 months and within 12 months | (0.5) | (0.4)  | -       | -     |
|                                     | (6.5) | (7.6)  | (0.7)   | (0.7) |

#### (d) Credit risk

The Group is exposed to credit risk in respect of its trade receivables, which are stated net of provision for estimated doubtful receivables. 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. Due to this, the directors believe there is no further credit risk provision required in excess of any normal provision for doubtful receivables.

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| Ageing of trade receivables                |      |      | 2011<br>£m | 2010<br>£m |
|--|------|------|------------|------------|
| Not overdue                                |      |      | 25.2       | 17.9       |
| Overdue but not impaired:                  |      |      |            |            |
| 0 – 90 days overdue                        |      |      | 11.5       | 6.8        |
| 91 – 180 days overdue                      |      |      | 1.1        | 1.1        |
| Over 180 days overdue                      |      |      | 0.7        | 0.6        |
|  |      |      | 38.5       | 26.4       |
|  | Gro  | oup  | Com        | oany       |
|  | 2011 | 2010 | 2011       | 2010       |
| Maximum exposure to bank counterparty risk | £m   | £m   | £m         | £m         |
| Cash at bank and in hand                   | 9.9  | 7.8  | 0.2        | 0.1        |
| Derivative financial assets                | 0.2  | 0.4  | 0.1        | 0.1        |
|  | 10.1 | 8.2  | 0.3        | 0.2        |

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 |       | Comp  | bany  |
|---|-------|-------|-------|-------|
|   | 2011  | 2010  | 2011  | 2010  |
| Financial assets and liabilities by interest type | £m    | £m    | £m    | £m    |
| Floating rate financial liabilities               | (8.4) | (8.1) | (5.5) | (4.3) |
| No interest financial liabilities                 | (6.5) | (7.9) | (3.7) | (6.8) |
| Fixed rate financial liabilities                  | -     | (7.5) | -     | (6.6) |
| Floating rate financial assets                    | 4.9   | 6.4   | 30.5  | 44.3  |
| No interest financial assets                      | 43.7  | 28.2  | 0.4   | 1.0   |
|   | 33.7  | 11.1  | 21.7  | 27.6  |

#### 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 |       | ities |
|-----------|------|--------|-------|-------|
|           | 2011 | 2010   | 2011  | 2010  |
|           | £m   | £m     | £m    | £m    |
| US Dollar | 12.5 | 9.4    | (1.6) | (3.0) |
| Euro      | 6.7  | 7.6    | (3.0) | (8.9) |

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 dollar denominated receivables from related parties.

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#### (f) Analysis of sensitivity of financial instruments to market risk

#### Exchange rate sensitivity

The table below shows the sensitivity of financial instruments at the period end to foreign exchange rates, where the financial instruments are not in the functional currency of the entity that holds them.

|                                | Group |      | Company |              |          |    |    |
|--------------------------------|-------|------|---------|--------------|----------|----|----|
|                                | 2011  | 2010 | 2011    | 2010         |          |    |    |
|                                | £m    | £m   | £m      | <b>£m</b> £m | £m £m £m | £m | £m |
| Impact on profit for the year  |       |      |         |              |          |    |    |
| 10% weakening of the US dollar | -     | -    | -       | 0.1          |          |    |    |
| 10% weakening of the euro      | (0.1) | -    | -       | —            |          |    |    |
| Impact on equity               |       |      |         |              |          |    |    |
| 10% weakening of the US dollar | -     | -    | -       | 0.1          |          |    |    |
| 10% weakening of the euro      | (0.1) | 0.1  | -       | 0.2          |          |    |    |

A 10% strengthening of these currencies against sterling would have an equal and opposite effect.

#### Interest rate sensitivity

The table below shows the sensitivity of the Group's floating rate financial instruments at the period end to interest rates. Debt with a maturity or interest re-setting within one year is floating rate for this calculation. The Group's main exposure is to the euro, US dollar and sterling interest rates.

|  | Group |                              | Company |       |
|--|-------|------------------------------|---------|-------|
|  | 2011  | <b>2011</b> 2010 <b>2011</b> | 2011    | 2010  |
|  | £m    | £m                           | £m      | £m    |
| Impact on profit for the year and equity                   |       |                              |         |       |
| 1% increase in euro, US dollar and sterling interest rates | -     | -                            | -       | -     |
|  |       |                              |         |       |
| (g) Hedges and hedge accounting                            |       |                              |         |       |
|  |       |                              | 2011    | 2010  |
| Fair values of hedging instrument at 30 June               |       |                              | £m      | £m    |
| Hedges of net investment in foreign operations             |       |                              | -       | (2.7) |
| Cash flow hedges   |       |                              | 0.2     | 0.3   |
| Total  |       |                              | 0.2     | (2.4) |
|  |       |                              |         |       |

#### Hedge of net investment in foreign operation

At the reporting date the Group had no net investment hedges. In the prior year the Group held  $\in$ 3m of loans and a cross currency interest rate swap for  $\in$ 7m, which combined, hedged the first  $\in$ 10m of the net investment in Ricardo's German subsidiaries and a cross currency interest rate swap for  $\leq$ 21.4m which hedged the net investment in Ricardo's US subsidiary. All of these hedged the risk in the change of the euro/sterling or US dollar/sterling spot rate that affected the value of the net investment.

#### 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.

|   | 2011 | 2010 |
|---|------|------|
| Amounts relating to cash flow hedges in the period      | £m   | £m   |
| Recognised in equity                                    | _    | 0.6  |
| Removed from equity and included in profit and loss     | 0.1  | 0.1  |
|   | 2011 | 2010 |
| Cash flows expected to occur and affect profit and loss | £m   | £m   |
| Within 3 months   | 18.0 | 6.5  |
| After 3 months and within 12 months                     | 1.6  | 2.2  |
| After 1 and within 3 years                              | -    | 0.8  |
|   | 19.6 | 9.5  |

# 23 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 2008. At that date, the assets of the fund had a market value of £66.1 million and were sufficient to cover 76% 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 2012 are £3.3m. The next triennial valuation is due as at 5 April 2011 and this process is expected to complete in 2011/12.

IAS 19 'Employee Benefits' valuations were completed as at 30 June 2011 and 30 June 2010 by Towers Watson, qualified actuaries. The postretirement mortality assumptions used in both years are the standard "00" series tables published by the Continuous Mortality Investigation ("CMI"), projected using medium cohort improvement rate with reference to each individual's year of birth. Under these mortality assumptions, the expected future lifetime is:

|     |       | 2011    |       | 2010    |
|-----|-------|---------|-------|---------|
| Age | Males | Females | Males | Females |
| 50  | 23.7  | 26.2    | 22.7  | 24.9    |
| 65  | 22.4  | 24.7    | 21.9  | 24.1    |

The other major assumptions made were:

|   | At 30 June | At 30 June |
|---|------------|------------|
|   | 2011       | 2010       |
| Discount rate   | 5.65%      | 5.3%       |
| Expected return on plan assets                                    | 6.1%       | 5.8%       |
| Inflation   | 3.5%       | 3.3%       |
| Rate of increase in pensionable salaries                          | 3.5%       | 3.3%       |
| Rate of increase in pensions in payment                           |            |            |
| Pre 1 July 2002 accrual   | 3.5%       | 3.3%       |
| Post 1 July 2002 accrual  | 3.4%       | 3.3%       |
| Rate of increase in pension in deferment                          | 2.5%       | 3.3%       |
| Percentage of pension to be commuted for a lump sum at retirement | 25.0%      | 15.0%      |

The expected return on plan assets is based on market expectation at the beginning of the period for returns over the entire life of the benefit obligation, and the return assumption is a net rate after expenses.

The assets of the scheme and the expected rate of return were:

|                          | Long term<br>rate of return<br>expected at<br>30 June 11 | Value at<br>30 June<br>2011<br>£m | Long term<br>rate of return<br>expected at<br>30 June 10 | Value at<br>30 June<br>2010<br>£m |
|--------------------------|--|-----------------------------------|--|-----------------------------------|
| Equities                 | 7.6%   | 19.1                              | 7.6%   | 29.7                              |
| Bonds                    | 4.7%   | 37.6                              | 4.5%   | 30.6                              |
| Cash                     | 3.5%   | 0.1                               | 4.0%   | 0.4                               |
| Property                 | 6.6%   | 4.6                               | 6.1%   | 4.2                               |
| Diversified Growth Funds | 7.6%   | 15.2                              | 6.4%   | 3.5                               |
| Total assets             | 6.1%   | 76.6                              | 5.7%   | 68.4                              |

The expected rate of return on the assets of the scheme is the weighted average of the long term rate of return expected on the individual asset classes. The actual return on the scheme assets was £8.8m (2010: £9.4m). Movements in the fair value of scheme assets and present value of defined benefit obligations were as follows:

|   |        | 2011        |           |        | 2010        |           |
|---|--------|-------------|-----------|--------|-------------|-----------|
|   | Assets | Obligations | Net Total | Assets | Obligations | Net Total |
|   | £m     | £m          | £m        | £m     | £m          | £m        |
| At 1 July                                   | 68.4   | (102.8)     | (34.4)    | 58.7   | (88.1)      | (29.4)    |
| Current service cost                        | _      | _           | _         | -      | (0.7)       | (0.7)     |
| Expected return/(interest cost)             | 3.9    | (5.3)       | (1.4)     | 4.2    | (5.4)       | (1.2)     |
| Credit/(charge) to the income statement     | 3.9    | (5.3)       | (1.4)     | 4.2    | (6.1)       | (1.9)     |
| Actuarial (losses)/gains (charged)/credited |        |             |           |        |             |           |
| to the statement of recognised income       |        |             |           |        |             |           |
| and expense                                 | 4.9    | 14.2        | 19.1      | 5.2    | (12.4)      | (7.2)     |
| Contributions from sponsoring companies     | 3.3    | -           | 3.3       | 4.1    | -           | 4.1       |
| Benefits paid                               | (3.9)  | 3.9         | -         | (3.8)  | 3.8         | _         |
| Total movements                             | 8.2    | 12.8        | 21.0      | 9.7    | (14.7)      | (5.0)     |
| At 30 June                                  | 76.6   | (90.0)      | (13.4)    | 68.4   | (102.8)     | (34.4)    |

| Cumulative actuarial gains and losses recognised in equity   |                 |                 |                 | At 30 June<br>2011<br>£m | At 30 June<br>2010<br>£m |
|--|-----------------|-----------------|-----------------|--------------------------|--------------------------|
| At 1 July<br>Net actuarial gains/(losses) recognised in the year   |                 |                 |                 | (21.5)<br>19.1           | (14.3)<br>(7.2)          |
| At 30 June   |                 |                 |                 | (2.4)                    | (21.5)                   |
| History of experience gains and losses   | 2011<br>£m      | 2010<br>£m      | 2009<br>£m      | 2008<br>£m               | 2007<br>£m               |
| Present value of defined benefit obligations<br>Fair value of scheme assets  | (90.0)<br>76.6  | (102.8)<br>68.4 | (88.1)<br>58.7  | (85.5)<br>65.6           | (83.7)<br>67.0           |
| Deficit in the scheme  | (13.4)          | (34.4)          | (29.4)          | (19.9)                   | (16.7)                   |
| Experience adjustments on scheme liabilities<br>Amount (£m)<br>Percentage of scheme liabilities (%)<br>Experience adjustments on scheme assets | (14.2)<br>(16)% | (12.4)<br>(12)% | 1.0<br>1%       | 1.4<br>2%                | 0.1                      |
| Amounts (£m)<br>Percentage of scheme assets (%)  | 4.9<br>6%       | 5.2<br>8%       | (12.6)<br>(21)% | (7.1)<br>(11)%           | 4.1<br>6%                |

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  $\pm 3.9$ m. An increase in price inflation of 0.25% would increase the scheme liabilities by  $\pm 2.6$ m. If each scheme member were expected to live for an additional year then scheme liabilities would increase by  $\pm 2.6$ m.

| Amounts charged in the income statement in respect of pensions                      | 2011<br>£m | 2010<br>£m |
|---|------------|------------|
| In respect of defined contribution schemes<br>In respect of defined benefit schemes | 3.0<br>1.9 | 2.3<br>1.9 |
|   | 4.9        | 4.2        |
| Included within:<br>Staff costs<br>Finance costs                                    | 3.0<br>1.9 | 2.5<br>1.7 |
|   | 4.9        | 4.2        |

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# 24 Deferred tax

(a) Deferred tax analysis by category

|   | Gro           | Group         |              | Company       |  |
|---|---------------|---------------|--------------|---------------|--|
|   | 2011          | 2010          | 2011         | 2010          |  |
|   | £m            | £m            | £m           | £m            |  |
| Non-current deferred tax assets<br>Non-current deferred tax liabilities | 15.6<br>(0.7) | 20.4<br>(1.3) | 4.1<br>(0.7) | 10.7<br>(1.3) |  |
| Net deferred tax asset  | 14.9          | 19.1          | 3.4          | 9.4           |  |

(b) Movements in net deferred tax assets and liabilities

| Group  | Accelerated<br>capital<br>allowances<br>£m | Retirement<br>benefit<br>obligations<br>£m | Tax<br>losses and<br>credits<br>£m | Unrealised<br>capital<br>gains<br>£m | Other<br>£m | Total<br>£m |
|--|--|--|------------------------------------|--------------------------------------|-------------|-------------|
| At 1 July 2009   | (2.9)                                      | 8.3  | 6.9                                | (0.7)                                | 2.0         | 13.6        |
| Credited/(charged) to the income statement<br>Charged to statement of comprehensive  | (0.1)                                      | (0.6)                                      | 4.0                                | -                                    | (0.3)       | 3.0         |
| income   | -  | 2.0  | -                                  | -                                    | 0.1         | 2.1         |
| Exchange rate adjustments  | (0.1)                                      | -  | 0.3                                | -                                    | 0.2         | 0.4         |
| At 30 June 2010  | (3.1)                                      | 9.7  | 11.2                               | (0.7)                                | 2.0         | 19.1        |
| Credited/(charged) to the income statement<br>Credited to statement of comprehensive | 0.4  | (0.9)                                      | 2.5                                | _                                    | (0.8)       | 1.2         |
| income   | -  | (5.3)                                      | -                                  | -                                    | (0.2)       | (5.5)       |
| Exchange rate adjustments  | 0.1  | _  | 0.3                                | _                                    | (0.3)       | 0.1         |
| At 30 June 2011  | (2.6)                                      | 3.5  | 14.0                               | (0.7)                                | 0.7         | 14.9        |

At 30 June 2011 and 30 June 2010 there were no temporary differences associated with undistributed earnings of subsidiaries for which deferred tax liabilities has 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.

| Company                                       | Retirement<br>benefit<br>obligations<br>£m | Tax<br>losses and<br>credits<br>£m | Unrealised<br>capital<br>gains<br>£m | Other<br>£m | Total<br>£m |
|---|--|------------------------------------|--------------------------------------|-------------|-------------|
| At 1 July 2009                                | 8.3  | -                                  | (0.7)                                | 0.4         | 8.0         |
| Charged to the income statement               | (0.6)                                      | -                                  | -                                    | -           | (0.6)       |
| Credited to statement of comprehensive income | 2.0  | -                                  | -                                    | -           | 2.0         |
| At 30 June 2010                               | 9.7  | -                                  | (0.7)                                | 0.4         | 9.4         |
| (Charged)/credited to the income statement    | (0.9)                                      | 0.1                                | -                                    | 0.1         | (0.7)       |
| Charged to statement of comprehensive income  | (5.3)                                      | -                                  | -                                    | -           | (5.3)       |
| At 30 June 2011                               | 3.5  | 0.1                                | (0.7)                                | 0.5         | 3.4         |

#### 25 Provisions

| Group                       | Short term<br>warranty<br>provision<br>£m |
|-----------------------------|---|
| At 1 July 2009              | 0.8                                       |
| Utilised in year            | (0.3)                                     |
| At 30 June 2010             | 0.5                                       |
| Charged to income statement | 0.8                                       |
| Utilised in year            | (0.3)                                     |
| At 30 June 2011             | 1.0                                       |

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 life of the products to which they relate, which is expected to be a period of less than five years.

# 26 Called up share capital

| Group and Company  | 2011<br>Number                | 2010<br>Number                  | 2011<br>£m     | 2010<br>£m     |
|--|-------------------------------|---------------------------------|----------------|----------------|
| Authorised<br>Ordinary shares of 25p each  | 80,000,000                    | 80,000,000                      | 20.0           | 20.0           |
| Allotted, called up and fully paid<br>At 1 July<br>Allotted under share option schemes<br>Allotted under LTIP scheme | 51,324,730<br>4,379<br>79,093 | 51,154,745<br>67,641<br>102,344 | 12.9<br>_<br>_ | 12.9<br>-<br>- |
| At 30 June   | 51,408,202                    | 51,324,730                      | 12.9           | 12.9           |

The consideration received for shares allotted under the share option schemes and LTIP during the year ended 30 June 2011 was £nil (2010: £nil).

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 4,703 such shares at 30 June 2011 (1,379 at 30 June 2010).

# 27 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"); and Ricardo plc 2000 Savings Related Share Option Scheme (the "SAYE" Scheme").

The general terms and conditions, including vesting requirements and performance conditions, for the 2004 Plan, Deferred Share Bonus Plan and LTIP are described in the Directors Remuneration Report.

The Equity-settled Executive Share Options and the LTIP require shareholder approval for the issue of shares, whereas the Deferred Share Bonus Plan acquires shares in the market to settle the obligation.

No options have been granted under the SAYE Scheme since 7 November 2002, and therefore no charge is required under IFRS 2.

|  |          | 2011<br>Weighted<br>average |           | 2010<br>Weighted<br>average |
|--|----------|-----------------------------|-----------|-----------------------------|
| Equity-settled Executive Share Options | Number   | share price                 | Number    | share price                 |
| Outstanding at 1 July                  | 274,228  | 294p                        | 491,701   | 288p                        |
| Lapsed / Forfeited                     | (81,447) | 305p                        | (167,473) | 308p                        |
| Exercised                              | -        | -                           | (50,000)  | 187p                        |
| Outstanding at 30 June                 | 192,781  | 288p                        | 274,228   | 294p                        |
| Exercisable at the end of the year     | 132,129  | 282p                        | 132,129   | 282p                        |

The outstanding options had a weighted average contractual life of 5.2 years (2010: 6.6 years). The remaining options are exercisable between 268p and 305p.

During the year ended 30 June 2011 and 30 June 2010, 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 are given.

|                        | 2011<br>Shares<br>Allocated <sup>(1)</sup> | 2010<br>Shares<br>Allocated <sup>(1)</sup> |
|------------------------|--|--|
| Outstanding at 1 July  | 904,010                                    | 512,379                                    |
| Awarded                | 361,300                                    | 407,811                                    |
| Lapsed / Forfeited     | (138,700)                                  | (12,874)                                   |
| Vested                 | (70,294)                                   | (3,306)                                    |
| Outstanding at 30 June | 1,056,316                                  | 904,010                                    |

(1) Shares allocated excludes dividend roll up

The outstanding LTIP awards had a weighted average contractual life of 1.4 years (2010: 1.6 years). The weighted average exercise price in both 2011 and 2010 was nil.

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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:

|   | 2011  | 2010  |
|---|-------|-------|
| Weighted average share price of date of award                           | 301p  | 248p  |
| Expected volatility   | 34.5% | 33%   |
| Expected life   | 3 yrs | 3 yrs |
| Risk free rate  | 1%    | 2%    |
| Dividend yield  | 4%    | 5%    |
| Possibility of ceasing employment before vesting                        | 10%   | 10%   |
| Weighted average fair value per LTIP as a % of a share at date of award | 61.4% | 70%   |

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.

#### Deferred Share Bonus Plan

The deferred Share Bonus Plan is described in the Remuneration Report.

|                                     | 2011      | 2010      |
|-------------------------------------|-----------|-----------|
|                                     | Number of | Number of |
|                                     | deferred  | deferred  |
|                                     | shares    | shares    |
| Outstanding at 1 July               | 258,833   | 438,154   |
| Awarded                             | 16,159    | -         |
| Lapsed / Forfeited                  | (14,553)  | (98,817)  |
| Dividend shares awarded in the year | 7,879     | 10,790    |
| Vested                              | (71,526)  | (91,294)  |
| Outstanding at 30 June              | 196,792   | 258,833   |

The outstanding deferred bonus plans had a weighted average contractual life of 0.5 years (2010: 1.0 years). The weighted average exercise price in both 2011 and 2010 was nil.

#### 28 Share premium

|   | Group and<br>Company |
|---|----------------------|
|   | £m                   |
| At 1 July 2009<br>Arising on shares issued in 2010  | 13.7<br>0.1          |
| At 30 June 2010<br>Arising on shares issued in 2011 | 13.8                 |
| At 30 June 2011                                     | 13.8                 |

#### 29 Other reserves

| Group   | Merger<br>reserve<br>£m | Translation<br>reserve<br>£m | Hedging<br>reserve<br>£m | Total<br>£m  |
|---|-------------------------|------------------------------|--------------------------|--------------|
| At 1 July 2009                                | 1.0                     | 6.3                          | (2.1)                    | 5.2          |
| Movement in year<br>Exchange rate adjustments | -                       | -<br>0.6                     | (0.7)                    | (0.7)<br>0.6 |
| Tax on items recognised directly in equity    | -                       |                              | 0.1                      | 0.1          |
| At 30 June 2010                               | 1.0                     | 6.9                          | (2.7)                    | 5.2          |
| Movement in year                              | -                       | -                            | 0.3                      | 0.3          |
| Recycled to income statement                  | -                       | -                            | (0.1)                    | (0.1)        |
| Exchange rate adjustments                     | -                       | 1.2                          | -                        | 1.2          |
| Tax on items recognised directly in equity    | -                       | -                            | (0.2)                    | (0.2)        |
| At 30 June 2011                               | 1.0                     | 8.1                          | (2.7)                    | 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 movement is the fair value gain on cash flow hedges and a net investment hedge and is shown in the statement of comprehensive income.

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# 30 Retained earnings

|  | Group<br>£m | Company<br>£m |
|--|-------------|---------------|
| At 1 July 2009   | 35.1        | 20.4          |
| Profit for the year                                    | 7.6         | 7.9           |
| Actuarial losses on the defined benefit pension scheme | (7.2)       | (7.2)         |
| Tax on items recognised directly in equity             | 2.0         | 2.0           |
| Dividends paid   | (5.5)       | (5.5)         |
| Share based payments                                   | 0.9         | 0.9           |
| At 30 June 2010  | 32.9        | 18.5          |
| Profit for the year                                    | 15.2        | 12.6          |
| Actuarial gains on the defined benefit pension scheme  | 19.1        | 19.1          |
| Tax on items recognised directly in equity             | (5.3)       | (5.3)         |
| Dividends paid   | (5.6)       | (5.6)         |
| Share based payments                                   | 0.2         | 0.2           |
| At 30 June 2011  | 56.5        | 39.5          |

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

# 31 Cash generated/(used) by operations

|  | Gro   | up    | Comp   | bany  |
|--|-------|-------|--------|-------|
|  | 2011  | 2010  | 2011   | 2010  |
| Continuing operations                                    | £m    | £m    | £m     | £m    |
| Operating profit   | 18.0  | 12.6  | (0.1)  | (0.8) |
| Adjustments for:   |       |       |        |       |
| Share-based payments                                     | 0.2   | 0.9   | 0.2    | 0.9   |
| Cash flow hedges   | 0.2   | 0.1   | (0.3)  | 1.0   |
| Profit of sale of subsidiary                             | -     | -     | (12.2) | -     |
| Loss on disposal of property, plant and equipment        | 0.1   | -     | -      | -     |
| Depreciation and amortisation                            | 7.9   | 8.2   | 0.4    | 0.4   |
| Operating cash flows before movements in working capital | 26.4  | 21.8  | (12.0) | 1.5   |
| Decrease/(increase) in inventories                       | 2.5   | (2.5) | -      | -     |
| (Increase)/decrease in trade and other receivables       | (9.2) | (9.3) | 0.2    | -     |
| Decrease/(increase) in inter company balances            | -     | -     | 11.9   | (2.9) |
| Increase/(decrease) in payables                          | 10.3  | 4.7   | 1.5    | (0.6) |
| Increase/(decrease) in provisions                        | 0.5   | (0.3) | -      | -     |
| Pension payments in excess of pension costs              | (1.9) | (2.2) | (1.9)  | (2.2) |
| Cash generated/(used) by continuing operations           | 28.6  | 12.2  | (0.3)  | (4.2) |
| Discontinued operations                                  |       |       |        |       |
| Loss from operations                                     | (0.2) | (0.5) | -      | _     |
| Operating cash flows before movements in working capital | (0.2) | (0.5) | -      | -     |
| (Increase)/decrease in inventory                         | -     | (0.6) | -      | -     |
| Decrease in trade and other receivables                  | 1.5   | 0.2   | _      | -     |
| Decrease/(increase) in payables                          | (1.6) | 0.6   | -      | -     |
| Cash used by discontinued operations                     | (0.3) | (0.3) | _      | -     |
| Cash generated/(used) by operations                      | 28.3  | 11.9  | (0.3)  | (4.2) |

# 32 Net funds/(debt)

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

|  | Gro                   | up                     | Comp            | bany                |
|--|-----------------------|------------------------|-----------------|---------------------|
| At period end  | 2011<br>£m            | 2010<br>£m             | 2011<br>£m      | 2010<br>£m          |
| Cash and cash equivalents (current assets)<br>Bank overdrafts (current liabilities)                        | 9.9<br>(5.5)          | 7.8 (3.1)              | 0.2 (5.5)       | 0.1 (1.9)           |
| Net cash and cash equivalents<br>Bank loans maturing within one year<br>Bank loans maturing after one year | 4.4<br>(2.7)<br>(0.2) | 4.7<br>(12.1)<br>(0.4) | (5.3)<br>_<br>_ | (1.8)<br>(9.0)<br>- |
| Net funds/(debt)   | 1.5                   | (7.8)                  | (5.3)           | (10.8)              |

|   | Gro   | Group |        | Company |  |
|---|-------|-------|--------|---------|--|
|   | 2011  | 2010  | 2011   | 2010    |  |
| Movements in period                           | £m    | £m    | £m     | £m      |  |
| Net debt at start of period                   | (7.8) | (3.5) | (10.8) | (8.3)   |  |
| Net decrease in cash and cash equivalents     | (0.3) | (5.2) | (3.5)  | (5.5)   |  |
| Add back net repayment of bank loans          | 9.8   | 0.7   | 9.0    | 2.9     |  |
| Effect of exchange rate changes on bank loans | (0.2) | 0.2   | -      | 0.1     |  |
| Net funds/(debt) at end of period             | 1.5   | (7.8) | (5.3)  | (10.8)  |  |

# 33 Operating leases

| By date of commitments:<br>Group  | 2011<br>£m | 2010<br>£m |
|---|------------|------------|
| Future aggregate minimum lease payments under non-cancellable operating leases falling due: | 2.5        | 2.0        |
| Within one year   | 3.5        | 3.0        |
| Between one and five years  | 10.8       | 11.3       |
| After five years  | 12.1       | 15.2       |
|   | 26.4       | 29.5       |
| By nature of commitments:   | 2011       | 2010       |
| Group   | £m         | £m         |
| Future aggregate minimum lease payments under non-cancellable operating leases:             |            |            |
| Land and buildings  | 25.1       | 28.8       |
| Other   | 1.3        | 0.7        |
|   | 26.4       | 29.5       |

# 34 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.

# 35 Related party transactions

|   | 2011  | 2010  |
|---|-------|-------|
|   | £m    | £m    |
| The Company had the following transactions with Group undertakings:   |       |       |
| Sale of services  | 9.6   | 8.8   |
| Finance income  | -     | 0.5   |
| Dividend income   | 13.2  | 8.5   |
| The Company had the following year end balances with related parties: |       |       |
| Amounts owed by Group undertakings                                    | 30.6  | 45.1  |
| Amounts owed to Group undertakings                                    | (3.1) | (5.8) |

All transactions with Group undertakings, which are disclosed in note 36, occurred on an arms length basis.

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# 36 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, 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                                     | Czech Republic                                      |
| Ricardo Shanghai Company Limited* | Technical, Strategic 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 Tarragon Limited*         | Technical Consulting                                     | Great Britain (and registered in England and Wales) |
| Ricardo Russia Limited*           | Technical Consulting and Business Development            | Great Britain (and registered in England and Wales) |

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# **Corporate information**

# Group General Counsel and Company Secretary Patricia Ryan

#### **Registered Office**

Ricardo plc Shoreham Technical Centre Shoreham-by-Sea West Sussex BN43 5FG

Registered in England and Wales number 222915

#### Registrars

Capita Registrars 34 Beckenham Road Beckenham Kent BR3 4TU

#### Auditors

PricewaterhouseCoopers LLP First Point Buckingham Gate Gatwick West Sussex RH6 0PP

#### Stockbrokers

RBS Hoare Govett Ltd 250 Bishopsgate London EC2M 4AA Tel 020 7678 8000

#### Website: www.ricardo.com

A pdf version of this Report and Accounts can be downloaded from the Investors page of our website.

#### **Key Dates**

Final Dividend Record Date Annual General Meeting Final Dividend Payment Date 7 October 2011 17 November 2011 25 November 2011

#### Shareholder Services

Capita Registrars provide a share portal service, which allows shareholders to access a variety of services online, including viewing shareholdings, buying and selling shares online, registering change of address details and bank mandates to have dividends paid directly into your bank account. Any shareholder who wishes to register with Capita to take advantage of this service should visit www.capitaregistrars.com/shareholders.

#### Shareholder enquiries

Tel: 0870 162 3131 (from the UK) Tel: +44 20 8639 3131 (for non-UK callers)

# **Principal Bankers**

Lloyds TSB Bank plc 55 Corn Street Bristol BS99 7LE

HSBC Bank plc Global House High Street Crawley West Sussex RH10 1DL

#### **Financial Advisers**

NM Rothschild & Sons New Court St Swithin's Lane London EC4P 4DU











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# Addendum to the 2011 Report and Accounts in relation to the Directors' Remuneration Report and the Directors' Report

#### Introduction and background

The Directors' Remuneration Report contained within the 2011 Report and Accounts sets out details of certain proposed changes that the Remuneration Committee intended to make to the pay and incentive arrangements of the Company's executive directors for the year commencing 1 July 2011 (and later years), namely:

- An increase in the maximum award opportunity available to these individuals under the annual bonus plan, with a reduction applied to the level of awards granted under the Company's 2006 Long Term Incentive Plan ("2006 LTIP") on an ongoing basis;
- An increase in the proportion of an executive director's annual bonus that is compulsorily deferred into shares together with the introduction of a new 1 for 1 "matching award" facility; and
- A special, one off award to the CEO over shares worth one year's salary (the grant of which would require an amendment to be made to the rules of the 2006 LTIP).

Following approval by the Board of the above accounts on 23 September, further shareholder feedback was received as part of the ongoing consultation exercise that the Company had been undertaking in relation to the above proposals. The Remuneration Committee feels that it is important that the views of shareholders are appropriately taken into account in relation to the design of the senior management team's remuneration arrangements. The Board has, therefore, agreed to amend its intentions as follows:

- The increase to the maximum award opportunity available under the annual bonus plan will be implemented and the reduction to award levels under the 2006 LTIP will be applied to the Group FD and COO but not to the CEO;
- The proposed increase to the proportion of an executive director's bonus that is deferred, together with the adoption of the new matching award facility, will proceed as originally planned; and
- The special award is withdrawn (meaning that it will not now be necessary to amend the existing terms of the 2006 LTIP).

Full details of these arrangements are set out in the Chairman's letter to shareholders and the Notice of AGM.

#### Amendments to the Directors' Remuneration Report

The amendments required to the unaudited part of the 2011 Directors' Remuneration Report in order to reflect the above changes to the Remuneration Committee's proposals follow.

#### Amendments to the Directors' Report

The amendment required to the Directors' Report in order to reflect the above changes is as follows: Page 62, Resolution 13 is deleted and subsequent resolutions and cross-referencing re-numbered.

#### 5 October 2011

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Planned and existing LTIP awards under plan cycles not yet complete are as follows:

| Maximum awards in<br>relation to basic salary<br>at time of award (actual<br>amounts vesting will<br>depend on performance) | Plan cycle<br>ending<br>30 June<br>2011 | Plan cycle<br>ending<br>30 June<br>2012 | Plan cycle<br>ending<br>30 June<br>2013 |
|---|---|---|---|
| Dave Shemmans   | 100%                                    | 100%                                    | 100%                                    |
| Paula Bell  | 75%                                     | 75%                                     | 75%                                     |
| Mark Garrett  | 30%                                     | 75%                                     | 75%                                     |

# Review of executive directors' remuneration arrangements for the year commencing 1 July 2011

As part of its 2011 annual review of the remuneration packages offered to the executive directors, the Committee also conducted a more in-depth analysis of the Company's incentive schemes in order to establish whether any adjustments could or should be made to those arrangements in order to:

- provide a stronger and more effective link between pay and performance;
- further enhance the alignment between the interests of the senior management team and those of our shareholders; and
- assist the Company to retain the key executive talent that will be required to drive the business forward.

The above exercise, which was undertaken with the assistance of Towers Watson, was carried out against the backdrop of the Company's strong performance over the last two years during which time it has remained profitable and maintained payment of dividends despite facing unprecedented market conditions.

Further information in relation to the decisions reached, and the changes that have been proposed, following the completion of the above review, is provided below. In summary, the Committee concluded that:

- the maximum award opportunity available to the executive directors under the annual bonus plan should be increased, <u>and</u>;with a corresponding reduction applied to the level of awards granted to these individuals under the Company's long term incentive plan onan ongoing basis;
- the proportion of an executive director's annual bonus that is compulsorily deferred into shares should be increased from onethird to one-half and a new "matching share" facility introduced with maximum possible share match of 1:1;
- a special, one-off award should be made to the CEO over shares.
   worth one year's salary, such grant to be made pursuant to the rules of the existing long term incentive plan.

Resolutions relating to certain aspects of the above proposals will be put forward for the approval of shareholders at the 2011 Annual General Meeting.

The Committee is firmly of the view that the combination of these amendments will create an incentive structure that is more motivational for the executive directors and places an increased emphasis on the creation of long-term shareholder value. The Committee also believes that <u>this the proposed one-off award to the CEO</u>, Dave Shemmans, is an appropriate way in which to recognise <u>bis</u>-outstanding performance in recent years and provide <u>him with</u> an increased level of participation in the Company's future success that will be derived from <u>the efforts of the</u> leadership team<u>his leadership</u>.

Finally, it should be noted that, during the course of the above review, a selection of the Company's largest institutional shareholders were consulted and asked for their input. In general, the responses received from these organisations were positive and, where suggestions for variations or refinements to the Committee's proposals were made, they were accommodated wherever possible.

# Executive remuneration policy

The objective of Ricardo's executive remuneration policy remains unchanged. The proportion of variable pay in the total remuneration package for the Chief Executive Officer (including the special award) at maximum (full bonus, full match on 50% of bonus at 1:1 matching ratio and 100% vesting of LTIP) becomes <u>70.6</u>72.25% of total pay; for other executive directors it is 63%.

#### Basic salary

The next review will take place by the end of the calendar year 2011 for all roles, with any awards to be made effective 1 January 2012. Such awards will be reported in next year's Annual Report and Accounts.

# Annual performance related bonus

As highlighted above, for the year commencing 1 July 2011 the maximum award opportunity available to the CEO under Ricardo's annual bonus plan has been increased from the previous level of 100% of salary to 125%, with an increase from 80% of salary to 100% being applied to the other executive directors. For the other executive directors there is a There is, however, a corresponding reduction in long term. incentive plan award and greater deferment of bonus, described in later sections.

The LTIP award level is maintained for the CEO to increase the differential between the CEO and other executive directors as he is such a key contributor.

Annual performance related bonus for the year commencing 1 July 2011 is based on achievement against the financial measures of profit before tax (60 percent of bonus opportunity for each director), cash (15 percent for the CEO and 20 percent for the other executive directors) and personal targets (25 percent for the CEO and 20 percent for the other executive directors).

#### Basic annual salary and maximum bonus potential

|               | For the year comm         | For the year commencing 1 July 2011 |  |
|---------------|---------------------------|-------------------------------------|--|
|               | Basic¹<br>salary<br>£'000 | Maximum<br>bonus<br>potential       |  |
| Dave Shemmans | 401                       | 125%                                |  |
| Paula Bell    | 243                       | 100%                                |  |
| Mark Garrett  | 200                       | 100%                                |  |

1 Basic salary as of 1 January 2011 review.

# Addendum to the 2011 Report and Accounts

Addendum

# Bonus deferral

For any bonus awarded <u>to an executive director</u> in respect of the financial year commencing 1 July 2011 (and later years), the proportion that will be deferred <u>into shares in this way</u> will be increased to one-half.

In connection with the above bonus deferral, it is also proposed that a new facility be introduced in terms of which the individual in question will be granted a "matching award" over further shares (on a 1 for 1 basis), the vesting of which will be subject to both continued employment and the satisfaction of performance conditions over a three year period.

These matching awards will be granted pursuant to the rules of a new arrangement, the Ricardo plc 2011 Deferred Bonus Plan, for which shareholder approval is being sought at the 2011 Annual General Meeting. Further information in relation to this plan is set out in the Chairman's letter accompanying the AGM notice.

If approved by shareholders, the 2011 Deferred Bonus Plan will replace the Company's existing bonus deferral scheme which has been in place since 2006.

# Long-term incentives

In view of the changes identified for other parts of the executive directors' package, it is proposed that a corresponding-reduction will be applied to the level of awards granted to <u>the Group FD and COO</u> these-individuals-under the 2006 LTIP in the current and future financial years. In the case of the CEO, t<u>T</u>he level of annual awards will be reduced to <u>55</u>25% of salary with the other executive directors being granted awards worth 55% of salary.

However, and as noted above on page 54, a special, one-off awardunder the 2006 LTIP is also to be made to the CEO over shares worth oneyear's salary. It is intended that this additional grant will be made in twoequal parts, such that shares worth 50% of salary will be awarded to the-CEO shortly after the 2011 AGM with a further 50% of salary grant beingmade in the financial year to 30 June 2013. The terms on which theseadditional LTIP awards are made (including, for the avoidance of doubt, the applicable performance conditions) will be identical to those applied to the "regular" grants that take place in the same period.

The combined result of the above is that, in both the current financialyear to 30 June 2012 and the next financial year to 30 June 2013, itis intended that LTIP awards over shares with an aggregate marketvalue of 125% of salary will be made to the CEO (i.e. the regular annualgrant for that year of 75% of salary plus a further 50% of salary underthe one-off award proposal). However, making grants at these levelswould breach the existing 100% of salary limit contained within therules of the 2006 LTIP. Accordingly, in order to accommodate theseintended grant levels to the CEO during the financial years to 30 June-2012 and 2013, shareholder approval is being sought at the 2011 Annual. General Meeting to increase this annual limit to 125% of salary. Furtherinformation in relation to this proposed amendment to the 2006 LTIP isset out in the Chairman's letter accompanying the AGM notice.

2006 LTIP awards – EPS growth performance condition

2006 LTIP awards are subject to the following performance conditions:

- 50% of any award vests according to Total Shareholder Return (share price movement plus dividends reinvested – "TSR") relative to the FTSE Small Cap Index (excluding financial services companies and investment trusts); and
- 50% of any award vests according to normalised earnings per ordinary share ("EPS") growth performance.

The Committee believes that TSR and EPS are appropriate measures for the LTIP as they are strongly aligned to shareholder value creation.

The Committee sets, for each plan cycle, scaled normalised EPS performance targets, which are suitably stretching, taking into account the economic/market outlook, the business plan and investor expectations at the time of each award.

2006 LTIP awards – TSR performance condition

Awards made during financial years ending 30 June 2008, 2009, 2010 and 2011 and current intention for all awards made during financial year ending 30 June 2012

| Vesting level  | TSR performance compared to<br>FTSE Small Cap Index |
|--|---|
| Nil vesting of that element of award subject to TSR  | Below median  |
| 25% vesting of that element of award subject to TSR  | At median   |
| 100% vesting of that element of award subject to TSR | At upper quartile                                   |
| Straight line basis                                  | Between median and upper quartile                   |

The Committee reviewed the EPS growth target range for awards for the year ending 30 June 2012 and believes they will be appropriately stretching, taking account of current business forecasts and plans. 2006 LTIP performance targets will be reviewed for any subsequent awards, taking account of prevailing conditions at the time.

| Maximum awards in relation to basic salary at time of award (actual amounts vesting will depend on performance) | Plan cycle<br>ending<br>30 June<br>2014 |
|---|---|
| Dave Shemmans   | <u>75%+510</u> 0% <sup>1</sup>          |
| Paula Bell  | 55%                                     |
| Mark Garrett  | 55%                                     |

In the case of Llave Shemmans, the awards for the Plan cycle ending 40 June 2014 include both, his regular 75% of salary annual grant during the year to 30 June 2012 plus a further 50% of salary, grant under the one-off award proposal.

|  | Current intention for all awards made during<br>financial year ending |  |
|--|---|--|
| Vesting level  | 30 June 2012  |  |
| Nil vesting of that element of award subject to EPS  | Less than RPI plus 4% per annum                                       |  |
| 30% vesting of that element of award subject to EPS  | RPI plus 4% per annum   |  |
| 100% vesting of that element of award subject to EPS | RPI plus 11% per annum  |  |
| Straight line basis                                  | Between RPI plus 4% and RPI plus 11% per annum                        |  |

End of review of specific arrangements for the year commencing 1 July 2011

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