RICARDO

14 September 2022

This announcement contains inside information for the purposes of Article 7 of the Market Abuse Regulation (EU) 596/2014 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018 ("MAR"), and is disclosed in accordance with the Company's obligations under Article 17 of MAR.

Ricardo plc

Report for the year ended 30 June 2022 ("FY 2021/22")

Strong order intake, up 23% on FY 2020/21, and underlying operating cash conversion of 112%

HIGHLIGHTS

- A good set of results for the year, with trading in line with management's expectations and underlying[1] profit before tax up 46%
- Strong growth in order intake (up 23%) – driven by accelerating environmental trends and key programmes
- Improvement in all key metrics – rebound in Automotive and Industrial (A&I) and continued growth in Energy and Environment (EE)
- Net debt[5] reduced to £35m, creating opportunities to invest for growth
- Acquisition of Inside Infrastructure (March 2022) and disposal of Ricardo Software (after year-end), supporting portfolio shift to environmental and energy transition solutions
- Bank facility refinance completed after year-end, providing committed funding through to July 2026
- Final dividend of 7.49p per share (total dividend: 10.40p) declared

		Continuing 2022	**Total 2022**	Total 2021	**Total Growth/(decline) %**
Order intake	£m	425.3	**432.2**	352.0	**22.8**
Order book	£m	340.0	**343.6**	293.5	**17.1**
Revenue	£m	380.2	**387.3**	351.8	**10.1**
Underlying [1]					
- Operating profit margin	%	7.4	**7.8**	6.5	**1.3pp**
- Profit before tax	£m	24.2	**26.3**	18.0	**46.1**
- Basic earnings per share[3]	p	28.5	**31.2**	22.4	**39.3**
Statutory					
- Operating profit margin	%	4.3	**4.4**	2.4	**2.0pp**
- Profit before tax	£m	12.4	**13.2**	3.9	**238.5**
- Basic earnings per share[3]	p	13.2	**13.8**	2.9	**375.9**
Underlying [1] cash conversion[4]	%		**112.1**	87.0	**25.1pp**
Cash conversion[4]	%		**118.5**	93.8	**24.7pp**
Net debt [5]	£m		**35.4**	46.9	**(24.5)**
Dividend per share (paid and proposed)	p		**10.40**	6.86	**51.60**
Headcount[6]	no.		**3,017**	2,901	**4.0**

Continuing operations exclude the results of Ricardo Software, which was sold on 1 August 2022.

References are defined in the glossary of terms below.

RICARDO

Commenting on the results, Graham Ritchie, Chief Executive Officer, said:

"We continue to see strong momentum in our priority markets, underpinned by environmental and energy transition trends. The macroeconomic outlook around the world is challenging. Nevertheless, as we enter FY 2022/23 with a strong order book, a number of high-value contracts and actions already taken to improve our global operating model and cost base in A&I, I am confident that we are well prepared to deliver our expectations despite the uncertainty in the short-term. In addition, we are well positioned to deliver sustainable growth through the shift in our service portfolio, aligned to the megatrends, in the longer term."

About Ricardo plc

Ricardo plc is a world-class environmental, engineering and strategic consulting company listed on the London Stock Exchange. With over 100 years of engineering excellence, we provide exceptional levels of expertise in delivering leading edge and innovative cross sector sustainable products and solutions, helping our global customers increase efficiencies, achieve growth and create a cleaner and safer future. Our mission is clear – to create a safe and sustainable world.

For more information visit www.ricardo.com.

Analyst and investor presentation

There will be a presentation for analysts relating to the Group's results for the year ended 30 June 2022 at 9:30am on Wednesday 14 September. A recording of the presentation will be available online to all investors from Thursday 15 September at https://ricardo.com/investors/financial-reporting/results-presentations.

Further enquiries:

Ricardo plc		
Ian Gibson, Chief Financial Officer	Tel:	01273 455611
Natasha Perfect, Group Marketing and Communications	Website:	www.ricardo.com
SEC Newgate	Tel:	020 7680 6882
Elisabeth Cowell / Ian Silvera / Isabelle Smurfit	E-mail:	ricardo@secnewgate.co.uk

Cautionary Statement

Note: Certain statements in this press release are forward-looking. Although these forward-looking statements are made in good faith based on the information available to the Directors at the time of their approval of the press release, we can give no assurance that these expectations will prove to have been correct. Because these statements involve risks and uncertainties, actual results may differ materially from those expressed or implied by these forward-looking statements. We undertake no obligation to update any forward-looking statements whether as a result of new information, future events or otherwise.

RICARDO

Glossary of terms

Cross-referenced to superscript in the financial tables and commentary

(1) Underlying measures exclude the impact on statutory measures of specific adjusting items as set out in Note 5. Underlying measures are considered to provide a more useful indication of underlying performance and trends over time.

(2) Defense refers to our US-based segment which provides services to the US defence market.

(3) Underlying earnings also exclude a tax credit to statutory earnings of £2.3m (FY 2020/21: £2.6m) for the specific adjusting items in Note 5.

(4) Cash conversion is a key measure of the Group's cash generation and measures the conversion of profit into cash. This is the reported cash generated from operations (defined as operating cash flow, less movements in net working capital and defined benefit pension deficit contributions) divided by earnings before interest, tax, depreciation and amortisation (EBITDA), expressed as a percentage.

(5) Net debt, as set out in Note 11, is defined as current and non-current borrowings less cash and cash equivalents, including hire purchase agreements, but excluding any impact of IFRS 16 lease liabilities. Management believes this definition is the most appropriate for monitoring the indebtedness of the Group and is consistent with the treatment in the Group's banking agreements.

(6) Headcount is calculated as the number of employees on the payroll at the reporting date and includes subcontractors on a full-time equivalent basis.

(7) Constant currency growth/decline is calculated by translating the result for the prior period using foreign currency exchange rates applicable to the current period. This provides an indication of the growth/decline of the business, excluding the impact of foreign exchange. In the prior reporting period, constant currency results were calculated by translating the result for the current period using foreign currency exchange rates applicable to the prior period. Using current period rates to restate prior period results is considered to provide a more useful comparison, since current period performance remains stated at actual rates. See also Note 1.

Trading summary

This year, the Group delivered total revenue of £387.3m and underlying profit before tax of £26.3m, an increase of 10% and 46% on the prior year, respectively. Revenue and underlying profit before tax from continuing operations, which excludes the results of Ricardo Software, held for sale as at 30 June 2022 (see Notes 2 and 10), were £380.2m and £24.2m, increases of 11% and 54% on the prior year. Reported profit before tax from continuing operations, after deducting specific adjusting items, was £12.4m (FY 2020/21: £2.0m).

On a constant currency basis, revenue from continuing operations increased by £36.7m (11%) compared to FY 2020/21. Similarly, on a constant currency basis, underlying operating profit and profit before tax from continuing operations increased by £7.6m (37%) and £8.5m (54%), respectively.

The results were in line with the Board's expectations and reflect good year-on-year growth across a number of our segments, particularly Automotive and Industrial (A&I), which has continued its positive trajectory as it repositions itself as a global business in a rapidly changing market, and Energy and Environment (EE), which continues to see high demand for its decarbonisation services.

Group results

Headline trading performance

		Underlying [1]		Reported	
	External revenue £m	Operating profit £m	Profit before tax £m	Operating profit £m	Profit before tax £m
2022					
Total	**387.3**	**30.1**	**26.3**	**17.0**	**13.2**
Less: discontinued operation	(7.1)	(2.1)	(2.1)	(0.8)	(0.8)
Continuing operations (a)	**380.2**	**28.0**	**24.2**	**16.2**	**12.4**
Less: performance of acquisitions	(0.9)	(0.1)	(0.1)	(0.1)	(0.1)
Continuing operations - organic (b)	**379.3**	**27.9**	**24.1**	**16.1**	**12.3**
2021					
Total	351.8	22.7	18.0	8.6	3.9
Less: discontinued operation	(8.1)	(2.3)	(2.3)	(1.9)	(1.9)
Continuing operations (a)	343.7	20.4	15.7	6.7	2.0
Continuing operations at current year exchange rates	343.5	20.4	15.7	6.8	2.1
Growth (%) - Total	10	33	46	98	238
Growth (%) - Continuing operations	11	37	54	142	520
Growth (%) - Continuing organic	10	37	54	140	515
Constant currency growth [7] (%) – Continuing operations	11	37	54	138	490

References in superscript are defined in the glossary of terms.

(a) Growth from continuing operations excludes the results of the Software operating segment which was sold on 1 August 2022 (see Note 2)

(b) Organic growth excludes the performance of current year acquisitions from the results of FY 2021/22 (see Note 8).

On 21 March 2022, we successfully acquired Inside Infrastructure Pty Ltd (Inside Infrastructure), which specialises in water and sustainable resource management within Australia. Inside Infrastructure added £0.9m of revenue and £0.1m of operating profit and profit before tax to the Group's results in FY 2021/22 (see Note 8).

Net debt was £35.4m at 30 June 2022, compared to £46.9m at 30 June 2021. This improvement reflects a strong working capital performance. Excluding restructuring costs and acquisition-related payments, working capital reduced by £8.2m and the Group generated more than £25m of cash in the year.

Operating segment summary

	2022		2021		2021 at constant currency	
	Underlying operating profit £m	**Underlying operating profit margin %**	Underlying operating profit £m	Underlying operating profit margin %	Underlying operating profit £m	Underlying operating profit margin %
EE	**9.1**	**13.5**	8.5	14.9	8.5	14.9
Rail	**7.7**	**10.4**	8.0	10.3	7.9	10.3
A&I	**3.7**	**3.1**	(3.6)	(3.6)	(3.6)	(3.5)
Defense	**5.9**	**13.1**	5.4	14.2	5.5	14.4
PP	**7.2**	**9.8**	6.7	9.6	6.7	9.6
Operating segments - continuing operations	**33.6**	**8.8**	25.0	7.3	25.0	7.3
Plc costs	**(5.6)**	**-**	(4.6)	-	(4.6)	-
Total - continuing operations	**28.0**	**7.4**	20.4	5.9	20.4	5.9
Discontinued operation	**2.1**	**29.6**	2.3	28.4	2.3	28.0
Total	**30.1**	**7.8**	22.7	6.5	22.7	6.5

The segmental results are discussed in more detail in the operating segments section below.

Order intake from continuing operations up 24% (constant currency: 23%) on FY 2020/21 with closing order book of £340.0m

Order intake from continuing operations of £425.3m represents a 24% increase on the prior year order intake of £344.1m (constant currency: 23%), with growth across all segments. Order intake includes £1.6m from Inside Infrastructure. There were significant increases in year-on-year order intake in A&I (38%, constant currency: 37%), driven by increasing demand for electrification, power electronics and software services, together with clean sheet engine design for marine applications, and Performance Products (PP) (31%, excluding Ricardo Software, constant currency: 31%), which was successful in securing a multi-year order to continue to supply transmissions for a single make racing series. EE order intake continued its consistent year-on-year growth trajectory, with a 16% increase (constant currency: 16%), with the key driver of growth being the Sustainability practice. Defense order intake increased by 12% (constant currency: 10%), which secured USD 34m (£27m) of orders for the Anti-lock braking system/electronic stability control (ABS/ESC) retrofit programme and Rail order intake grew by 14% (constant currency: 16%), driven by a number of project extensions and new wins in North America, which is a key growth market for Ricardo.

Revenue from continuing operations up 11% (constant currency: 11%) on FY 2020/21

FY 2021/22 revenue from continuing operations was £380.2m, compared to £343.7m in the prior year (£343.5m on a constant currency basis). Revenue includes £0.9m from Inside Infrastructure. Revenue increased across all operating segments with the exception of Rail.

EE revenue grew by 18% (constant currency: 18%), with strong demand from international governments to support climate commitments and from private sector clients for sustainability and net zero support. A&I revenue grew by 19% (constant currency: 18%) as a result of the growth in order intake. Defense revenue increased by 19% (constant currency: 18%), driven by increased ABS/ESC volumes and engineering services work. PP revenue increased by 5% (constant currency: 5%) due to growth in transmission volumes. Rail revenue declined by 4% (constant currency: 3%) due to the wind down of a number of projects and delays in starting new work.

Underlying operating profit from continuing operations of £28.0m, up 37% (constant currency: 37%) with reported operating profit from continuing operations of £16.2m (FY 2020/21: £6.7m)

Underlying operating profit from continuing operations, which excludes specific adjusting items, increased by 37% (constant currency: 37%) to £28.0m (FY 2020/21: £20.4m, £20.4m on a constant currency basis). FY 2021/22 underlying operating profit includes £0.1m from Inside Infrastructure. Underlying operating profit margin from continuing operations increased to 7.4% from 5.9% (constant currency: 5.9%) in the prior year.

The combination of revenue growth and the implementation of the global operating model resulted in A&I significantly improving its underlying operating profit from a loss of £3.6m in FY 2020/21 (constant currency: loss of £3.6m) to a profit of £3.7m in FY 2021/22. A&I's underlying operating profit margin improved from negative 3.6% (constant currency: 3.5%) to positive 3.1%. On a reported basis, including costs from reorganisation activities, A&I's operating loss decreased from £9.2m in FY 2020/21 to £1.5m in FY 2021/22.

Underlying operating profit improved in EE and Defense, but margins were lower than the prior year due to increased operating costs in EE, to support the growth of the business, and the mix of work in Defense, with higher ABS/ESC material costs . PP underlying operating profit grew year-on-year and margins were in line with prior year. Rail underlying operating profit reduced as a result of the reduction in revenue.

Reported operating profit from continuing operations was £16.2m, growth of 142% (constant currency: 138%) on FY 2020/21. Within continuing operations, the Group recognised costs of £11.8m in respect of specific adjusting items relating to the amortisation of acquired intangible assets, external project costs, restructuring actions in A&I and Rail, the recognition of costs in relation to the implementation of a new cloud-based ERP system in PP, and a gain on the settlement of a quasi-equity investment in one of the Group's subsidiaries. A further £1.3m of external costs in relation to the disposal of Ricardo Software, held for sale at 30 June 2022, have been recognised as specific adjusting items within the discontinued operation. Specific adjusting items relating to earn outs for previously completed acquisitions and restructuring actions in A&I were also recognised in the prior year. Specific adjusting items are discussed in more detail below.

Underlying profit before tax from continuing operations of £24.2m, up 54% (constant currency: 54%) on FY 2020/21, with a reported profit before tax from continuing operations of £12.4m (FY 2020/21: profit of £2.0m)

The increase in underlying profit before tax from continuing operations, from £15.7m (constant currency: £15.7m) to £24.2m, was primarily driven by the improvement in the underlying operating profit.

As noted above, the FY 2021/22 reported profit before tax from continuing operations includes £11.8m of costs relating to specific adjusting items (FY 2020/21: £13.7m), discussed in more detail below.

Net debt down 25% to £35.4m (FY 2020/21: £46.9m)

Closing net debt was £35.4m (FY 2020/21: £46.9m). The Group had a net cash inflow for the period of £11.5m. During the year, the Group acquired the share capital of Inside Infrastructure for an initial up-front consideration of AUD 10.4m (£5.6m), including AUD 0.9m (£0.5m) for net cash and normal working capital. AUD 1.0m (£0.6m) of cash was acquired. The Group also paid acquisition-related earn out and retention costs of £4.9m, other acquisition and disposal-related fees of £1.2m, costs for the exit of the former CEO (£0.8m), and reorganisation costs of £2.4m. Excluding these specific adjusting items, the Group generated more than £25m of cash, which was achieved through a combination of the improved profitability and a continuing strong focus on working capital management. The composition of net debt is defined in Note 11.

Sale of Ricardo Software

In line with our strategy, on 1 August 2022 the Group completed the sale of Ricardo Software, which was previously reported within the PP reportable operating segment. The maximum cash consideration receivable is USD 20.5 million (£16.7m), of which USD 17.5m (£14.3m) was received on completion and up to a further USD 3.0 million (£2.4m) is receivable based on Ricardo Software achieving certain revenue targets in the twelve-month period post-completion. The sale further reduces our net debt and provides funds for future investment. In FY 2021/22, Ricardo Software generated revenue of £9.4m, of which £2.3m was from sales to the rest of the Ricardo Group, and contributed £2.1m to the Group's underlying operating profit (FY 2020/21: revenue of £10.3m, of which £2.2m was from sales to Ricardo Group, and underlying operating profit of £2.3m). FY 2021/22 underlying operating profit excludes £0.3m of amortisation which was not charged as Ricardo Software was held for sale in June 2022.

Specific adjusting items

As set out in more detail in Notes 1 and 5, the Group's underlying profit before tax from continuing operations for the year excludes £11.8m of costs incurred during the period that have been charged to the income statement as specific adjusting items (FY 2020/21: £13.7m). Including the discontinued operation, total specific adjusting items recognised in the year were £13.1m before tax (FY 2020/21: £14.1m).

Amortisation of acquired intangible assets was £4.5m in the year, compared to £5.0m in FY 2020/21, with the reduction reflecting the end of the amortisation of intangible assets acquired as part of the purchase of AEA Ltd in 2012. A charge of £0.1m has been incurred in FY 2021/22 in respect of intangibles acquired following the acquisition of Inside Infrastructure.

Acquisition-related costs of £0.8m were incurred in the year (FY 2020/21: £1.7m). These related to external fees paid in respect of the Inside Infrastructure acquisition, associated integration costs, a retention bonus for the former shareholders of Ricardo Energy Environment and Planning (REEP), acquired in FY 2019/20, and external fees on other strategic projects. The prior period included £1.6m in relation to earn-out and deferred compensation payments for REEP and Ricardo Rail Australia (RRA), acquired in FY 2018/19, together with £0.1m of external fees in relation to a strategic project.

Purchases and disposals: A charge of £0.3m (USD 0.4m) was incurred in FY 2021/22 in respect of the reduction in the fair value of contingent consideration from the sale of the Group's test operations in Detroit in June 2020. This was a result of a reduction in the volume of traditional engine test work than expected at the time of the sale. A similar charge of £0.5m was recognised in FY 2020/21. The prior year also include a charge of £1.5m in respect of the reduction in the fair value of the Detroit Technology Campus (DTC) as the impact of COVID-19 on the local property market reduced demand for office space and reduced prices.

£1.3m of costs were recognised in the year in respect of external fees incurred in the disposal of Ricardo Software (FY 2020/21: £0.4m). These costs have been recognised within the discontinued operation and have been classified as specific adjusting items as they are incremental costs which are directly attributable to the sale of the business.

Other reorganisation costs: During the second half of the year, the Group commenced a major restructuring programme to combine the three regional A&I businesses in EMEA, US, and China, into one globally operated business, re-aligned around two key pillars: emerging technologies, focused on electrified propulsion, vehicle integration and software and digital services; and established mobility, focusing on high efficiency internal combustion engines (ICE) and emissions compliance. This programme has resulted in £5.3m of reorganisation costs in FY 2021/22, relating to:

- headcount reductions (£2.3m), predominantly in senior management and administrative positions;
- property downsizings and exits (£0.9m), in respect of a reduction in the footprint in Europe;
- the impairment of intangible assets (£2.0m) in relation to technologies and services that the business will not focus on going forwards; and
- external advisory and legal fees (£0.1m) to support the programme.

The cash cost of the actions in the year was £0.5m. This programme will continue into the next financial year, where the Group expects to incur a similar level of income statement expense. The total cash cost of the programme is estimated to be in the region of £4.5m.

FY 2021/22 reorganisation costs include a credit of £0.4m in respect of unutilised provisions from the prior year. In FY 2020/21, £3.4m of reorganisation costs were incurred in the A&I business in EMEA, as a result of the challenging trading conditions and COVID-19, which combined to depress short-term workable orders and delay projects. This led to in headcount reductions (£2.5m, of which £2.1m was utilised in FY 2021/22) and the exit from sites in Cambridge (£0.7m) and Germany (£0.1m), as well as the write off of some equipment in the Santa Clara Technical Centre, which was exited in June 2020 (£0.1m). The cash cost of the FY 2020/21 actions in FY 2021/22 was £1.6m.

£1.0m of reorganisation costs were incurred in Rail in FY 2021/22 as a result of a significant review of its operational structure, aimed at creating a more flexible and agile business. Costs incurred related to the exit of a number of senior positions in the organisation. The review will continue into FY 2022/23. The cash cost of these actions in FY 2021/22 was £0.3m.

ERP system implementation costs: Due to the result of guidance being issued following a recent IFRS Interpretations Committee (IFRIC) decision, £0.5m of external costs incurred and capitalised in FY 2020/21 (in line with prevailing practice at the time), together with £0.1m incurred in FY 2021/22, in relation to the implementation of a new cloud-based ERP system within the PP operating segment have been expensed in the year. They have been classified as a specific adjusting item as they are not reflective of the underlying performance of the business in the period.

Revaluation gain: An intercompany loan from Ricardo plc to Ricardo Investments Ltd, representing a quasi-equity investment in one of the Group's subsidiaries, was repaid. The loan was previously classed as not repayable in the foreseeable future under IAS 21 with any revaluation of the foreign currency loan recognised in the statement of Other Comprehensive Income. Following the repayment of the loan, a gain of £0.3m was reclassified from equity to the income statement, as required under IAS 21, and was reported as a specific adjusting item.

CEO exit costs: In January 2021, the Board, together with Dave Shemmans, agreed that Dave would leave his role as Group Chief Executive after leading the business for sixteen years. Costs of £1.5m were accrued within specific adjusting items in the prior year, reflecting the terms of his settlement agreement, associated legal fees and the costs of a search process to appoint his successor.

GMP equalisation: In order to equalise male and female members' benefits for the effect of Guaranteed Minimum Pensions (GMP) for historical transfers out of the pension scheme, a charge of £0.1m in FY 2020/21 was incurred.

Reconciliation of underlying profit before tax to reported profit before tax

	2022	2021
	£m	£m
Underlying profit before tax from continuing operations	**24.2**	15.7
Amortisation of acquired intangibles	**(4.5)**	(5.0)
Acquisition-related expenditure	**(0.8)**	(1.7)
Reorganisation costs:		
- A&I US – Test business change in fair value of contingent consideration	**(0.3)**	(0.5)
- A&I US - DTC purchase and impairment	**-**	(1.5)
Asset purchase and disposals	**(0.3)**	(2.0)
- A&I – Reorganisation costs	**(4.9)**	(3.4)
- Rail – Reorganisation costs	**(1.0)**	-
Other reorganisation costs	**(5.9)**	(3.4)
ERP implementation costs	**(0.6)**	-
FX revaluation	**0.3**	-
CEO exit costs	**-**	(1.5)
GMP equalisation	**-**	(0.1)
Total specific adjusting items from continuing operations	**(11.8)**	(13.7)
Reported profit before tax from continuing operations	**12.4**	2.0
SAI recorded in discontinued operation		
Ricardo Software external fees	**(1.3)**	(0.4)

Research and Development (R&D) and capital investment

The Group continues to invest in R&D and spent £13.3m (FY 2020/21: £10.2m) before government grant income of £2.5m (FY 2020/21: £1.2m). Development costs capitalised in this period were £7.3m (FY 2020/21: £8.5m), reflecting targeted investment in hydrogen, clean ICE and power electronics technology, together with technology, tools and processes in EE.

Capital expenditure on property, plant and equipment, excluding right-of-use assets, was £4.7m, (net of government grants), reflecting investment in our business operations, including hydrogen and electrical test capability at the Shoreham Technical Centre (STC). £4.3m of capital expenditure on property, plant and equipment was incurred in FY 2020/21.

Net finance costs

Finance income was £0.6m (FY 2020/21: £0.8m) and finance costs were £4.4m (FY 2020/21: £5.5m) for the year, giving net finance costs of £3.8m (FY 2020/21: £4.7m). The reduction in costs reflects a reduction in the bank loan balance, as well as a reduction in the applicable interest rates as a result of improved leverage.

Taxation

The total tax charge for the year, including the results of the discontinued operation, was £4.6m (FY 2020/21: £2.2m) and the total effective tax rate was 34.8% (FY 2020/21: 56.1%). The underlying effective tax rate for the year was 26.2% (FY 2020/21: 26.9%). The total tax charge from continuing operations was £4.2m (FY 2020/21: £1.8m), with a total effective tax rate of 33.9% (FY 2020/21: 90%). The underlying effective tax rate for continuing operations was 26.9% (FY 2020/21: 28.0%).

Deferred tax assets of £9.0m (FY 2020/21: £8.3m) include £4.3m (USD 5.7m) (FY 2020/21: £4.9m, USD 6.5m) of R&D tax credits and £0.2m of tax losses (FY 2020/21: £1.4m), both in the US. The Group also has deferred tax assets of £1.7m in relation to tax losses in other territories. The Directors have considered the recoverability of these assets and are satisfied that it is probable that sufficient taxable profits will be generated in the foreseeable future, against which the recognised assets can be utilised.

Deferred tax liabilities of £12.7m (FY 2020/21: £8.2m) include £3.8m in respect of the defined benefit pension scheme, has been in surplus throughout the year.

Earnings per share

Basic earnings per share was 13.8p (FY 2020/21: 2.9p). The Directors consider that underlying earnings per share provides a more useful indication of underlying performance and trends over time than reported earnings per share. Underlying basic earnings per share for the year was 31.2p (FY 2020/21: 22.4p). The calculation of basic earnings per share, with a reconciliation to an underlying basic earnings per share, which excludes the impact (net of tax) of specific adjusting items, is disclosed in Note 6.

Dividend

The Group paid its interim dividend of 2.91p per share (£1.8m) on 8 April 2022 (HY 2020/21: 1.75p, £1.1m). The Board has declared a final dividend of 7.49p per share (£4.7m) (FY 2020/21: 5.11p, £3.2m), which will be paid on 25 November 2022 to holders of ordinary shares on the Company's register of members on 4 November 2022.

This reflects the Board's desire to increase the return to shareholders as the Group continues to recover from the impact of COVID-19, whilst retaining sufficient funds in the business for investment.

Goodwill

At 30 June 2022, the Group had total goodwill of £90.6m (FY 2020/21: £84.7m). The acquisition of Inside Infrastructure added goodwill of £3.8m to the Ricardo Energy and Environment cash generating unit (CGU) as synergies from the acquisition are expected to benefit EE operating segment.

The carrying value of goodwill is fully supported by the value-in-use calculations for all other operating segments. There are no concerns over the recoverability of the Group's goodwill balances.

Net debt and banking facilities

Net debt at 30 June 2022 comprised cash and cash equivalents of £50.5m (of which £1.1m was included in the disposal group held for sale), borrowing and overdrafts, including hire purchase liabilities and net of capitalised debt issuance costs of £85.9m. Total facilities before borrowings are £216.8m. This provided total cash and liquidity of £181.4m as at 30 June 2022.

After the year-end, on 2 August 2022, the Group completed a refinance of its banking facilities, entering into a new £150m Revolving Credit Facility (RCF) which provides the Group with committed funding for the next four years through to July 2026 and is available for general corporate purposes as well as acquisitions and strategic investments. The RCF has an option for a £50m accordion and to extend the commitment for a further year through to July 2027. This multi-currency facility has a variable interest rate which ranges from 1.65% to 2.45% above SONIA which is dependent upon the Group's adjusted leverage.

The Group's Adjusted Leverage ratio (defined as net debt divided by EBITDA for the twelve months to 30 June 2022, excluding the impact of specific adjusting items and IFRS 16, and adjusted for the impact of acquisitions and disposals in the year), was 0.8x. The Adjusted Leverage covenant was 3.0x as at 30 June 2022.

The Interest Cover ratio (defined as EBITDA for the last twelve months to 30 June 2022, as defined above, divided by net finance costs excluding pension and IFRS 16 interest), was 13.7x. The Interest Cover covenant is 4.0x.

There is significant headroom against both covenants. Further details are provided in Note 11.

Foreign exchange

On consolidation, revenue and costs are translated at the average exchange rates for the year. The Group is exposed to movements in the Pound Sterling exchange rate, principally from work carried out with customers that transact in Euros, US Dollars, Australian Dollars and Chinese Renminbi. Movements in the year-on-year average exchange rates have had a minimal impact on the Group's revenue, operating profit or profit before tax.

Pensions

The Group's defined benefit pension scheme operates within the UK. The fair value of the scheme's assets at the end of the year was £127.1m (FY 2020/21: £156.1m). Although asset values reduced in the year, liabilities also reduced as a result of changes in actuarial assumptions. The scheme pre-tax surplus, measured in accordance with IAS 19, increased from £6.8m at 30 June 2021 to £15.2m at 30 June 2022. Ricardo paid £3.0m of cash contributions into the scheme during the year (FY 2020/21: £4.6m). From November 2021, following completion of the 2020 triennial valuation negotiations with the scheme Trustees, the level of deficit funding contributions reduced from £4.6m per annum to £1.8m per annum through to November 2023.

Chairman of the Board

On 24 February 2022 the Company announced that Sir Terry Morgan CBE gave notice of his intention to retire from the Board. Sir Terry will resign from the Board on 17 November 2022 following the close of the AGM. We are making good progress in the search for his successor.

Outlook

We continue to see strong momentum in our priority markets, underpinned by environmental and energy transition trends. The macroeconomic outlook around the world is challenging. Nevertheless, as we enter FY 2022/23 with a strong order book, a number of high-value contracts and actions already taken to improve our global operating model and cost base in A&I, we are confident that we are well prepared to deliver our expectations despite the uncertainty in the short-term. In addition, we are well positioned to deliver sustainable growth through the shift in our service portfolio, aligned to the megatrends, in the longer term.

By order of the Board:

Graham Ritchie	Ian Gibson
Chief Executive Officer	Chief Financial Officer

13 September 2022

Operating segments review

ENERGYAND ENVIRONMENT

Energy and Environment (EE) works with customers across a wide variety of sectors and geographies to help address their major environmental challenges, which are ever closer related to their strategic imperatives. We have a broad range of environmental skills, covering everything from air quality and climate through to waste, water and chemicals, plus a strong energy and carbon capability to support the energy transition. Added to these skills, we have excellent data, digital and economics capabilities to assist our customers in evaluating data, turning complex information into meaningful policy advice and then support implementation of projects.

Financial and operational highlights

		Historical rates		Constant currency[7]	
	2022	2021	Change	2021	Change
	£m	£m	%	£m	%
Order intake (£m)	**74.1**	64.1	15.6	64.1	15.6
Order book (£m)	**57.0**	47.9	19.0	47.9	19.0
Revenue (£m)	**67.2**	57.1	17.7	57.0	17.9
Underlying [1] operating profit (£m)	**9.1**	8.5	7.1	8.5	7.1
Underlying [1] operating profit margin (%)	**13.5**	14.9	(1.4pp)	14.9	(1.4pp)
Headcount[6] (no.)	**803**	690	16.4	690	16.4

References in superscript are defined in the glossary of terms above.

Performance

EE delivered a strong performance in FY 2021/22, underpinned by the strength of our sustainability portfolio and the geographic expansion into key territories. Order intake for the year was £74.1m, growth of 16% on the prior year on a constant currency basis. Revenue and underlying operating profit grew by 18% and 7%, respectively, on a constant currency basis, as a result of strong demand across multiple services, segments and geographies. Underlying operating profit margin was 13.5%, a reduction of 1.4 percentage points on the previous year on a constant currency basis, as a result of a combination of the mix of work performed in the year and additional operating expenses to deliver the growth in the revenue and profit.

We have seen a strong drive from the public and private corporate sector to set sustainability strategies and undertake net-zero pathway investigations, leading to demand in such services as Lifecycle Assessment (LCA) and ESG-related reporting support in areas such as the Taskforce for Finance-related Climate Disclosures (TCFD). EE's success in securing several new and significant contracts for sustainability services is supported by a more defined sector-orientated approach. From our initial customer engagement right through to the customer delivery, we are creating value for our customers at each step of the process.

Alongside our clear strength in sustainability services, EE has also significantly expanded our work on government programmes in the UK, particularly in providing roll-out projects of technology incubator programmes.

Developments in air quality have been driven by increased market demand as Governments around the world tackle challenges of air pollution. EE can bring its decades of experience to support these projects.

We have also seen an increase in water consultancy services, supporting a number of programmes and studies that seek to mitigate the risk of climate-driven water deficits. An example of the type of work that we are carrying out in this sector includes a collaborative project with United Utilities, Severn Trent Water and Thames Water to consider the feasibility of a River Severn to River Thames Transfer (STT) scheme which, if progressed, would create cross-regional water supply connectivity by designing a resilient, sustainable water resource for future generations.

Growth in our Environmental Policy team is primarily the result of the high demand for policy analysis from governments, as well as key corporate players across the chemicals industry in helping them navigate their way through the business impacts of the European Commission's new Chemicals Strategy for Sustainability, a key element of the EU Green Deal. Other elements of the EU Green Deal relating to air quality, industrial emissions and the circular economy have also led to increased demand from the European Commission and its agencies for our Environmental Policy team's services in policy development and analysis.

Outlook

Our business is closely aligned with major regulatory/environmental trends and where major investments and asset developments are evident.

Sustainability will remain a core focus for growth, with demand forecast across a broad range of sectors, specifically for private and public corporate listed companies in sectors of high energy use that have complex supply chains (such as chemical, automotive, component, food and drink production).

We also expect consistent growth and returns within our highest performing key segments, namely water and environmental policy. Carbon trading is gaining prominence and Ricardo is well placed to support its future expansion – we recently secured a major project to review carbon trading in Indonesia and anticipate similar projects in multiple locations.

Furthermore, we anticipate further opportunities resulting from urbanisation (and the links between climate and air quality and the need for clean and green infrastructure) the energy transition (driving new fuels, technologies, and innovation solutions) and the requirement for smarter and cleaner mobility solutions.

RAIL

Rail provides expert independent assurance and engineering consultancy services to help our customers navigate the industry's operational, commercial and regulatory demands. We apply our expertise to deliver innovative solutions that address sustainability and safety in rail transportation. With capabilities in all technical disciplines – from rolling stock, signalling and telecommunications to energy efficiency, safety and operational planning – we support customer portfolios that range from the world's largest rail administrations to niche component suppliers. Alongside our consultancy segment, we operate a separate independent entity – Ricardo Certification – which performs accredited assurance services. Both businesses draw upon a near 600-strong team of dedicated rail engineers, technicians, auditors and support teams, with experience across the globe.

Financial and operational highlights

		Historical rates		Constant currency(7)	
	2022	2021	Change	2021	Change
	£m	£m	%	£m	%
Order intake (£m)	**85.0**	74.7	13.8	73.4	15.8
Order book (£m)	**109.0**	95.3	14.4	100.3	8.7
Revenue (£m)	**74.3**	77.7	(4.4)	76.5	(2.9)
Underlying (1) operating profit (£m)	**7.7**	8.0	(3.8)	7.9	(2.5)
Underlying (1) operating profit margin (%)	**10.4**	10.3	0.1pp	10.3	0.1pp
Headcount(6) (no.)	**571**	596	(4.2)	596	(4.2)

References in superscript are defined in the glossary of terms above.

Performance

Order intake increased by 16% year-on-year, on a constant currency basis, driven by a number of new wins and extensions to existing projects, despite challenging market conditions.

On a constant currency basis, revenue and underlying operating profit both declined by 3%. This was the result of several long-term projects nearing completion along with a delay in the starting up of new contracts, resulting in lower-than-anticipated utilisation. Operating profit margin was broadly stable on a constant currency basis at 10.4%. Mitigating actions are already under way to provide more resilience within Rail's operating model – this will lead to an improvement in its short-term profitability while at the same time also ensuring that we are well placed to secure the future mix of business opportunity that is flexible towards our customers' changing demands. These actions will continue into FY 2022/23.

During the year the team made significant strides into a North American rail market that had previously proven difficult to enter. In December 2021, our Certification team became the first organisation to be accredited as a railway Independent Safety Assessor by the Standards Council of Canada. This was a significant achievement for Ricardo and was soon followed by our first major Canadian rail contract, with the team appointed to support the design stages of the Greater Toronto and Hamilton network upgrade.

Meanwhile, a contract to provide safety assessment services for skyTran, a Californian-based maglev technology developer, was not only the first major win by our US rail team, but also representative of the technologies now taking hold in this expansive and rapidly growing market.

Elsewhere, we continued to win a diverse range of projects across our more established territorial markets. In Asia, for example, we were assigned a major assurance role for the construction of a driverless metro route in Taipei. In Europe, we were chosen to support the transformation of Copenhagen's S-Bane railway into a fully automated system. Meanwhile, our Middle East team secured a four-year extension of our role in the development of Riyadh's mass transit system.

The past year cannot pass without mention of the opening of London's Elizabeth Line in May. We joined the project in 2012 and it has been one of the largest independent assessments ever undertaken by Ricardo Certification. Despite the wider programme's much publicised difficulties and delays, the result is a truly world-class railway that, amongst its many legacies, has transformed how approvals will be managed on major railway projects in future.

Outlook

Although some markets are recovering faster than others, passenger and freight revenues around the world are yet to return to pre-pandemic levels.

Railways are a high-cost business, and the past two years have seen many networks become increasingly reliant on public funding. Many systems are being tasked with concentrating on efficiency gains, such as increased use of digital technologies to improve operations and maintenance, and practices for extending the service life of existing assets.

Other networks are looking to increase revenues by attracting new patronage. This is the mindset in markets such as Australia and North America, where transit systems that serve major cities are planning major extensions or upgrades to deliver more reliable services in more modern environments.

The industry's scope to offer cleaner, sustainable transportation, whether for cross-border travel or local trips, is opening up opportunities with potential customers looking to promote energy efficiency practices or explore low-emission technologies.

We are well placed to support all aspects of the industry's re-emergence from the pandemic. The diversity of our service portfolio – from independent assurance to systems engineering, decarbonisation and cyber security – means we are fully aligned with the market's priorities.

AUTOMOTIVE AND INDUSTRIAL

Automotive and Industrial (A&I) is a trusted global engineering services partner for clean and efficient integrated propulsion and energy systems. With a customer-centric focus, A&I leverages digital engineering, systems thinking and its learning culture to offer a true end-to-end service from the initial concept phase right through to product execution. Our experience and history over more than 100 years at the forefront of mobility innovation enable us to deliver solutions to the most complex challenges, allowing our customers across all global transport sectors to achieve a sustainable zero-carbon future.

Financial and operational highlights

		Historical rates		Constant currency(7)	
	2022	2021 Restated*	Change	2021 Restated*	Change
	£m	£m	%	£m	%
Order intake (£m)	**136.0**	98.4	38.2	99.4	36.8
Order book (£m)	**82.2**	71.4	15.1	74.6	10.2
Revenue (£m)	**120.0**	101.0	18.8	101.7	18.0
Underlying (1) operating profit/(loss) (£m)	**3.7**	(3.6)	202.8	(3.6)	202.8
Underlying (1) operating profit margin (%)	**3.1**	(3.6)	6.7pp	(3.5)	6.6pp
Headcount(6) (no.)	**1,006**	996	1.0	996	1.0

References in superscript are defined in the glossary of terms above.

Performance

A&I delivered good growth in order intake, revenue and underlying operating profit in FY 2021/22. Order intake grew by 37% year-on-year, on a constant currency basis. The higher demand translated into a 18% increase in revenue versus the prior year, on a constant currency basis. Underlying operating profit was £3.7m (FY 2020/21: loss of £3.6m on a constant currency basis). The underlying operating margin increased from negative 3.5% to positive 3.1%, on a constant currency basis. On a reported basis, including costs from reorganisation activities, A&I's operating loss decreased from £9.2m in FY 2020/21 to £1.5m in FY 2021/22.

During FY 2021/22, we secured several multimillion-pound contracts that included fuel cell, power electronics and battery applications for commercial trucking and electric utility vehicles; electrified motorcycle design and testing; and clean sheet engine design for defence and marine applications. Our order intake was geographically diverse with c.30% coming from North America, c.60% from EMEA and c.10% from Asia. Order intake was strong in North America and EMEA compared to the prior year while China continued to be impacted by COVID 19-related travel and working restrictions. Approximately 60% of our order intake in FY 2021/22 came from emerging technologies, focused on electrified propulsion, vehicle integration and software and digital services. Approximately 40% came from established mobility solutions, focusing on high-efficiency internal combustion engines (ICE) and emissions compliance.

We have increased revenue through higher rates of staff utilisation and improved the scale of the business relative to its cost base. This, together with an improvement in the economic environment as North America and Europe emerged from the impact of COVID-19, resulted in an improvement in project margins.

During the year, we have undertaken significant strategic and structural changes to consolidate our regions into one globally managed A&I business, which has been organised around the two key pillars of emerging technologies and established mobility solutions. This organisation structure better reflects the changing landscape of our market – which has been heavily impacted by COVID-19, causing a temporary reduction in global passenger-car purchases together with increasing concerns over climate change – and the ever-evolving business models of our customers.

Through the global consolidation of the A&I operating segment, we have completed a number of actions to gain increased efficiencies that will support operational effectiveness across the business. These included a reduction in headcount primarily across senior management and administrative positions, the downsizing of and exit from underutilised properties, the impairment of intangible assets relating to technologies that are no longer part of our focused strategy, and external advisory and legal fees. The total restructuring charge recognised in the year in respect of these actions was £5.3m and the cash cost of these actions was £0.5m. This reorganisation process will continue into FY 2022/23, with a similar level of income statement expense expected and a total estimated cash cost of £4.5m. This will ensure continuous improvement to deliver increased value for our customers.

Furthermore, we have also gained further operational efficiencies by advancing our processes in identifying and acquiring talent and onboarding. By doing this, we can ensure that we are continuously attracting, retaining and inspiring the very best talent.

Outlook

Our global focus within A&I will be to deliver innovative, sustainable mobility solutions to customers across the world and build resilience through continued expansion across all transport sectors.

We will prioritise four key areas across all mobility and industrial sectors: deployment of electrified systems, enablement of next-generation software and controls, digital development and modelling as a path to increasing product value, and the deployment of hydrogen and de-fossilised fuels as a bridge to zero-carbon transportation. This is supported by our technology roadmap, global leadership research and development, and sustainable, high-value intellectual property.

As the transition to zero-carbon will take time, we will continue to support our customers with their current and transition bridge business models while accelerating the journey to develop environmentally sustainable products. We will drive innovation in the development of cleaner, more efficient conventional engines and electric-based propulsion systems, using software and digital tools to fundamentally reimage the product development lifecycle and accelerate our clients' paths to profit.

DEFENSE

Defense has gained significant insights into the needs of armed forces and provides solutions to meet the challenges our customers face in the integration of logistics and field support for complex and diverse systems. Our wide range of engineering and software solutions provides system-integration engineering for the US Army's ground inventory and we are the data-replication agent for everything in the air, on the sea and under the surface for the US Navy. We also specialise in niche manufacturing, adapting commercial industry products to deliver innovative sector applications that protect people and infrastructure.

Financial and operational highlights

		Historical rates		Constant currency[7]	
	2022	2021	Change	2021	Change
	£m	£m	%	£m	%
Order intake (£m)	**55.1**	49.4	11.5	50.0	10.2
Order book (£m)	**40.5**	25.7	57.6	29.2	38.7
Revenue (£m)	**45.0**	37.9	18.7	38.3	17.5
Underlying [1] operating profit (£m)	**5.9**	5.4	9.3	5.5	7.3
Underlying [1] operating profit margin (%)	**13.1**	14.2	(1.1pp)	14.4	(1.3pp)
Headcount[6] (no.)	**195**	185	5.4	185	5.4

References in superscript are defined in the glossary of terms above.

Performance

Defense's order intake grew by £5.1m (10%) on a constant currency basis in FY 2021/22. In the year, we received USD 34m (£27m) of orders from the United States Army to retrofit Antilock Brake System/Electronic Stability Control (ABS/ESC) retrofit kits to improve the safety of operation of the US Army' High Mobility Multi-purpose Wheeled Vehicle (HMMWV). We have also developed the framework for guiding new technologies into government applications and expanded the deployment of our data-management systems to include more fleet assets for the US Navy.

Revenue increased by 18% year-on-year on a constant currency basis. Revenue growth was driven by increased ABS/ESC volumes - in total, we delivered 3,602 ABS/ESC kits in FY 2021/22, compared to 2,950 the previous year, which included both retrofit kits and kits for new-production vehicles – and a rise in orders for our engineering services.

Underlying operating profit of £5.9m was an increase of 7% compared to FY 2020/21 on a constant currency basis. Underlying operating profit margin reduced from 14.4% to 13.1% on a constant currency basis due to a combination of the changing mix of work between ABS/ESC and engineering services, delays in the US Government's approval of the US Department of Defense budget (which impacted the utilisation of our engineering services team in the first half of the financial year) and higher supply chain costs in ABS/ESC.

With the expansion of our field-support solutions business, which supports the installation and maintenance of vehicles in the field, we are able to provide a complete offering to our clients, covering the entire procurement lifecycle for their vehicle platforms, from concept design and development through to production and sustainment in the field.

Additionally, with the focus on net-zero planning, we have been working with the US Marine Corps to develop and demonstrate capabilities to improve the management of energy supplies and better secure energy resources to reduce its overall carbon footprint. Utilising a deployable metering and monitoring system, the US Marine Corps is now able to analyse changing electrical demand and logistical fuel constraints so that operators can make better-informed command and control decisions on fuel and energy resiliency.

Outlook

The US DoD continues to move away from its traditional OEM-centred acquisition approach, with a strong focus on accelerating the transition of innovations to its fleet of vehicles in the field.

Our market position as a proven system integrator and technical solution provider disrupts the traditional defence market, as we can react with speed and flexibility. Our broad portfolio of engineering services, products such as ABS/ESC, and field-support solutions, is expected to fulfil the needs of future force design and spans the entire military-vehicle lifecycle.

Our digital solutions enable highly networked cross-domain operations between advanced platforms in the air, on land, and at sea. Our predictive-maintenance data-management software is enabling efficient naval fleet management and we expect to see that expand to US Army ground fleets in the coming year.

We also anticipate continued growth in field-support services with the production fielding of programs we support including ABS/ESC, Infantry Squad Vehicle (ISV), and other next-generation advanced platforms.

PERFORMANCE PRODUCTS

Performance Products (PP) is responsible for the manufacture and assembly of niche high-quality products, including engines, transmissions, electric drive units and other performance-critical driveline and powertrain products. We also provide industrial engineering services to enable designs to successfully move from concept to series production for customers around the globe. With decades of experience, our technical experts support customers in bringing their cutting-edge innovations to market.

Financial and operational highlights

		Historical rates		Constant currency[7]	
	2022	2021 Restated*	Change	2021 Restated*	Change
	£m	£m	%	£m	%
Order intake (£m)	**75.1**	57.5	30.6	57.5	30.6
Order book (£m)	**51.3**	49.9	2.8	49.9	2.8
Revenue (£m)	**73.7**	70.0	5.3	70.0	5.3
Underlying [1] operating profit (£m)	**7.2**	6.7	7.5	6.7	7.5
Underlying [1] operating profit margin (%)	**9.8**	9.6	0.2pp	9.6	0.2pp
Headcount[6] (no.)	**340**	325	4.6	325	4.6

References in superscript are defined in the glossary of terms above.

Performance

FY 2021/22 order intake from continuing operations was £75.1m, an increase of £17.6m (31%) on the prior year. This reflects the timing of engine orders from McLaren and securing the next multi-year Porsche 992 Cup transmission programme.

Revenue and operating profit from continuing operations both grew in FY 2021/22, by 5% and 7%, respectively. Underlying operating profit margin was broadly stable with FY 2020/21 at 9.8%.

McLaren engine volumes increased modestly year-on-year, with an uptick in the last quarter of the financial year in support of the launch of the new V6-powered Artura.

Transmission programme revenue significantly increased year-on-year with the start of production of the Aston Martin Valkyrie, which added to the already well-established Porsche Cup and Bugatti Chiron programmes. Motorsport, aerospace and defence component and transmission projects performed in line with our expectations over the year.

We continued to develop our portfolio of existing powertrain (engine) and drivetrain (transmission) products during the year as well as new projects in the zero-emission propulsion space, including electric drive units, industrial engineering services in EV production and concept work around battery systems and electric machines.

Our world class motorsport engineering and manufacturing capabilities continued to operate at the highest tiers in motorsport, with a particular focus on next-generation technology. During the year, we worked with Hyundai (on its hybrid-powered Rally 1 car), DS (on its the all-electric Formula E race car), Porsche (in GT racing), and with our long-standing customer in Formula 1.

We continued to provide the UK Ministry of Defence with key spares components and precision machined components to the aerospace industry under our AS9100 certification. The strong outlook across all our key business areas of high-performance automotive, motorsport, defence and aerospace were reflected in the strong order intake for the year.

COVID-19 and subsequently the conflict in Ukraine continued to cause some disruption in the supply chain. However, our rigorous process management and tools ensured that client deliveries were not affected.

Outlook

The forthcoming year will see continued growth in both our powertrain and driveline businesses. This is driven by growth in sales of high-performance vehicles and increasing demand for manufacturing engineering and supply chain consultancy, as many new customers (particularly in new technologies) take ideas and designs into production.

The key focus for FY 2022/23 will be to ensure our supply chain is able to meet the demand and to capitalise on the significant number of new products coming to market driven by emerging and green technologies.

Condensed consolidated income statement

for the year ended 30 June

	Note	2022 Underlying £m	2022 Specific adjusting items(**) £m	2022 Total £m	2021 - Restated* Underlying £m	2021 - Restated* Specific adjusting items(**) £m	2021 - Restated* Total £m
Continuing operations							
Revenue	*4*	**380.2**	**-**	**380.2**	343.7	-	343.7
Cost of sales		**(250.7)**	**-**	**(250.7)**	(230.7)	-	(230.7)
Gross profit		**129.5**	**-**	**129.5**	113.0	-	113.0
Administrative expenses		**(102.0)**	**(11.8)**	**(113.8)**	(93.8)	(13.7)	(107.5)
Other income		**0.5**	**-**	**0.5**	1.2	-	1.2
Operating profit		**28.0**	**(11.8)**	**16.2**	20.4	(13.7)	6.7
Finance income		**0.6**	**-**	**0.6**	0.8	-	0.8
Finance costs		**(4.4)**	**-**	**(4.4)**	(5.5)	-	(5.5)
Net finance costs		**(3.8)**	**-**	**(3.8)**	(4.7)	-	(4.7)
Profit before taxation		**24.2**	**(11.8)**	**12.4**	15.7	(13.7)	2.0
Income tax (expense)/credit		**(6.5)**	**2.3**	**(4.2)**	(4.4)	2.6	(1.8)
Profit from continuing operations		**17.7**	**(9.5)**	**8.2**	11.3	(11.1)	0.2
Discontinued operation							
Profit from discontinued operation, net of tax		**1.7**	**(1.3)**	**0.4**	1.9	(0.4)	1.5
Profit for the year		**19.4**	**(10.8)**	**8.6**	13.2	(11.5)	1.7
Profit/(loss) attributable to:							
Continuing operations							
- Owners of the parent		**17.7**	**(9.5)**	**8.2**	11.3	(11.1)	0.2
Discontinued operation							
- Owners of the parent		**1.7**	**(1.3)**	**0.4**	1.9	(0.4)	1.5
Total							
- Owners of the parent		**19.4**	**(10.8)**	**8.6**	13.2	(11.5)	1.7
- Non-controlling interests		**-**	**-**	**-**	-	-	-
		19.4	**(10.8)**	**8.6**	13.2	(11.5)	1.7
Earnings per ordinary share attributable to owners of the parent during the year							
Basic	*6*			**13.8**			2.9
Diluted	*6*			**13.8**			2.9
Earnings per ordinary share attributable to owners of the parent during the year - continuing operations							
Basic	*6*			**13.2**			0.3
Diluted	*6*			**13.2**			0.3

(*) Comparative information has been re-presented due to a discontinued operation. See Note 2.

(**) Specific adjusting items are disclosed separately in the condensed interim financial statements where it is necessary to do so to provide further understanding of the financial performance of the Group. Further details are given in Note 1 and Note 5.

Condensed consolidated statement of comprehensive income

for the year ended 30 June

	2022 £m	2021 £m
Profit for the year	**8.6**	1.7
Other comprehensive income		
Items that will not be reclassified to profit or loss:		
Remeasurements of the defined benefit pension scheme	**5.2**	9.1
Deferred tax on remeasurements of the defined benefit pension scheme	**(1.6)**	(2.0)
Total items that will not be reclassified to profit or loss	**3.6**	7.1
Items that are, or may be, subsequently reclassified to profit or loss:		
Currency translation on foreign currency net investments	**6.5**	(2.9)
Total items that may be subsequently reclassified to profit or loss	**6.5**	(2.9)
Total other comprehensive income for the year (net of tax)	**10.1**	4.2
Total comprehensive income for the year	**18.7**	5.9
Comprehensive income attributable to:		
- Owners of the parent	**18.7**	5.9
- Non-controlling interests	**-**	-
	18.7	5.9

The accompanying notes are an integral part of these condensed interim financial statements.

Condensed consolidated statement of financial position
As at 30 June

	Note	2022 £m	2021 £m
Assets			
Non-current assets			
Goodwill	*9*	**90.6**	84.7
Other intangible assets		**23.1**	33.9
Property, plant and equipment		**47.0**	46.9
Right-of-use assets		**18.3**	19.5
Retirement benefit surplus		**15.2**	6.8
Other receivables		**2.5**	2.3
Deferred tax assets		**9.0**	8.3
		205.7	202.4
Current assets			
Inventories		**21.0**	16.9
Trade, contract and other receivables		**128.7**	126.9
Derivative financial assets		**0.8**	0.9
Current tax assets		**3.6**	1.5
Cash and cash equivalents	*11*	**49.4**	42.0
Assets held for sale	*10*	**9.6**	-
		213.1	188.2
Total assets		**418.8**	390.6
Liabilities			
Current liabilities			
Borrowings	*11*	**11.2**	12.8
Lease liabilities		**5.0**	5.5
Trade, contract and other payables		**78.2**	76.6
Current tax liabilities		**4.2**	1.4
Derivative financial liabilities		**5.1**	1.0
Provisions		**5.1**	4.0
Liabilities directly associated with the assets held for sale	*10*	**3.4**	-
		112.2	101.3
Net current assets		**100.9**	86.9
Non-current liabilities			
Borrowings	*11*	**74.7**	76.1
Lease liabilities		**18.3**	18.8
Deferred tax liabilities		**12.7**	8.2
Provisions		**3.3**	3.4
		109.0	106.5
Total liabilities		**221.2**	207.8
Net assets		**197.6**	182.8
Equity			
Share capital		**15.6**	15.6
Share premium		**16.8**	16.8
Other reserves		**44.5**	38.0
Retained earnings		**120.5**	112.2
Equity attributable to owners of the parent		**197.4**	182.6
Non-controlling interests		**0.2**	0.2
Total equity		**197.6**	182.8

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

Condensed consolidated statement of changes in equity

for the year ended 30 June

		Attributable to owners of the parent						
	Note	Share capital £m	Share premium £m	Other reserves £m	Retained earnings £m	Total £m	Non-controlling interests £m	Total equity £m
At 1 July 2020		13.4	14.3	17.4	103.5	148.6	0.5	149.1
Profit for the year		-	-	-	1.7	1.7	-	1.7
Other comprehensive (expense)/income for the year		-	-	(2.9)	7.1	4.2	-	4.2
Total comprehensive (expense)/income for the year		-	-	(2.9)	8.8	5.9	-	5.9
Issue of ordinary share capital		2.2	2.5	23.5	-	28.2	-	28.2
Reduction in share capital		-	-	-	-	-	(0.2)	(0.2)
Equity-settled transactions		-	-	-	1.0	1.0	-	1.0
Ordinary share dividends	*7*	-	-	-	(1.1)	(1.1)	(0.1)	(1.2)
At 30 June 2021		15.6	16.8	38.0	112.2	182.6	0.2	182.8
At 1 July 2021		**15.6**	**16.8**	**38.0**	**112.2**	**182.6**	**0.2**	**182.8**
Profit for the year		**-**	**-**	**-**	**8.6**	**8.6**	**-**	**8.6**
Other comprehensive income for the year		**-**	**-**	**6.5**	**3.6**	**10.1**	**-**	**10.1**
Total comprehensive income for the year		**-**	**-**	**6.5**	**12.2**	**18.7**	**-**	**18.7**
Equity-settled transactions		**-**	**-**	**-**	**1.6**	**1.6**	**-**	**1.6**
Tax credit relating to share option schemes		**-**	**-**	**-**	**(0.3)**	**(0.3)**	**-**	**(0.3)**
Purchases of own shares to settle awards		**-**	**-**	**-**	**(0.2)**	**(0.2)**	**-**	**(0.2)**
Ordinary share dividends	*7*	**-**	**-**	**-**	**(5.0)**	**(5.0)**	**-**	**(5.0)**
At 30 June 2022		**15.6**	**16.8**	**44.5**	**120.5**	**197.4**	**0.2**	**197.6**

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

Condensed consolidated statement of cash flows
for the year ended 30 June

	Note	2022 £m	2021 £m
Cash flows from operating activities			
Profit/(loss) before taxation		13.2	3.9
Adjustments for:			
- Share-based payments		1.3	1.4
- Unrealised foreign exchange (gains)/losses		(1.0)	0.7
- Losses/(gains) on disposal of property, plant and equipment		0.1	(0.3)
- Net finance costs		3.8	4.7
- Depreciation, amortisation and impairment		25.1	26.6
Defined benefit pension scheme payments in excess of past service costs		(3.0)	(4.6)
Operating cash flows before movements in working capital		39.5	32.4
Changes in:			
- Inventories		(3.6)	2.9
- Trade, contract and other receivables		4.6	(7.5)
- Trade, contract and other payables		8.5	4.1
- Provisions		0.9	1.1
Cash generated from operations		49.9	33.0
Net interest paid		(3.5)	(4.2)
Income tax paid		(2.8)	(2.9)
Net cash generated from operating activities		43.6	25.9
Cash flows from investing activities			
Acquisitions of subsidiaries, net of cash acquired		(9.9)	(5.2)
Purchases of property, plant and equipment		(6.1)	(4.5)
Proceeds from disposal of property, plant and equipment		0.1	0.3
Purchases of intangible assets and capitalised development costs		(8.0)	(8.9)
Net cash used in investing activities		(23.9)	(18.3)
Cash flows from financing activities			
Proceeds from issuance of ordinary shares		-	28.2
Purchases of own shares to settle awards		(0.2)	-
Principal element of lease payments		(4.5)	(6.5)
Principal element of lease receivables		-	0.2
Proceeds from borrowings	*11*	13.0	5.0
Repayment of borrowings	*11*	(15.0)	(57.9)
Dividends paid to shareholders	*7*	(5.0)	(1.4)
Net cash used in financing activities		(11.7)	(32.4)
Effect of exchange rate changes on cash and cash equivalents		2.1	(1.7)
Net increase/(decrease) in cash and cash equivalents		10.1	(26.5)
Net cash and cash equivalents at 1 July		29.3	55.8
Net cash and cash equivalents at 30 June		39.4	29.3
At 1 July			
Cash and cash equivalents		42.0	66.3
Bank overdrafts		(12.7)	(10.5)
Net cash and cash equivalents at 1 July		29.3	55.8
At 30 June			
Cash and cash equivalents	*11*	49.4	42.0
Cash included in disposal group held -for-sale	*11*	1.1	-
Bank overdrafts	*11*	(11.1)	(12.7)
Net cash and cash equivalents at 30 June		39.4	29.3

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

General information

Ricardo plc (the 'Company'), a public company limited by shares, is listed on the London Stock Exchange and incorporated and domiciled in the United Kingdom. The address of its registered office is Shoreham Technical Centre, Shoreham-by-Sea, West Sussex, BN43 5FG, England, United Kingdom, and its registered number is 222915.

This preliminary announcement is based on the audited Annual Report & Accounts 2022, which was approved for issue on 13 September 2022, and which has been prepared in accordance with UK-adopted international accounting standards and applicable law. The financial information herein does not amount to full statutory accounts within the meaning of Section 434 of the Companies Act 2006.

1. Alternative performance measures

Throughout this document the Group presents various alternative performance measures (APMs) in addition to those reported under IFRS. The measures presented are those adopted by the Chief Operating Decision Maker (CODM, deemed to be the Chief Executive Officer), together with the main Board, and analysts who follow us in assessing the performance of the business. Ricardo provides guidance to the investor community based on underlying results. Explanations of how they are calculated and how they are reconciled to an IFRS statutory measure are set out below.

The underlying results and other APMs may be considered in addition to, but not as a substitute for or superior to, information presented in accordance with IFRS.

(a) Group profit and earnings measures

Underlying profit before tax (PBT) and underlying operating profit: These measures are used by the Board to monitor and measure the trading performance of the Group. Underlying results include the benefits of the results of acquisitions and major restructuring programmes but exclude significant costs (such as the amortisation of acquired intangibles, acquisition-related expenditure, reorganisation costs and other specific adjusting items). Ricardo believes that the underlying results, when considered together with the reported results, provide investors, analysts and other stakeholders with helpful complementary information to better understand the financial performance and position of the Group.

The Group's strategy includes geographic and sector diversification, including targeted acquisitions and disposals. By excluding acquisition-related expenditure from underlying PBT and underlying operating profit, the Board has a clearer view of the performance of the Group and is able to make better operational decisions to support its strategy.

Acquisition-related expenditure includes the costs of acquisitions, deferred and contingent consideration fair value adjustments (including the unwinding of discount factors), transaction-related fees and expenses, and post-deal integration costs.

Reorganisation costs arising from major restructuring activities, profits or losses on the disposal of businesses, and significant impairments of property, plant and equipment, are excluded from underlying PBT and underlying operating profit as they are not reflective of the Group's trading performance in the year, as are any other specific adjusting items deemed to be one-off in nature.

The related tax effects on the above and other tax items which do not form part of the underlying tax rate are also taken into account. Items are treated consistently year-on-year, and these adjustments are also consistent with the way that performance is measured under the Group's incentive plans and its banking covenants. A reconciliation is shown below. Further details of the nature of the specific adjusting items are given in Note 5.

Reconciliation of underlying profit to reported profit

	2022			2021 - Restated*		
	Underlying	**Specific adjusting items**	**Total**	Underlying	Specific adjusting items	Total
	£m	**£m**	**£m**	£m	£m	£m
Revenue	**380.2**	**-**	**380.2**	343.7	-	343.7
Cost of sales	**(250.7)**	**-**	**(250.7)**	(230.7)	-	(230.7)
Gross profit	**129.5**	**-**	**129.5**	113.0	-	113.0
Administrative expenses and other income	**(101.5)**	**-**	**(101.5)**	(92.6)	-	(92.6)
Amortisation of acquired intangibles	**-**	**(4.5)**	**(4.5)**	-	(5.0)	(5.0)
Acquisition-related expenditure	**-**	**(0.8)**	**(0.8)**	-	(1.7)	(1.7)
Reorganisation costs	**-**	**(6.2)**	**(6.2)**	-	(5.4)	(5.4)
ERP implementation costs	**-**	**(0.6)**	**(0.6)**	-	-	-
CEO exit costs	**-**	**-**	**-**	-	(1.5)	(1.5)
Other	**-**	**0.3**	**0.3**	-	(0.1)	(0.1)
Operating profit from continuing operations	**28.0**	**(11.8)**	**16.2**	20.4	(13.7)	6.7
Net finance costs	**(3.8)**	**-**	**(3.8)**	(4.7)	-	(4.7)
Profit before taxation from continuing operations	**24.2**	**(11.8)**	**12.4**	15.7	(13.7)	2.0
Income tax (expense)/credit	**(6.5)**	**2.3**	**(4.2)**	(4.4)	2.6	(1.8)
Profit for the year from continuing operations	**17.7**	**(9.5)**	**8.2**	11.3	(11.1)	0.2
Profit for the year from discontinued operation, net of tax	**1.7**	**(1.3)**	**0.4**	1.9	(0.4)	1.5
Profit for the year	**19.4**	**(10.8)**	**8.6**	13.2	(11.5)	1.7

** Comparative information has been re-presented due to a discontinued operation. See Note 2.*

Underlying earnings attributable to the owners of the parent/earnings per share: The Group uses underlying earnings attributable to the owners of the parent as the input to its adjusted EPS measure. This profit measure excludes the amortisation of acquired intangibles, acquisition-related expenditure, reorganisation costs and other specific adjusting items, but is an after-tax measure. The Board considers underlying EPS to be more reflective of the Group's trading performance in the year. A reconciliation between earnings attributable to the owners of the parent and underlying earnings attributable to the owners of the parent is shown in Note 6.

Organic growth/decline: Organic growth/decline is calculated as the growth/decline in the result for the current year compared to the prior year, after adjusting for the impact of acquisitions or disposals, to include the results of those acquisitions or disposals for an equivalent period in each financial year. As set out in Note 8, the Group acquired the entire issued share capital of Inside Infrastructure Pty Ltd (Inside Infrastructure) on 21 March 2022. The current year results include £0.9m of revenue, £0.1m of operating profit and £0.1m of profit before tax from Inside Infrastructure.

Constant currency growth/decline: The Group generates revenues and profits in various territories and currencies because of its international footprint. Those results are translated on consolidation at the foreign exchange rates prevailing at the time. Constant currency growth/decline is calculated by translating the result for the prior year using foreign currency exchange rates applicable to the current year. This provides an indication of the growth/decline of the business, excluding the impact of foreign exchange. In the prior year, constant currency results were calculated by translating the result for the current year using foreign currency exchange rates applicable to the prior year. Using current year rates to restate prior year results is considered to provide a more useful comparison, since current year performance remains stated at actual rates.

Headline trading performance

		Underlying		Reported	
	External revenue	Operating profit	Profit before tax	Operating profit	Profit before tax
	£m	£m	£m	£m	£m
2022					
Total	**387.3**	**30.1**	**26.3**	**17.0**	**13.2**
Less: discontinued operation	**(7.1)**	**(2.1)**	**(2.1)**	**(0.8)**	**(0.8)**
Continuing operations	**380.2**	**28.0**	**24.2**	**16.2**	**12.4**
Less: performance of acquisitions	**(0.9)**	**(0.1)**	**(0.1)**	**(0.1)**	**(0.1)**
Continuing operations - organic	**379.3**	**27.9**	**24.1**	**16.1**	**12.3**
2021					
Total	351.8	22.7	18.0	8.6	3.9
Less: discontinued operation	(8.1)	(2.3)	(2.3)	(1.9)	(1.9)
Continuing operations	343.7	20.4	15.7	6.7	2.0
Continuing operations at current year exchange rates	343.5	20.4	15.7	6.8	2.1
Growth (%) - Total	10%	33%	46%	98%	238%
Growth (%) - Continuing operations	11%	37%	54%	142%	520%
Growth (%) - Continuing organic	10%	37%	54%	140%	515%
Constant currency growth (%) – Continuing operations	11%	37%	54%	138%	490%

Segmental underlying operating profit: This is presented in the Group's segmental disclosures and reflects the underlying trading of each segment, as assessed by the main Board. This excludes segment-specific amortisation of acquired intangibles, acquisition-related expenditure and other specific adjusting items, such as reorganisation costs. It also excludes unallocated Plc costs, which represent the costs of running the public limited company and specific adjusting items which are outside of the control of segment management. A reconciliation between segment underlying operating profit, the Group's underlying operating profit and operating profit is presented in Note 0.

(b) Cash flow measures

Cash conversion: A key measure of the Group's cash generation is the conversion of profit into cash. This is the reported cash generated from operations (defined as operating cash flow, less movements in net working capital and defined benefit pension deficit contributions) divided by earnings before interest, tax, depreciation and amortisation (EBITDA), expressed as a percentage.

Underlying cash conversion: This is underlying cash generated from operations (defined as reported cash generated from operations, adjusted for the cash impact of specific adjusting items) divided by underlying EBITDA (defined as reported EBITDA, adjusted for the impact of specific adjusting items). A reconciliation between the two is shown below.

Reconciliation of underlying cash conversion to reported cash conversion

	2022			2021		
	Underlying	Specific adjusting items	Total	Underlying	Specific adjusting items	Total
	£m	£m	£m	£m	£m	£m
Operating profit from continuing operations	28.0	(11.8)	16.2	20.4	(13.7)	6.7
Operating profit from discontinued operation	2.1	(1.3)	0.8	2.3	(0.4)	1.9
Operating profit	30.1	(13.1)	17.0	22.7	(14.1)	8.6
Depreciation, amortisation and impairment	18.6	2.0	20.6	19.7	1.9	21.6
Amortisation of acquired intangibles	-	4.5	4.5	-	5.0	5.0
EBITDA	48.7	(6.6)	42.1	42.4	(7.2)	35.2
Movement in working capital	8.2	2.2	10.4	(2.3)	2.9	0.6
Pension deficit payments	(3.0)	-	(3.0)	(4.6)	-	(4.6)
Losses/(gains) on disposal of assets	0.1	-	0.1	(0.3)	-	(0.3)
Share based payments	1.3	-	1.3	1.0	0.4	1.4
Unrealised exchange (gains)/losses	(0.7)	(0.3)	(1.0)	0.7	-	0.7
Cash generated from operations	54.6	(4.7)	49.9	36.9	(3.9)	33.0
Cash conversion	112.1%		118.5%	87.0%		93.8%

The movement in working capital in relation to specific adjusting items for the current year includes accruals of £1.6m and provisions of £2.2m in relation to specific adjusting items recognised as an expense during the current year which had not been paid at 30 June 2022. This was offset by the payment of £2.4m of amounts related to specific adjusting items included in trade and other payables and provisions at the prior year end. In addition £0.5m of prepayments relating to an ERP implementation were recognised in operating profit in the current year, and a receivable of £0.3m a reduction in the fair value of contingent consideration arising from the disposal of the Group's test facilities in Detroit was recognised to operating profit (see Note 5).

Net debt: is defined as current and non-current borrowings less cash and cash equivalents, including hire purchase agreements, but excluding any impact of other IFRS 16 lease liabilities. Management believes this definition is the most appropriate for monitoring the indebtedness of the Group and is consistent with the treatment in the Group's banking agreements. Further details are provided in Note 11.

(c) Tax measures

Underlying effective tax rate (ETR): The Group reports one adjusted tax measure, which is the tax rate on underlying profit before tax. This is the tax charge applicable to underlying profit before tax expressed as a percentage of underlying profit before tax.

(d) Other measures

Order book: The value of all unworked purchase orders and contracts received from customers at the reporting date, providing an indication of revenue that has been secured and will be recognised in future accounting periods – see Note 23 to the Group Financial Statements. Management do not consider there to be a closely equivalent GAAP measure.

Order intake: The value of purchase orders and contracts received from customers during the period. The order intake for the current year was £432.2m (2021: £352.1m), including results of the discontinued operation. Management do not consider there to be a closely equivalent GAAP measure.

Headcount: Headcount is calculated as the number of colleagues on the payroll at the reporting date and includes subcontractors on a full-time equivalent basis. The number of employees disclosed in Note 33 to the Group Financial Statements is the average for the year, and is not adjusted for full-time equivalency.

2. Discontinued operation

On 23 May 2022, the Group classified its Software segment as held for sale following agreement of terms with a potential buyer, as a result of a strategic decision to focus on core lines of business. The results of the Software business have been presented as a discontinued operation and the prior year results restated to reflect this presentation. On 1 August 2022, the business was sold to a third party. See Notes 10 and 13.

Subsequent to the disposal, the Group has continued to purchase software licenses from the discontinued operation and recharge the business for space in its Prague office. Although intra-group transactions have been fully eliminated in the consolidated financial results, management has elected to attribute the elimination of transactions between the continuing operations and the discontinued operation before the disposal in a way that reflects the continuance of these transactions subsequent to the disposal, because management believes this is useful to the users of the financial statements.

Result from discontinued operation	2022 £m	2021 £m
Revenue	9.4	10.3
Inter-segment revenue (1)	(2.3)	(2.2)
External revenue	7.1	8.1
Expenses	(4.1)	(4.8)
Elimination of inter-segment revenue net of recoverable expenses (1)	2.0	1.9
Amortisation of intangible assets (2)	(2.9)	(2.9)
External expenses	(5.0)	(5.8)
Underlying profit from operating activities	2.1	2.3
Specific adjusting items	(1.3)	(0.4)
Profit from operating activities	0.8	1.9
Income tax	(0.4)	(0.4)
Profit from discontinued operation, net of tax	0.4	1.5

Cash from discontinued operation	2022 £m	2021 £m
Net cash from operating activities	4.5	5.1
Net cash used in investing activities	(3.2)	(3.1)
	1.3	2.0

(1) Inter-segment revenue and expenses are presented in the discontinued operation to the extent that they are expected to continue after the disposal of the operation.

(2) The amortisation of intangible assets was ceased at 23 May when the Software disposal group was classified as held for sale. If amortisation had been charged for the full financial year an additional £0.3m would have recognised within administrative expenses within the discontinued operation.

The earnings per share related to the discontinued operation are shown in Note 6.

3. Financial performance by segment

The segmental analysis helps explain the business in the way that it is monitored by management.

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 information reported includes financial performance but does not include the financial position of assets and liabilities. The operating segments were identified by evaluating the Group's products and services, processes, types of customers and delivery methods.

During the current year the Software segment, previously reported within Performance Products, is classified as held-for-sale. Comparative amounts are restated to reflect this classification. Due to a reorganisation of the operating segments within the Group, the Automotive and Industrial segment (A&I) now consists of one operating segment, rather than representing the aggregation of the A&I EMEA, A&I China and A&I US operating segments. This reflects the revised organisational structure and operating model of the operating segment.

The following summarises the operations in each of the Group's reportable segments:

- **Energy and Environment (EE)** – EE generates revenue from the provision of environmental consultancy services to customers across the world. Customers include governments, public agencies and private businesses;
- **Rail** – Rail generates revenue from through two separate operations: a consultancy unit that provides technical advice and engineering services; and a separate, independent entity, Ricardo Certification, that performs accredited assurance services;
- **Automotive and Industrial (A&I)** – A&I generates revenue through the provision of engineering, strategic consulting, and design, development and testing services, focused on hybrid and electric systems, electrification, engines, driveline and transmissions, testing, and vehicle engineering. Customers include businesses in the automotive, aerospace, defence, energy, off-highway and commercial, marine, motorcycle and light-personal transport, and rail markets;
- **Defense** – Defense provides engineering services, software and products to customers in the US defence market, aimed and protecting life and improving the operation, maintenance and support of complex systems; and
- **Performance Products (PP)** – PP manufactures, assembles and develops niche high-quality components, prototypes and complex products, including engines, transmissions and other precision and performance-critical products. Its customers manufacture low-volume, high-performance products in markets such as motorsport, automotive, aerospace, defence and rail.

The operations of the Group have been categorised into these segments due to the nature of their services, market sectors, client bases and distribution channels and operating across markets requiring adherence to regulatory frameworks that are similar in nature.

Measurement of performance

Management monitors the financial results of its operating segments separately for the purpose of making decisions about allocating resources and assessing performance. Segmental performance is measured based on underlying operating profit, as this measure provides management with an overall view of how the different operating segments are managing their total cost base against the revenue generated from their portfolio of contracts.

There are varying levels of integration between the segments. The segments use EE for their specialist environmental knowledge. A&I and PP have various shared projects. There are also shared service costs between the segments. Inter-segment transactions are eliminated on consolidation. Inter-segment pricing is determined on an arm's length basis in a manner similar to transactions with third parties.

Included within Plc costs in the following tables are costs arising from a central Group function, including the costs of running the public limited company, which are not recharged to the other operating segments. Comparative figures for the year ended 30 June 2021 have been restated, reflecting the impact of the changes the Group made to its operating segments during the year ended 30 June 2022. The operating segment section above provides further detail on the segments' performance.

For the year ended 30 June 2022

	EE	Rail	A&I	Defense	PP	Plc	Total Continuing Operations	Discontinued Operation	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total segment revenue	68.2	74.6	123.2	45.1	75.0	-	386.1	9.4	395.5
Inter-segment revenue	(1.0)	(0.3)	(3.2)	(0.1)	(1.3)	-	(5.9)	(2.3)	(8.2)
Revenue from external customers	67.2	74.3	120.0	45.0	73.7	-	380.2	7.1	387.3
Segment underlying operating profit	9.1	7.7	3.7	5.9	7.2	-	33.6	2.1	35.7
Plc costs	-	-	-	-	-	(5.6)	(5.6)	-	(5.6)
Underlying operating profit/(loss)	9.1	7.7	3.7	5.9	7.2	(5.6)	28.0	2.1	30.1
Specific adjusting items (*)	(0.6)	(4.4)	(5.2)	(0.4)	(0.6)	(0.6)	(11.8)	(1.3)	(13.1)
Operating profit/(loss)	8.5	3.3	(1.5)	5.5	6.6	(6.2)	16.2	0.8	17.0
Net finance costs							(3.8)	-	(3.8)
Profit before taxation							12.4	0.8	13.2
Depreciation, amortisation and impairment	3.2	4.8	9.8	1.7	0.8	1.9	22.2	2.9	25.1
Capital expenditure:									
- Other intangible assets	1.9	-	2.5	0.4	(0.1)	-	4.7	3.2	7.9
- Property, plant and equipment	0.7	1.1	2.2	0.1	0.6	-	4.7	-	4.7
- Right-of-use assets	-	4.2	0.5	-	-	-	4.7	-	4.7

For the year ended 30 June 2021 (Restated*)

	EE	Rail	A&I	Defense	PP	Plc	Total Continuing Operations	Discontinued Operation	Total
	£m	£m	£m	£m	£m	£m	£m	£m	£m
Total segment revenue	57.9	77.7	104.2	37.9	70.4	-	348.1	10.3	358.4
Inter-segment revenue	(0.8)	-	(3.2)	-	(0.4)	-	(4.4)	(2.2)	(6.6)
Revenue from external customers	57.1	77.7	101.0	37.9	70.0	-	343.7	8.1	351.8
Segment underlying operating profit/(loss)	8.5	8.0	(3.6)	5.4	6.7	-	25.0	2.3	27.3
Plc costs	-	-	-	-	-	(4.6)	(4.6)	-	(4.6)
Underlying operating profit/(loss)	8.5	8.0	(3.6)	5.4	6.7	(4.6)	20.4	2.3	22.7
Specific adjusting items (*)	(0.9)	(3.6)	(5.6)	(0.4)	-	(3.2)	(13.7)	(0.4)	(14.1)
Operating profit/(loss)	7.6	4.4	(9.2)	5.0	6.7	(7.8)	6.7	1.9	8.6
Net finance costs							(4.7)	-	(4.7)
Profit before taxation							2.0	1.9	3.9
Depreciation and amortisation	3.3	6.1	10.2	1.8	1.0	1.3	23.7	2.9	26.6
Capital expenditure:									
- Other intangible assets	1.4	-	3.6	0.5	-	0.3	5.8	3.1	8.9
- Property, plant and equipment	0.4	0.2	2.3	0.6	0.8	-	4.3	-	4.3
- Right-of-use assets	0.2	0.8	0.6	0.8	-	-	2.4	-	2.4

* See Note 5

** Prior year amounts have been restated as follows. References to Software relate to amounts which were previously reported in the PP aggregated operating segment and are now presented as a discontinued operation.

- Revenue from external customers of £1.5m transferred from A&I to the discontinued operation, relating to revenue invoiced by A&I for Software products, not expected to continue to be generated by the Group after the sale of the business. Inter-segment revenue from Software has been reduced by this amount.
- A&I underlying operating loss increased, and Software profit increased, by £2.0m to reflect costs that will not be charged to the Software business on an ongoing basis. Software revenue has been grossed up by £2.2m to reflect intragroup recharges to A&I previously net off against these expenses.
- Plc costs increased by £0.2m and Software operating profit increased by £0.2m to reflect costs which were previously recharged to the Software business, for which there is no mechanism to recharge after the sale of the business.

Revenue from one customer represents approximately 11% (2021: 12%) of the Group's external revenue, which is primarily reported in the PP segment.

4. Revenue

	Continuing operations		Discontinued operation		Total	
	2022	2021	2022	2021	2022	2021
	£m	£m	£m	£m	£m	£m
Revenue stream						
Service provided under:						
- fixed price contracts	217.9	210.8	-	-	217.9	210.8
- time and materials contracts	64.5	65.9	-	-	64.5	65.9
- subscription and software support contracts	5.2	5.1	0.6	1.5	5.8	6.6
Goods supplied:						
- manufactured and assembled products	90.7	61.8	-	-	90.7	61.8
- software products	1.2	0.1	6.5	6.6	7.7	6.7
Intellectual property	0.7	-	-	-	0.7	-
Total	380.2	343.7	7.1	8.1	387.3	351.8
Customer location						
United Kingdom	134.5	118.7	0.2	0.2	134.7	118.9
Europe	72.7	75.0	1.3	1.2	74.0	76.2
North America	88.3	67.6	1.9	1.9	90.2	69.5
Rest of Asia	30.7	22.2	2.8	3.5	33.5	25.7
Australia	22.2	27.2	-	0.1	22.2	27.3
China	20.9	22.9	0.9	1.2	21.8	24.1
Rest of the World	10.9	10.1	-	-	10.9	10.1
Total	380.2	343.7	7.1	8.1	387.3	351.8
Timing of recognition						
Over time	289.0	283.2	5.5	6.4	294.5	289.6
At a point in time	91.2	60.5	1.6	1.7	92.8	62.2
Total	380.2	343.7	7.1	8.1	387.3	351.8

ee

5. Specific adjusting items

Specific adjusting items are disclosed separately in the financial statements where it is necessary to do so to provide further understanding of the financial performance of the Group. These items comprise the amortisation of acquired intangible assets, acquisition-related expenditure, reorganisation costs and other items that are included due to their significance, non-recurring nature or amount. Acquisition-related expenditure is incurred by the Group to effect a business combination, including the costs associated with the integration of acquired businesses. Reorganisation costs relate to non-recurring expenditure incurred as part of fundamental restructuring activities, significant impairments of property, plant and equipment, and other items deemed to be one-off in nature.

	2022	2021 Restated*
	£m	£m
Continuing operations		
Amortisation of acquired intangibles	**4.5**	5.0
Acquisition - related expenditure	**0.8**	1.7
Reorganisation costs		
- Purchases and disposals	**0.3**	2.0
- Other reorganisation costs	**5.9**	3.4
ERP implementation costs	**0.6**	-
CEO exit costs	**-**	1.5
Revaluation gain	**(0.3)**	-
Guaranteed Minimum Pensions (GMP) equalisation	**-**	0.1
Total specific adjusting items from continuing operations before tax	**11.8**	13.7
Tax credit on specific adjusting items	**(2.3)**	(2.6)
Total specific adjusting items from continuing operations after tax	**9.5**	11.1
Specific adjusting items from discontinued operation		
Purchases and disposals	**1.3**	0.4
Total specific adjusting items after tax	**10.8**	11.5

** Comparative information has been re-presented due to a discontinued operation. See Note 2.*

Amortisation of acquired intangible assets

On acquisition of a business, the purchase price is allocated to assets such as customer contracts and relationships. Amortisation occurs on a straight-line basis over its useful economic life, which is between 2 and 9 years. During the year, certain “customer contracts and relationships” intangible assets reached the end of their economic life, resulting in a decrease in amortisation charges compared to the prior period. The current year charge includes £0.1m in respect of the amortisation of intangibles, predominantly customer relationships, acquired as part of the purchase of Inside Infrastructure Pty Ltd (Inside Infrastructure) in March 2022

Acquisition-related expenditure

Current year acquisition-related expenditure comprises £0.4m of external fees, earn out accruals and post-deal integration costs in respect of the acquisition of Inside Infrastructure. In addition, it includes a £0.1m retention amount paid to the former owners of PLC Consulting Pty Ltd, now Ricardo Energy Environment and Planning (REEP), which was acquired in July 2019, in accordance with the terms of the purchase agreement, and £0.3m of external fees in relation to other strategic projects.

The prior year charge comprises £1.6m of earn-out and employee retention costs, accrued in relation to Transport Engineering Pty Ltd (now Ricardo Rail Australia - ‘RRA’), acquired in May 2019, and REEP (see Note 8). In addition, £0.1m of fees were incurred on strategic projects in the year.

The above items have been classified as specific adjusting items as they meet the Group’s definition of acquisition-related expenditure.

Reorganisation costs

Purchases and disposals

The current year charge of £0.3m (USD 0.4m) represents a reduction in the fair value of contingent consideration arising from the disposal of the Group's test facilities in Detroit in June 2020, in accordance with the treatment of the original proceeds. The test facilities were sold for up-front consideration of £2.8m (USD 3.5m), with up to an additional £1.5m (USD 2.0m) contingent on volume of testing work placed into the facility by Ricardo over a two-year period to 30 June 2022. The charge reflects a lower level of traditional engine test work than expected at the time of the sale. A similar charge of £0.5m (USD 0.8m) was recognised in the prior year. Ricardo received less than £0.1m (USD 0.1m) of contingent consideration in the year (2021: £0.2m (USD 0.3m)).

The prior year charge also included a £1.5m impairment charge as a result of a decrease in the fair value of the Detroit Technology Campus (DTC) South building, reflecting its market value at the balance sheet date. The impairment charge reflected the impact of COVID-19 on the property market at the time, with a significantly lower demand for office space depressing prices in the DTC area. The impairment was classified as a specific adjusting item as it was significant in value and would have distorted the underlying trading performance of the Group.

£1.3m of costs were recognised in the year in respect of external fees incurred in the disposal of Ricardo Software (2021: £0.4m). These costs have been recognised within the discontinued operation and have been classified as specific adjusting items as they are incremental costs which are directly attributable to the sale of the business.

Other reorganisation costs

A&I reorganisation costs £4.9m (2021: £3.4m): The current year charge reflects the commencement of a major restructuring programme to combine the three regional A&I businesses in EMEA, US, and China, into one globally operated business, re-aligned around two key pillars: emerging technologies, focused on electrified propulsion, vehicle integration and software and digital services; and established mobility, focusing on high efficiency internal combustion engines (ICE) and emissions compliance. This programme has resulted in £5.3m of reorganisation costs in FY 2021/22, relating to:

- Headcount reductions (£2.3m): These redundancies have focused on senior management and administrative positions in the UK and China, as a result of the implementation of a more streamlined organisation structure. All redundancy costs relate to those staff members notified by 30 June 2022.
- Property downsizings and exits (£0.9m): The business has reduced its footprint in the Prague Technical Centre, with one floor being vacated, resulting in an impairment of the lease asset and the recognition of an onerous contract provision in relation to the ongoing service charges through to the end of the lease term in February 2027.
- The impairment of intangible assets (£2.0m): Following a detailed review of the asset base against the future strategy, assets relating to technologies and areas that the A&I business will no longer focus on or invest in were identified and impaired, with no significant further economic benefits expected to arise from these assets.
- External advisory and legal fees (£0.1m): External costs to support the programme.

The cash cost of the actions in the year was £0.5m. This programme will continue into the next financial year, where the Group expects to incur a similar level of income statement expense. The total cash cost of the programme is estimated to be in the region of £4.5m.

Current year reorganisation costs include a credit of £0.4m in respect of unutilised provisions from the prior year. During the prior year, £3.4m of reorganisation costs were incurred in the A&I business in EMEA, as a result of the challenging trading conditions and COVID-19, which combined to depress short-term workable orders and delay projects. This led to in headcount reductions (£2.5m, of which £2.1m was utilised in FY 2021/22), the exit from sites in Cambridge (£0.7m) and Germany (£0.1m), and the write off of equipment in the Santa Clara Technical Centre, which was exited in June 2020 (£0.1m). The cash cost of these of these actions in FY 2021/22 was £1.6m.

These costs have been included within specific adjusting items as they are significant in quantum and would otherwise distort the underlying trading performance of the Group.

Rail reorganisation costs £1.0m (2021: nil): The current year charge reflects the result of a significant review of the operational structure of the Rail business, aimed at creating a more flexible and agile business. Costs incurred related to the exit of a number of senior positions in the organisation, including associated legal and external fees. The review will continue into FY 2022/23. The cash cost of these actions in FY 2021/22 was £0.3m.

These costs have been included within specific adjusting items as they are significant in quantum and would otherwise distort the underlying trading performance of the Group.

ERP implementation costs

As a result of an IFRS Interpretations Committee (IFRIC) decision in March 2021, £0.5m of external costs incurred in the prior year in relation to the implementation of a new cloud-based ERP system within the PP segment have been expensed in the current period, together with £0.1m of expenditure in the current year. The prior year costs were previously capitalised in line with prevailing practice at the time the costs were incurred. They have been classified as a specific adjusting item as they are not reflective of the underlying performance of the business in the period. The ERP system is expected to have a useful life of at least five years.

CEO exit costs

In January 2021, the Board announced that CEO Dave Shemmans will be leaving the Group, after sixteen years in the role. Costs of £1.5m were accrued in the prior year, covering his settlement, external legal fees, and external recruitment fees to find a successor. The costs were recognised as specific adjusting items due to their non-recurring nature and quantum.

Revaluation gain

During the current year, an intercompany loan from Ricardo plc to Ricardo Investments Ltd, representing a quasi-equity investment in one of the Group's subsidiaries, was repaid. The loan was previously classed as not repayable in the foreseeable future under IAS 21 with any revaluation of the foreign currency loan recognised in the statement of Other Comprehensive Income. Following the repayment of the loan, a gain of £0.3m was reclassified from equity to the income statement, as required under IAS 21, and was reported as a specific adjusting item.

Guaranteed Minimum Pensions (GMP) equalisation

In the prior period, a charge of £0.1m was incurred in order to equalise male and female members' benefits for the effect of for historical transfers out of the Group's defined benefit pension scheme. The treatment of this cost as a specific adjusting item is consistent with the treatment of similar costs in prior years.

6. Earnings per share

Reconciliations of the earnings and the weighted average number of shares used in the calculations are set out below. Underlying earnings per share is also shown because the Directors consider that this provides a useful indication of underlying performance and trends over time.

There are no potentially dilutive shares (2021: Nil).

	2022 £m	2021 £m
Earnings attributable to owners of the parent	**8.6**	1.7
Add back the net-of-tax impact of:		
- Amortisation of acquired intangibles	**3.2**	3.9
- Acquisition-related expenditure	**0.8**	1.6
- Asset purchases and disposals	**0.3**	1.5
- Other reorganisation costs	**4.9**	2.7
- ERP implementation costs	**0.5**	-
- Revaluation gain	**(0.2)**	-
- CEO exit costs	**-**	1.3
- Guaranteed Minimum Pensions (GMP) equalisation	**-**	0.1
- Discontinued operation	**1.3**	0.4
Underlying earnings attributable to owners of the parent	**19.4**	13.2

	2022 Number of shares millions	2021 Number of shares millions
Basic weighted average number of shares in issue	**62.2**	58.9
Effect of dilutive potential shares	**-**	-
Diluted weighted average number of shares in issue	**62.2**	58.9

Earnings per share	2022 pence	2021 pence
Basic	**13.8**	2.9
Diluted	**13.8**	2.9

Underlying earnings per share	2022 pence	2021 pence
Basic	**31.2**	22.4
Diluted	**31.2**	22.4

Earnings per share from continuing operations	2022 pence	2021 pence
Basic	**13.2**	0.3
Diluted	**13.2**	0.3

Earnings per share from discontinued operation	2022 pence	2021 pence
Basic	**0.6**	2.5
Diluted	**0.6**	2.5

7. Dividends

	2022	2021
	£m	£m
Final dividend for prior period: 5.11p per share (2021: 0.00p) per share	3.2	-
Interim dividend for current period: 2.91p per share (2021: 1.75p) per share	1.8	1.1
Equity dividends paid	**5.0**	1.1

A dividend of £nil (2021: £0.1m) was issued during the year by a subsidiary of the Group to a non-controlling party of that subsidiary. A return of capital of £nil (2021: £0.2m) was made during the year by a subsidiary of the Group to a non-controlling party of that subsidiary.

8. Acquisition

On 21 March 2022, the Group acquired the entire issued share capital of Inside Infrastructure Pty Ltd (Inside Infrastructure) for cash consideration of £5.6m (AUD 10.4m), which included an adjustment for cash and normalised net working capital of £0.5m (AUD 0.9m), paid during FY 2021/22.

Inside Infrastructure is an Australian technical advisory firm which specialises in water and sustainable resource management. The following tables set out the fair value of cash consideration payable to acquire Inside Infrastructure, together with the fair value of net assets acquired.

		£m
Fair value of cash consideration		
Cash consideration		**5.6**
Total fair value of cash consideration		**5.6**
Fair value of identifiable net assets acquired		
Customer contracts		**2.0**
Property, plant and equipment - right of use		**0.4**
Trade, contract and other receivables		**0.3**
Cash and cash equivalents		**0.6**
Trade, contract and other payables		**(0.5)**
Lease liabilities		**(0.4)**
Deferred tax liabilities		**(0.6)**
Fair value of identifiable net assets acquired		**1.8**
Goodwill	*9*	**3.8**
Total fair value of cash consideration		**5.6**

The maximum contingent cash payable is £0.6m (AUD 1.0m). The amounts payable will be based on the achievement of annual performance targets measured against the earnings before interest, tax, depreciation and amortisation of Inside Infrastructure during FY 2022/23. These payments are dependent upon the continuing employment of the sellers in the business, and are not considered to form part of the consideration for the acquisition. £0.1m (AUD 0.2m) has been recognised within specific adjusting items in order to reflect an accrual for the fair value of the expected service received during the current year (see Note 5).

Adjustments have been made for the recognition of customer-related intangible assets separable from goodwill amounting to £2.0m (AUD 3.6m). The fair value of the contingent cash consideration and provisional identifiable net assets acquired were identified in accordance with the requirements of IFRS 3 Business Combinations and the sale and purchase agreement. The provisional fair values of identifiable net assets acquired may be adjusted in future in accordance with the requirements of IFRS 3 Business Combinations. Further work is required to quantify the value of long-term employee benefits due to the complex nature these calculations. Adjustments may be required to trade and other payables or to provisions as a result of this work. The amount of the adjustment is not expected to be significant.

The provisional goodwill arising on acquisition can be ascribed to the existence of a skilled assembled workforce, developed expertise and processes within the existing business. None of these meet the criteria for recognition as intangible assets separable from goodwill. None of the goodwill recognised on consolidation is expected to be deductible for tax purposes.

The net assets acquired of £1.8m (AUD 3.3m) included trade receivables of £0.3m (AUD 0.6m), all of which have been subsequently collected.

9. Goodwill

Movement in goodwill	2022 £m	2021 £m
At 1 July	**84.7**	87.8
Acquisition of business (1)	**3.8**	-
Exchange adjustments	**2.1**	(3.1)
At 30 June	**90.6**	84.7

The carrying value of goodwill and the key assumptions used in determining the recoverable amount of each CGU, or group of CGUs, are as follows:

	Carrying value		Pre-tax discount rate		Long-term growth rate	
	2022	2021	**2022**	2021	**2022**	2021
Scheme movements	**£m**	£m	**£m**	£m	**£m**	£m
Rail	**46.2**	44.9	**12.3%**	10.8%	**3.1%**	3.6%
Automotive and Industrial - Established(2)	**5.0**	-	**13.1%**	N/a	**(10.0%)**	N/a
Automotive and Industrial - Emerging(2)	**14.6**	-	**13.3%**	N/a	**3.0%**	N/a
Automotive and Industrial - EMEA(2)	**-**	19.6	**N/a**	13.2%	**N/a**	*
Energy and Environment(1)	**20.0**	15.9	**13.8%**	12.5%	**2.8%**	4.7%
Defense	**3.7**	3.2	**13.8%**	14.3%	**-**	3.4%
Performance Products	**1.1**	1.1	**14.0%**	12.9%	**1.7%**	0.4%
At 30 June	**90.6**	84.7				

(1) As set out in further detail in Note 8, the Group acquired Inside Infrastructure on 21 March 2022, adding goodwill of £3.8m to the Energy and Environment CGU.

(2) During the year, the Group reorganised its Automotive and Industrial business from a regional to a global structure (see Notes 0 and 5). The five-year plan for this segment has been prepared based on established mobility and emerging technologies, and this distinction is expected to be reflected in the operating segments in future years. Goodwill was allocated to these groups of CGUs using a relative value approach, and the review of goodwill for impairment was carried out at this level

*See key assumptions below.

Key assumptions

The five-year plan and discounted cash flow calculations thereon provide a value in use which supports the carrying value of the goodwill allocated to each CGU, or group of CGUs, at 30 June 2022, resulting in no impairment for the year (2021: Nil). The five-year cashflow forecasts are based on the budget for the following year (year one) and the business plans for years two to five. The five-year plan is prepared by management, and is reviewed and approved by the Board. The five-year plan reflects past experience, management's assessment of the current contract portfolio, contract wins, contract retention, price increases, gross margin, as well as future expected market trends (including the impact of climate change, where relevant), adjusted to meet the requirements of IAS 36 *Impairment of Assets*.

The risks associated with climate change which have been incorporated into the five-year planning process include the known and expected increased regulation in relation the use of the internal combustion engine (ICE) and the impact that will have on our customers operating in this market. The five-year planning process takes into account the requirement to adapt our product and service portfolios in response to megatrends influenced by climate change. Some risks, such as the risk of sea level rise (see discussion of Principal Risks on page 58 of the Annual Report) are expected to arise outside of the timeline of the five-year plan and are not considered sufficiently quantifiable to include in the longer-term element of the value-in-use calculation. No other individually significant key financial risks or expenditures have been identified and any additional costs of meeting our net zero objective are not expected to be significant.

Cash flows beyond year five are projected into perpetuity using a long-term growth rate, which is determined as being the lower of the planned compound annual growth rate in each CGU's, or group of CGU's, five-year plan and external third party forecasts of the prevailing inflation and economic growth rates for each of the territories in which each CGU, or group of CGUs, primarily operates.

Global A&I cashflows were analysed into cashflows expected to arise directly from revenues related to established mobility, such as fossil fuel internal combustion engines, and those related to emerging technologies, such as electrification. Due to regulatory and other changes in the market relating to ICE, a long-term decrease of 10% p.a. has been applied to established mobility cashflows, and a long-term growth rate of 3% p.a., based on prevailing inflation and economic growth by territory, has been applied to the emerging technologies cashflows.

The cash flows are discounted at a pre-tax discount rate, which is derived from externally sourced data and reflects the current market assessment of the Group's time value of money and risks specific to each CGU.

Research and Development Expenditure Credits (RDEC) cashflows are included in the value-in-use calculations for A&I - Established, A&I - Emerging, Performance Products and Energy and Environment. They are material to the A&I Established, and A&I Emerging groups of CGUs and have been included, taking into account known changes to legislation, on the basis that there is no indication that the UK government will withdraw this benefit.

Sensitivities

The value-in-use calculations were assessed for sensitivity to reasonably possible changes to assumptions. The change in pre-tax discount rate, growth rate, operating profit and working capital which would cause the unit's (or group of units') carrying amount to exceed its recoverable amount was identified and an assessment made as to whether that change was considered reasonably possible. The following changes in assumptions, resulting in carrying amount exceeding the recoverable amount of goodwill, were identified:

- A&I Established: A reduction of 19% in operating profit levels.. A reduction in operating profit of this magnitude is considered reasonably possible, given the current and projected levels of profitability in the plan.
- Rail: An increase in the pre-tax discount rate of 2.1%. An increase in discount rates of this magnitude is considered reasonably possible given the current macroeconomic uncertainty.

No other reasonably possible changes to individual assumptions were identified which would cause the carrying amount of a unit's (or group of units') goodwill to exceed its recoverable amount.

In addition, a scenario was modelled combining each of a 10% reduction in operating profit, a 10% increase in working capital movement, a 2% increase in the pre-tax discount rate and a 2% decrease in the long-term growth rate. The combined scenario would result in an impairment of £0.7m to A&I Established goodwill, £1.5m to Performance Products goodwill, and £21.3m to Rail. No impairment would be recognised against other goodwill balances.

A scenario was calculated excluding the benefits arising from RDEC. This scenario did not result in an impairment of any goodwill balance.

10. Disposal group held for sale

The Group's software business was classified as held for sale at 30 June 2022. An offer had been agreed with a buyer and was subject to National Security and Investment Act (NSIA) clearance. Clearance was received on 26 July 2022, and the sale completed on 1 August 2022 - see Note 13.

The fair value less costs to dispose of the disposal group is considered to exceed its carrying value immediately prior to its classification as held for sale. No impairment loss was therefore recognised on reclassification of the disposal group as held for sale.

The value of assets and liabilities included in the disposal group are as follows:

	2022	2021
	£m	£m
Other intangible assets	**7.0**	-
Property, plant and equipment	**0.1**	-
Trade, contract and other receivables	**1.4**	-
Cash and cash equivalents	**1.1**	-
Assets held for sale	**9.6**	-
Trade, contract and other payables	**3.4**	-
Liabilities held for sale	**3.4**	-

Other reserves includes £1.0m in other reserves relating to exchange impacts in relation to the disposal group which were historically recognised via other comprehensive income.

11. Net debt

The objectives when managing capital are to safeguard the ability to continue as a going concern in order to provide returns for shareholders, 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, which is calculated as net debt divided by total capital.

The majority of the Group's cash is held in bank deposits. The Group's sources of borrowing for funding and liquidity purposes come from the Group's £200.0m multi-currency revolving credit facility and through short-term overdraft facilities.

The disclosures in this note include certain Alternative Performance Measures (APMs). For more information on the APMs used by the Group, including definitions, please refer to Note 1.

(a) Gearing ratio

	2022	2021
	£m	£m
Net debt	**35.4**	46.9
Total equity	**197.6**	182.8
Total capital	**233.0**	229.7
At 30 June	**15.2%**	20.4%

(b) Net debt

Analysis of net debt	2022 £m	2021 £m
Current assets - cash and cash equivalents		
Cash and cash equivalents	**49.4**	42.0
Cash included in disposal group held-for-sale	**1.1**	-
Total cash and cash equivalents	**50.5**	42.0
Current liabilities - borrowings		
Bank overdrafts repayable on demand	**(11.1)**	(12.7)
Hire purchase liabilities maturing within one year	**(0.1)**	(0.1)
Total current borrowings	**(11.2)**	(12.8)
Non-current liabilities - borrowings		
Hire purchase liabilities maturing after one year	**(0.2)**	(0.3)
Bank loans maturing after one year	**(74.5)**	(75.8)
Total non-current borrowings	**(74.7)**	(76.1)
At 30 June	**(35.4)**	(46.9)
Total cash and cash equivalents at 30 June	**50.5**	42.0
Total borrowings at 30 June	**(85.9)**	(88.9)
At 30 June	**(35.4)**	(46.9)

Movement in net debt	2022 £m	2021 £m
At 1 July	**(46.9)**	(73.4)
Net increase/(decrease) in cash and cash equivalents and bank overdrafts	**10.1**	(26.5)
Repayments of hire purchase	**0.1**	0.1
Proceeds from bank loans	**(13.0)**	(5.0)
Repayments of bank loans	**15.0**	57.9
Amortisation of bank loan fees	**(0.7)**	-
At 30 June	**(35.4)**	(46.9)

At the year-end, the Group had current hire-purchase liabilities of £0.1m and non-current hire-purchase liabilities of £0.2m. This hire-purchase agreement has an implicit rate of interest of 2.4%. The future undiscounted minimum lease payments due within one year is £0.1m and due after one year is £0.2m.

At the year-end, the Group held total banking facilities of £216.8 (2021: £215.5m), which included committed facilities of £200.0m (2021: £200.0m). The committed facility consists of a £200.0m multi-currency Revolving Credit Facility (RCF) which provides the Group with committed funding through to July 2023. In addition, the Group has uncommitted facilities including overdrafts of £16.8m (2021: £15.5m), which mature throughout this and the next financial year and are renewable annually.

Non-current bank loans comprise committed facilities of £74.5m (2021: £75.8m), net of direct issue costs, which were drawn primarily to fund acquisitions and general corporate purposes. These are denominated in Pounds Sterling and have variable rates of interest dependent upon the Group's adjusted leverage, which range from 1.4% to 2.2% above SONIA (2021: 1.4% to 2.2% above LIBOR).

Adjusted leverage is defined in the Group's banking documents as being the ratio of total net debt to adjusted EBITDA. Adjusted EBITDA is further defined as being earnings before interest, tax, depreciation, impairment and amortisation, excluding the impact of IFRS 16, adjusted for any one-off, non-recurring, exceptional costs and acquisitions or disposals during the relevant period. At the reporting date, the Group has an adjusted leverage of 0.8x, which attracts a rate of interest of SONIA plus 1.4% (2021: LIBOR plus 1.8%). The Group has banking facilities for its UK companies which together have a net overdraft limit, but the balances are presented on a gross basis in the financial statements.

After the reporting date, the Group completed a refinance of its banking facilities – see Note 13.

12. Contingent liabilities

In the ordinary course of business, the Group has £11.4m (2021: £13.0m) of possible obligations for bonds, guarantees and counter-indemnities placed with the Group's banking and other financial institutions, primarily relating to performance under contracts with customers. These possible obligations are contingent on the outcome of uncertain future events which are considered unlikely to occur. The Group is also involved in commercial disputes and litigation with some customers, which is also in the normal course of business. Whilst the result of such disputes cannot be predicted with certainty, the ultimate resolution of these disputes is not expected to have a material effect on the Group's financial position or results.

In July 2013, a guarantee was provided to the Ricardo Group Pension Fund (RGPF) of £2.8m in respect of certain contingent liabilities that may arise, which have been secured on specific land and buildings. The outcome of this matter is not expected to give rise to any material cost to the Group. In October 2018, a further guarantee was provided to the RGPF for an amount that shall not exceed the employers' liability were a debt to arise under Section 75 of the Pensions Act 1995. In November 2021 the guarantee was extended for a further 3 years and will now terminate on 5 April 2026. The outcome of this matter is not expected to give rise to any material cost to the Group on the basis that the Group continues as a going concern.

13. Events after the reporting date

On 2 August 2022, the Group completed a refinance of its banking facilities, entering into a new £150.0m committed multi-currency Revolving Credit Facility (RCF). The banking facilities were used to repay and cancel the previous committed RCF of £200m. The RCF is committed for 4 years to August 2026 with an uncommitted option to extend for a further year and with an additional uncommitted £50m accordion. The interest rate of the facility ranges from 1.65% to 2.45% above SONIA and is dependent upon the Group's adjusted leverage. All other terms of the facility remain materially the same. The refinanced banking facilities will provide the Group with sufficient funding to support future acquisitions, strategic investments and new projects, and will also be used for general corporate purposes.

On 1 August 2022, the Group completed the sale of its Software business, which was classified as held for sale at the 30 June 2022, and presented as a discontinued operation. Initial consideration was £14.3m (USD 17.5m), and variable deferred consideration was between £0.8m and £2.4m (USD 1.0m to USD 3.0m), resulting in an estimated gain on disposal of £9m excluding transaction fees (see Note 10).