SPIRENT COMMUNICATIONS PLC
Full year results for the year ended 31 December 2022
Strong progress in a difficult environment

$ million	**2022**	2021	Change (%)
Orderbook[1]	**288.1**	269.8	+7
Order intake[2]	**625.7**	637.0	-2
Revenue	**607.5**	576.0	+5
Gross margin (%)	**72.0**	73.7	-1.7pp
Adjusted operating profit[3]	**129.5**	118.5	+9
Adjusted operating margin[4] (%)	**21.3**	20.6	+0.7pp
Adjusted profit before tax[5]	**131.4**	117.9	+11
Adjusted basic earnings per share[6] (cents)	**18.86**	16.59	+14
Reported operating profit	**112.7**	104.2	+8
Reported profit before tax	**114.6**	103.6	+11
Basic earnings per share (cents)	**16.46**	14.67	+12
Closing cash	**209.6**	174.8	+20
Dividend per share[7] (cents)	**7.57**	6.76	+12

Eric Updyke, Chief Executive Officer, commented:
"2022 saw another year of strategic execution, delivering strong growth in profit before tax for the sixth year in succession.

"Once again, we grew our orderbook, improving our visibility and reducing technical cyclicality in our business. We successfully implemented our engineering site strategy to transfer resource to lower cost regions, which contributed to the flat operating cost base compared to 2021. This was delivered despite industry-wide cost inflation, and provides us with an efficient operating structure as we look forward.

"We have a strong balance sheet which affords us a high degree of flexibility in growing our business, allows us to continue to innovate, invest in R&D and go-to-market channels whilst also focusing on inorganic opportunities that position us for continued growth.

"Since the fourth quarter of 2022 we have seen delays to some of our customers' decision making and whilst we expect a more challenging first half of 2023, our business drivers remain intact, and we are very well placed to deliver for our customers as they invest in technologies such as 5G in order to maintain their own competitive advantages. Spirent operates in markets underpinned by resilient structural growth characteristics and, which together with our broad and deep portfolio and our enhanced customer proximity position us strongly to continue executing on our strategy in the medium and long-term.

"I am proud of our world-class team's accomplishments, and I am excited about the opportunities to expand our market leadership and to further enhance our competitiveness, helping our customers keep the promises they have made to their customers."

Financial highlights

- Orderbook[1] up 7 per cent to $288.1 million, with 30 per cent for delivery beyond the next 12 months which is a record and adds to future revenue visibility.
- Revenue up 5.5 per cent driven by renewed strength in high-speed Ethernet from market demand and new product launches, offsetting some customer timing impacts in Lifecycle Service Assurance.
- Rigorous focus on cost control, including disciplined execution of our site strategy, and carefully targeted investment in high growth areas resulted in our cost base remaining flat year-on-year despite inflationary pressure.
- Adjusted operating profit[3] increased by 9 per cent to $129.5 million, with adjusted operating margin[4] improving to 21.3 per cent, up from 20.6 per cent in 2021.
- Despite softening in the last quarter of the year, the orderbook[1] increased $18.3 million to $288.1 million providing greater revenue visibility for outer years. Book to bill[8] across the year was 103 (2021: 111).
- Strong balance sheet - cash closed at $209.6 million (2021: $174.8 million) after disciplined focus on working capital management.
- Cash flow from operations increased 24.5 per cent to $140.6 million (2021: $112.9 million).
- Full year dividend up 12 per cent (24 per cent in Pound Sterling). Final dividend of 4.94 cents per share to be paid in May 2023.
- Materially reduced balance sheet risk through an insurance buy-in of our main defined benefit scheme pension liabilities which terminates future funding requirements.

Operational highlights

- Secured over 800 5G-related wins and saw growth across our portfolio of 5G live network solutions and services, and our world-leading Wi-Fi test solutions.
- Continued to deliver for our customers through proactive, aggressive management of our global supply chain in the face of ongoing challenges.
- Aligned our organisation, tools, and processes to enable us to scale our technology-led services portfolio, which saw another year of double-digit revenue growth as we delivered large-scale services to customers around the world.
- Applied our innovation and subject matter expertise to key new solutions targeting lab and live markets, for high-speed Ethernet and Open RAN (O-RAN) test and 5G service assurance.
- Achieved a key milestone in our Sustainability Strategy with the achievement of carbon neutral certification.

Lifecycle Service Assurance

- Despite 5G timing impacts from some customers in the face of macroeconomic uncertainty, our strong orderbook enabled delivery of year-on-year revenue growth.
- Double-digit orders growth across our ‘live’ network operational assurance and world-leading Wi-Fi test portfolio.
- Increasing demand for our Test (TaaS) and Lab (LaaS) as-a-Service offerings, driven primarily by 5G benchmarking and Wi-Fi service offerings.
- Multi-year subscription and support contract growth at customers where we have an incumbency.
- We launched Spirent Vantage, an innovative solution that dramatically simplifies and automates 5G service assurance for communications service providers (CSPs).

Networks & Security

- Revenue grew 9 per cent as demand for high-speed Ethernet test continued to expand, especially for 100G speeds. Our industry-first 800G solution gaining traction, and we anticipate broader 800G adoption in 2023 as standards are ratified.
- Customer penetration diversified beyond our core network equipment manufacturer and service provider base to chipset vendors and hyperscalers.
- We saw strong orders growth in our application security test markets as we leveraged a refreshed hardware portfolio in the second half of the year, as well as growth in enterprise markets using virtualised and cloud solutions.
- We made important progress in our cloud resiliency and impairment solution strategy, with wins at key tier-one mobile operators, as we combined our verification solutions with implementation and custom services.
- Our Positioning business experienced growing success in the space, automotive, PNT chipset and device segments.

Summary and outlook

In 2022, Spirent delivered another year of robust revenue growth and a material increase in earnings.

The Group's strategy of leveraging our market-leading technology and expertise to address key customer business challenges is working. 5G, which remains in its infancy, along with edge computing, Open RAN and high-speed 800G Ethernet deployments, are structurally important, enduring drivers for Spirent and we continue to benefit across the portfolio from customers utilising our mission-critical solutions and services.

Well documented concerns about the global economy have affected all participants across our industry and Spirent has not been immune to these pressures. As previously communicated, we saw some customers exercise caution towards the end of last year in response to broader macroeconomic conditions and this was most notable amongst customers for our 5G lab-based Lifecycle Service Assurance applications. This has continued into the beginning of 2023 and as a result we expect revenue to decline slightly in the full year 2023, and to maintain our gross margin with effective supply chain management.

Against this backdrop, the Group has continued to proactively manage our cost base to ensure maximum efficiency, while ensuring we maintain our market-leading positions in products, solutions and services. Looking forward we estimate cost inflation to be broadly 5 per cent in 2023, with initiatives taken to mitigate half that increase.

We have proactively engaged with our customers and the feedback reiterates their intention to continue to develop and implement their 5G infrastructure, and we therefore expect momentum to improve in the second half of the year.

As increasingly sophisticated, complex technologies are deployed to drive faster, more reliable, more secure networks, demand for comprehensive assurance solutions will continue to grow. The Group's track record in navigating challenging markets, balance sheet strength, rigorous discipline on cost control and the diversified strengths of our portfolio, leave us well positioned to benefit when the current macro headwinds abate.

Notes

1. Orderbook is an alternative performance measure as defined in the appendix on page 36.
2. Order intake represents commitments from customers to purchase goods and/or services that will ultimately result in recognised revenue.
3. Adjusted operating profit is before acquired intangible asset amortisation, share-based payment and other adjusting items amounting to $16.8 million in total (2021: $14.3 million).
4. Adjusted operating profit as a percentage of revenue in the period.
5. Before items set out in note 3.
6. Adjusted basic earnings per share is based on adjusted earnings as set out in note 6 of Notes to the full year consolidated financial statements.
7. Dividends are determined in US Dollars and paid in Sterling at the exchange rate prevailing when the dividend is proposed. The final dividend proposed for 2022 of 4.94 cents per Ordinary Share is equivalent to 4.12 pence per Ordinary Share.
8. Ratio of order intake to revenue recognised in the period.

– ends –

Enquiries

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The Company will host an in-person results presentation for sell-side analysts today at 9.15am for 09.30am UK time at The Link Group, 6th Floor, 65 Gresham Street, London, EC2V 7NQ. A simultaneous webcast of the presentation will be available on the Investors section of the Spirent Communications plc website https://corporate.spirent.com/.

About Spirent Communications plc

Spirent Communications plc (LSE: SPT) is the leading global provider of automated test and assurance solutions for networks, cybersecurity, and positioning. The Company provides innovative products, services and managed solutions that address the test, assurance and automation challenges of a new generation of technologies, including 5G, SD-WAN, Cloud, autonomous vehicles and beyond. From the lab to the real world, Spirent helps companies deliver on their promise to their customers of a new generation of connected devices and technologies. Further information about Spirent Communications plc can be found at https://corporate.spirent.com/.

Spirent Communications plc Ordinary Shares are traded on the London Stock Exchange (ticker: SPT; LEI: 213800HKCUNWP1916L38). The Company operates a Level 1 American Depositary Receipt (ADR) programme with each ADR representing four Spirent Communications plc Ordinary Shares. The ADRs trade in the US over-the-counter (OTC) market under the symbol SPMYY and the CUSIP number is 84856M209. Spirent ADRs are quoted on the Pink OTC Markets electronic quotation service which can be found at https://www.otcmarkets.com/marketplaces/otc-pink.

Cautionary statement regarding forward-looking statements

This document may contain forward-looking statements which are made in good faith and are based on current expectations or beliefs, as well as assumptions about future events. You can sometimes, but not always, identify these statements by the use of a date in the future or such words as "will", "anticipate", "estimate", "expect", "project", "intend", "plan", "should", "may", "assume" and other similar words. By their nature, forward-looking statements are inherently predictive and speculative and involve risk and uncertainty because they relate to events and depend on circumstances that will occur in the future. You should not place undue reliance on these forward-looking statements, which are not a guarantee of future performance and are subject to factors that could cause our actual results to differ materially from those expressed or implied by these statements. The Company undertakes no obligation to update any forward-looking statements contained in this document, whether as a result of new information, future events or otherwise.

Chief Executive Officer's review

2022 was another year of strong strategic execution as we sustained our growth trajectory in the face of current macroeconomic challenges and, in the final quarter, signs of caution in our customers' spending patterns. Despite the disruption caused by inflation, COVID-19 and global conflicts, our world-class team continued to innovate, to deliver for our customers and to win larger deals across the globe.

Market overview

Our key market drivers have remained strong, led by 5G and driven by global trends such as work from anywhere, the emergence of the metaverse, the expansion of hyperscalers, and location awareness as a key application enabler. As the only vendor addressing all phases of the technology lifecycle, from end to end, we consolidated our 5G leadership during the year, applying our innovation to test, automate and assure opportunities in labs through to deployment and operation of live networks. We continued to make significant progress in our ambition to address our customers' large and most pressing business concerns, such as cost reduction and energy efficiency, by driving services and solutions growth across our portfolio. We are confident in the enduring nature of our structural growth drivers, despite near-term market conditions, and our customers remain committed to their investment plans particularly in relation to 5G rollouts.

Strategy

To realise our ambition to be the global leader and trusted partner for innovative technology test and assurance solutions, 2022 saw us continue to focus on our proven strategic pillars: Customer Centricity, Innovation for Growth and Operational Excellence.

1) **Customer Centricity** – increasing our share with existing customers, driving solutions-selling and expanding our footprint into new areas.
2) **Innovation for Growth** – innovating to extend our thought leadership in key growth trends, growing recurring revenue streams and commencing target M&A.
3) **Operational Excellence** – providing the foundation for profitable growth, the right team in place to support our ambition and actively committing to sustainability.

Customer Centricity

We continued to make significant progress during 2022 in our ambition to address our customers' larger business problems by driving outcome-based services and solutions across our portfolio. The shift from selling features and functions to selling outcomes and value resulted in larger deal sizes and has enhanced closeness to our customers, helping to cement our importance in customer accounts during a time of increasing macroeconomic uncertainty and caution around capital and operational expenditure.

Our role as a trusted partner to our customers drove us forward growing into new segments and markets. We supported over 1,100 customers across more than 50 countries in 2022, including over 260 new customers in 33 countries. Spirent's customer base continues to be highly diversified, with no single customer accounting for more than 9 per cent of total revenue in 2022.

At Spirent, we are constantly improving the ways in which we go to market. We continued to strategically expand our successful key account programme. Our partner ecosystem once again delivered good results as we targeted faster-growing segments and regions. Our technology-led services portfolio delivered another year of double-digit growth as we delivered large-scale services to customers around the world. Engagements led by services and solutions are increasing the size of our deals and are enabling us to strategically partner with customers to automate, validate and optimise their networks. This strategic progress led to further growth of our orderbook, which stood at $288.1 million at the end of the year, representing 7 per cent year-on-year growth.

Innovation for Growth

To sustain and grow our global leadership in test and assurance it is critical that we make smart investments, both organic and inorganic, that address emerging market and technology opportunities. We invested 18.3 per cent of revenue in research and development in 2022. 5G remains the enduring driver for our business, with over 800 5G-related wins in the period and significant progress in our journey from the lab to deployment and operation of live networks. We brought several key new solutions and services to market in 2022 that clearly showcased our market-leading expertise. We executed well on our product roadmaps, whilst also implementing our site strategy to drive cost efficiency as we transferred R&D roles from higher-cost North American sites to Eastern Europe and India without losing momentum.

In the third quarter we announced the introduction of Spirent Vantage, an innovative solution that applies Spirent's industry-leading technology and subject matter expertise to dramatically simplify and automate 5G service assurance for communications service providers (CSPs). With its comprehensive turnkey approach that allows operations teams of any size and skill to understand their network and service performance, Vantage broadens our addressable live market beyond the top-tier CSPs targeted by our existing VisionWorks solution.

The Wi-Fi business we acquired as octoScope in 2021 saw strong growth during the period, driven by the widespread adoption of Wi-Fi 6 and 6E, together with our new Test-as-a-Service (TaaS) offering for Wi-Fi equipment. We also launched an industry-first, fully integrated and automated Open RAN (O-RAN) wrap-around test solution to address emerging O-RAN market opportunities.

We expanded our leadership in high-speed Ethernet test with the release of the industry's first 800G test platform which saw success with vendors designing, developing and deploying 800G technologies, including a public 800G interoperability demonstration with Nokia. We also announced a new 400G Ethernet test platform and added a 400G capability to our application security performance test solution. Customer demand for lower port speeds such as 100G was also strong, driven by backbone network upgrades in the face of continuing data growth.

Our Positioning business delivered the first high-accuracy orbital modelling software solution, specifically targeted at emerging opportunities in the Low Earth Orbit (LEO) segment. I am also proud to note that the Positioning business was honoured with a prestigious Queen's Award for Enterprise in the UK, which recognises excellence in international trade.

Operational Excellence

Our commitment to operational excellence and our robust operating model are key differentiators, critical to our continued success in uncertain times. We diligently managed our cost base in 2022 while making the smart investments needed to underpin our future growth. We successfully implemented our engineering site strategy to transfer resource to lower cost regions driving savings for our high-speed Ethernet business. Our world-class supply chain team enabled us to deliver in the face of challenges throughout the year. We were able to compensate from ongoing turbulence in the geopolitical landscape with China through expansion of our customer base and development of new market opportunities in the APAC region.

We invested once again in enhancing our go-to-market capabilities, strengthening our inside sales capabilities across all regions and bolstering our solutions and services selling bench strength in regions and in segments we have targeted for growth, including hyperscalers and chipset developers. Our digital marketing transformation strategy continued to deliver results, including growth in our marketing-qualified lead pipeline to feed into our enhanced inside sales organisation.

We continue to maintain a strong balance sheet with $209.6 million of cash and no bank debt. As we focus on sustainable, profitable growth, we are improving and organising our business to support our positive momentum. 2022 was a year of increased focus on tools and processes to underpin our growth agenda, and in organisational alignment and resource management to enable us to effectively scale our services delivery capacity globally. We continue to improve our organisational structure to break down barriers across businesses and the services function, better enabling solution selling and focus on innovation around leading-edge technologies. Moving into 2023, we plan to further enhance the leadership team, including the appointment of a Chief Information Officer to spearhead standardisation of processes and systems that enable us to scale, whilst also driving a cost efficiency agenda to ensure we have optimal effectiveness from all parts of our cost base, including our property portfolio.

At Spirent we value, invest in and empower our employees. I am proud of the progress we have made with our diversity, equity and inclusion strategy towards a culture where everyone feels welcomed. In 2022, our people completed over 1,500 hours of diversity, equity and inclusion training, and we further expanded the diverse ways in which we attract talent to Spirent, expanding our talent partnerships and launching a global college and university campus recruitment campaign. We also launched a global networking community for our early career talent that offers mentorship, development and networking opportunities.

When we revealed a more ambitious Sustainability Strategy in late 2020, we committed to achieving carbon neutral certification in 2022 and I am delighted to report that this goal has now been achieved. We also calculated our total Scope 3 emissions during the year, providing us with a comprehensive view of our carbon emissions across all sources, which will enable us to report more widely against our carbon emission reduction goals going forward.

Capital allocation approach

Our highly effective financial and operational management delivered another year of strong free cash flow and our balance sheet remains strong and working capital remains very efficient. We continue to implement our capital allocation policy along the lines previously stated. We invest in R&D to maintain and expand our leadership positions in the market, and in inorganic investments where we see attractive opportunities that support our strategic growth agenda, whilst still maintaining sensible levels of cash.

Business review

Spirent operates in two strategic business segments: **Lifecycle Service Assurance** and **Networks & Security**. The Group meets the needs and expectations of our customers and capitalises on the business opportunities created as they:

- develop and validate innovative devices, applications, network equipment and networks; and
- deploy and operate those networks and services.

We improve network performance and end user experience in our connected world and help create our smarter future.

Lifecycle Service Assurance

$ million	**2022**	2021	Change (%)
Revenue	**264.5**	261.6	1.1
Adjusted operating profit[1]	**51.0**	63.1	(19.2)
Adjusted operating margin[2]	**19.3%**	24.1%	(4.8)pp

Notes
1. Before other adjusting items of $0.9 million charged in 2022 (2021: $0.6 million).
2. Operating profit before other adjusting items as a percentage of revenue.

Performance
Lifecycle Service Assurance revenue increased to $264.5 million (2021: $261.6 million). We saw demand for next-generation automated test and assurance, in combination with new outcome-driven service offerings and growth in our Wi-Fi portfolio. We continued to expand our existing Test-as-a-Service offerings, seeing success with our new Wi-Fi and 5G benchmarking capabilities.

However, due to current macroeconomic challenges, we experienced customer purchasing decision delays in the latter part of the year, particularly for our lab-based products. We anticipate these delays to be temporary, since the majority of 5G investment globally is already committed and non-discretionary. The number of operators investing in 5G standalone (SA) with a 5G core network is forecast to double by the end of 2023.

This had a direct adverse impact on revenue opportunities in the year and as a result Lifecycle Service Assurance adjusted operating profit decreased to $51.0 million (2021: $63.1 million).

Adjusted operating margin decreased to 19.3 per cent, from 24.1 per cent in 2021.

Networks & Security

$ million	**2022**	2021	Change (%)
Revenue	**343.0**	314.4	9.1
Adjusted operating profit[1]	**86.8**	63.5	36.7
Adjusted operating margin[2]	**25.3%**	20.2%	5.1pp

Notes
1. Before other adjusting items of $2.1 million charged in 2022 (2021: $1.4 million).
2. Operating profit before other adjusting items as a percentage of revenue.

Performance

Networks & Security revenue increased to $343.0 million (2021: $314.4 million), as we benefited from market demand, share gain and the launch of new solutions in high-speed Ethernet test, while maintaining sales discipline on pricing and attach rates for software and services. Our Application Security business benefited from a refreshed portfolio, and the resulting substantial increase in our solutions' performance allowed us to take share from competition and reinforce our position as a market leader in the second half of the year. Our Positioning business expansion in space and automotive was successful.

Networks & Security adjusted operating profit increased to $86.8 million (2021: $63.5 million), reflecting favourable product mix and product development efficiencies, including execution of our site strategy, realised in our Cloud & IP business for 2022, which will better enable us to focus on addressing market expansion opportunities going forward.

Adjusted operating margin increased to 25.3 per cent, from 20.2 per cent in 2021.

Financial review

Group overview

Momentum continued in 2022 against a backdrop of global economic challenges, supply chain constraints and cost inflation. Customers continue to invest in 5G-related infrastructure, devices and services, but the final quarter of 2022 saw some delays to customer investment decisions which was as a direct result of customer expenditure scrutiny as macroeconomic challenges prevail. Despite this, our operating model remains robust and we continue to invest in our leading technology portfolio and our people.

Orderbook grew 6.8 per cent to $288.1 million compared to $269.8 million in 2021, in spite of some orders being delayed into 2023. This followed orderbook growth of 18.1 per cent in 2021 and resulted in a book to bill ratio of 103 (2021: 111).

Revenue grew by 5.5 per cent to $607.5 million driven by strength in high-speed Ethernet demand and new product launches at Networks & Security. There was also growth in revenue at Lifecycle Service Assurance resulting from demand for next-generation automated test and assurance.

As we predicted, gross margin was adversely impacted by the increased cost of supply chain costs in the main which we offset with good operating expenditure management.

The cost base continues to be managed effectively, with a rigorous focus on cost control and targeted investment in high-growth areas. In the face of inflationary pressures, adjusted operating costs were flat versus 2021. The Group commenced a strategic evaluation to reshape the business to maximise market opportunities by focusing on larger bundled solutions sales and service-led engagements that address our customers' most pressing business challenges.

Adjusted operating profit grew 9.3 per cent to $129.5 million, from $118.5 million in 2021. Adjusted operating margin has increased by 0.7 percentage points to 21.3 per cent, from 20.6 per cent last year.

Other adjusting items were $3.6 million (2021: $4.5 million) as the R&D engineering plan continued in 2022 and the Group commenced a strategic evaluation of the organisation incurring some employee separation costs.

Reported profit before tax was up by $11.0 million to $114.6 million (2021: $103.6 million).

The Group's effective tax rate of 12.9 per cent has reduced from 2021 (14.4 per cent) due to an increased US foreign-derived intangible income (FDII) deduction and the recognition of deferred tax assets related to US state tax losses and tax credits. Adjusted basic earnings per share has increased by 13.7 per cent, up from 16.59 cents last year to 18.86 cents for 2022.

We secured the majority of defined benefit pension liabilities of $166.4 million (£137.5 million), through insurance buy-in with Pension Insurance Corporation (PIC), removing exposure to future investment, longevity, interest and inflation risks.

We retain a strong balance sheet with closing cash of $209.6 million (2021: $174.8 million), following a disciplined focus on working capital management, resulting in a free cash flow of $103.8 million (2021: $91.9 million).

As a result of the strong financial performance, we propose a 12 per cent increase to the full year dividend per share, from 6.76 cents to 7.57 cents, and looking forward we maintain our progressive dividend policy ensuring that we sustain dividend cover of 2 to 2.5 times adjusted earnings.

The following table shows summary financial performance for the Group:

$ million	**2022**	2021	Change (%)
Orderbook[1]	**288.1**	269.8	6.8
Order intake[2]	**625.7**	637.0	(1.8)
Revenue	**607.5**	576.0	5.5
Gross profit	**437.1**	424.7	2.9
Gross margin (%)	**72.0**	73.7	(1.7)pp
Adjusted operating costs[3]	**307.6**	306.2	0.5
Adjusted operating profit[3]	**129.5**	118.5	9.3
Adjusted operating margin[4] (%)	**21.3**	20.6	0.7pp
Reported operating profit	**112.7**	104.2	8.2
Reported profit before tax	**114.6**	103.6	10.6
Effective tax rate[5] (%)	**12.9**	14.4	(1.5)pp
Adjusted basic earnings per share[6] (cents)	**18.86**	16.59	13.7
Reported basic earnings per share (cents)	**16.46**	14.67	12.2
Free cash flow[7]	**103.8**	91.9	12.9
Closing cash	**209.6**	174.8	19.9
Final dividend per share[8] (cents)	**4.94**	4.37	13.0

Notes
1. Orderbook is an alternative performance measure as defined in the appendix on page 36.
2. Order intake represents commitments from customers to purchase goods and/or services that will ultimately result in recognised revenue.
3. Before acquired intangible asset amortisation, share-based payment and other adjusting items amounting to $16.8 million in total (2021: $14.3 million).
4. Adjusted operating profit as a percentage of revenue in the period.
5. Effective tax rate is the adjusted tax charge, before tax on adjusting items, expressed as a percentage of adjusted profit before tax.
6. Adjusted basic earnings per share is based on adjusted earnings as set out in note 6 of Notes to the full year consolidated financial statements.
7. Cash flow generated from operations, less tax and net capital expenditure, after interest paid and/or received, payment of lease liabilities, finance lease payments received and excluding acquisition related other adjusting items and one-off contributions to the UK pension scheme.
8. Dividends are determined in US Dollars and paid in Sterling at the exchange rate prevailing when the dividend is proposed. The final dividend proposed for 2022 of 4.94 cents per Ordinary Share is equivalent to 4.12 pence per Ordinary Share.

Note on Alternative Performance Measures (APM)
The performance of the Group is assessed using a variety of performance measures, including APMs which are presented to provide users with additional financial information that is regularly reviewed by management. These APMs are not defined under IFRS and therefore may not be directly comparable with similarly identified measures used by other companies.

The APMs adopted by the Group are defined in the appendix. The APMs which relate to adjusted income statement lines are presented and reconciled to GAAP measures using a columnar approach on the face of the income statement and can be identified by the prefix 'adjusted' in the commentary. All APMs are clearly identified as such, with explanatory footnotes to the tables of financial information provided, and reconciled to reported GAAP measures in the Financial Review or Notes to the full year consolidated financial statements. The reported GAAP measures give the complete measure of financial performance.

Revenue

$ million	2022	% of total	2021	% of total
Revenue by segment				
Lifecycle Service Assurance	**264.5**	**43.5**	261.6	45.4
Networks & Security	**343.0**	**56.5**	314.4	54.6
	607.5	**100.0**	576.0	100.0
Revenue by geography				
Americas	**336.3**	**55.3**	324.6	56.4
Asia Pacific	**205.8**	**33.9**	185.1	32.1
Europe, Middle East and Africa	**65.4**	**10.8**	66.3	11.5
	607.5	**100.0**	576.0	100.0

Group revenue grew by $31.5 million to $607.5 million in 2022, an increase of 5.5 per cent over the prior year.

Revenue at Lifecycle Service Assurance was slightly up as demand from the continued global rollout of 5G networks and growth in managed solutions and services was offset by previously communicated customer purchasing deferrals into 2023. We also saw growth in our Wi-Fi portfolio driven by demand for solutions and services enabled by our 2021 octoScope acquisition, and in other services offerings, including live 5G network benchmarking. We experienced further robust growth in the orderbook in 2022 as the value of multi-year deals continued to increase.

The Networks & Security operating segment saw growth in revenue of 9.1 per cent on the back of market demand for increased network data capacity, and the release of important new solutions for high-speed Ethernet and application security test, reinforcing our position as market leader in this space. Positioning revenue also delivered progress with some key wins in Asia Pacific.

Total Group maintenance and support services revenue increased 12.6 per cent to $185.4 million (2021: $164.7 million).

Geographically, we saw growth in revenue in the Americas and Asia Pacific, notably in China and India at Networks & Security. As a percentage of total revenue the regions are similar compared to last year.

Gross margin

$ million	2022	%	2021	%
Lifecycle Service Assurance	**198.0**	**74.9**	199.0	76.1
Networks & Security	**239.1**	**69.7**	225.7	71.8
	437.1	**72.0**	424.7	73.7

Gross margin declined slightly to 72.0 per cent (2021: 73.7 per cent) driven by a rise in the cost of supply chain costs.

Adjusted operating costs

$ million	2022	2021
Product development	**111.3**	113.3
Selling and marketing	**138.9**	140.7
Administration[1]	**57.4**	52.2
Adjusted operating costs[1]	**307.6**	306.2
Lifecycle Service Assurance	**147.0**	135.9
Networks & Security	**152.3**	162.2
Corporate	**8.3**	8.1
Adjusted operating costs[1]	**307.6**	306.2

Notes
1. Before acquired intangible asset amortisation, share-based payment and other adjusting items amounting to $16.8 million in total (2021: $14.3 million).

Despite inflationary pressures, total Group adjusted operating costs of $307.6 million were held level compared to last year. The emphasis remained on strong financial management and a disciplined approach to our investment spend to drive our growth agenda.

The overall investment in product development decreased year-on-year from $113.3 million to $111.3 million, representing 18.3 per cent of revenue (2021: 19.6 per cent), driven by cost-saving initiatives as we transferred resource in lower-cost regions. We continued to focus on our high-growth areas and to maintain investment into our market-leading products. During the year, we invested in our Lifecycle Service Assurance solutions for next-generation service assurance and O-RAN.

We continued to invest in the sales organisation to support our revenue growth plans. Selling and marketing costs decreased by $1.8 million, from $140.7 million to $138.9 million, resulting from reduced sales commissions following some order softness from the deferral of investments into 2023 by some customers.

Administration costs reflect investment into our support functions and infrastructure to sustain our growth agenda, increasing compliance requirements, as well as an inflationary increases.

We have continued to invest in our world-class employees, enhancing our family-friendly benefits and working to support employee welfare, which has contributed to an employee retention rate significantly higher than the industry average.

Operating profit

$ million	**2022**	**Adjusted operating margin[1, 2] %**	2021	Adjusted operating margin[1, 2] %
Lifecycle Service Assurance	**51.0**	**19.3**	63.1	24.1
Networks & Security	**86.8**	**25.3**	63.5	20.2
Corporate	**(8.3)**		(8.1)	
Adjusted operating profit[1]	**129.5**	**21.3**	118.5	20.6
Adjusting items charged in arriving at operating profit:				
Acquired intangible asset amortisation	**(4.7)**		(4.2)	
Share-based payment	**(8.5)**		(5.6)	
Other adjusting items	**(3.6)**		(4.5)	
Reported operating profit	**112.7**		104.2	

Notes
1. Before acquired intangible asset amortisation, share-based payment and other adjusting items amounting to $16.8 million in total (2021: $14.3 million).
2. Adjusted operating profit as a percentage of revenue in the period.

Adjusted operating profit increased by $11.0 million or 9.3 per cent to $129.5 million in 2022, compared with $118.5 million in 2021. Adjusted operating margin increased by 0.7 percentage points to 21.3 per cent, from 20.6 per cent in 2021.

Reported operating profit was up by $8.5 million or 8.2 per cent to $112.7 million (2021: $104.2 million). Total adjusting items were $16.8 million in 2022, compared to $14.3 million in 2021, mainly due to an increase in the share-based payment expense due to an expansion of employee share schemes.

Acquired intangible asset amortisation and share-based payment

The acquired intangible asset amortisation charge has increased slightly over the prior year due to a full year impact of the amortisation of the intangible assets recognised on the acquisition of octoScope from March 2021, with a charge of $4.7 million incurred in 2022 (2021: $4.2 million).

Share-based payment has increased to $8.9 million in 2022 (2021: $6.2 million), of which $8.5 million (2021: $5.6 million) has been treated as an adjusting item. The increase reflects the incremental cost associated with new awards and the expansion of employee share schemes.

Other adjusting items

Costs of $3.6 million have been charged to other adjusting items in 2022, mainly as a direct result of the continuation of the global R&D engineering facility plan which began in 2021 and will conclude in 2023. Costs amounting to $1.5 million (2021: $1.2 million) were incurred in 2022 comprising retention payments and facility and team set-up costs. The plan has delivered material cost savings particularly for our Networks & Security division.

The Group also commenced a strategic evaluation in 2022, which led to employee separation costs of $1.3 million. This programme includes a number of initiatives designed to reshape the business to maximise market opportunities by focusing on solution sales and larger bundled solutions to customers. These include enhancement of the leadership team to include some important new roles such as a Chief Information Officer, a Chief Marketing Officer and development of our sales and marketing organisation whilst driving cost efficiency across the cost base. This programme has anticipated costs of $3-4 million in 2023.

Currency impact

The Group’s revenue and costs are primarily denominated in US Dollars or US Dollar-linked currencies. Currency exposures arise from trading transactions undertaken by the Group in foreign currencies and on the retranslation of the operating results and net assets of overseas subsidiaries.

The Group’s income statement includes a foreign exchange gain, included in administration costs, of $0.2 million (2021: $0.8 million loss) arising from transacting in foreign currencies, primarily US Dollars in the United Kingdom, and the translation of foreign currency cash balances.

Forward foreign currency exchange contracts are entered into to manage the exposure arising from transacting in currencies other than US Dollars.

Although the most significant currency exposure arises in relation to movements in Pound Sterling against the US Dollar, there are other less significant currency exposures, notably the Euro and Chinese Yuan.

Finance income and costs

Interest income of $2.1 million was earned from cash on deposit (2021: $0.3 million) and $0.8 million (2021: $0.3 million) of interest income was recognised in relation to the UK defined benefit pension plans. The growth in bank interest received year-on-year reflects the increase in US Dollar and Sterling interest rates. Surplus funds are held principally in the United Kingdom and United States on short-term or overnight deposits and earn market rates of interest.

Finance costs in 2022 were $1.0 million (2021: $1.2 million), relating to interest on lease liabilities (2021: $1.1 million).

Tax

The adjusted effective tax rate, being the adjusted tax charge expressed as a percentage of adjusted profit before tax, shown on the face of the consolidated income statement, was 12.9 per cent in 2022, compared with 14.4 per cent in 2021.

Spirent's effective tax rate continues to benefit from the United Kingdom Patent Box Scheme, the United States R&D Tax Credit, the US foreign-derived intangible income deduction, and a current year recognition of deferred tax assets in the United States.

Going forward it is anticipated that Spirent's effective tax rate will slightly rise over time, due to the geographical mix of profits, and 2023 will likely be around 15 per cent if statutory tax rates do not materially change. As a large proportion of the Group's profit is generated in the United States, the effective tax rate is exposed to changes in US tax legislation. The new administration has indicated its desire to increase corporate tax rates and other countries may also be considering raising their corporate tax rates. The UK corporation tax rate will be increased to 25 per cent, effective from 1 April 2023. As a result, we will be closely monitoring all proposed corporate tax rates and other tax legislative changes for their impact on the Group's effective tax rate.

Earnings per share

Adjusted basic earnings per share was up 13.7 per cent to 18.86 cents (2021: 16.59 cents). Basic earnings per share was 16.46 cents (2021: 14.67 cents). There were 607.0 million (2021: 608.2 million) weighted average Ordinary Shares in issue. See note 6 of Notes to the full year consolidated financial statements on page 29 for the calculation of earnings per share.

Financing and cash flow

Free cash flow increased year-on-year coming in at $103.8 million, compared to $91.9 million in 2021, resulting in a free cash flow conversion which represented 91 per cent of adjusted earnings (2021: 91 per cent).

Higher adjusted operating profit was augmented by effective working capital management resulting in a net working capital outflow of $2.9 million, excluding the impact of movement in provisions; this compares to a working capital outflow of $10.1 million in the prior year.

Closing days sales outstanding of 60 remained consistent with the prior year, reflecting continued strong collections, but with lower revenue in the final quarter of 2022 compared to 2021, closing receivables were down resulting in a small cash inflow from receivables. Inventories increased by $14 million (2021: $2 million) in 2022 driven by the business need to hold higher levels of materials in order to navigate supply chain challenges and fulfil customer demand.

Free cash flow is set out below:

$ million	2022	2021
Cash flow from operations	**140.6**	112.9
Tax paid	**(22.8)**	(10.0)
Net cash inflow from operating activities	**117.8**	102.9
Interest received	**1.5**	0.4
Net capital expenditure	**(8.2)**	(9.8)
Payment of lease liabilities, principal and interest	**(9.6)**	(10.0)
Lease payments received from finance leases	**0.6**	0.5
Acquisition related other adjusting items (*note 4)*:		
– Direct acquisition transaction costs	**0.6**	1.9
– Acquisition related performance payments	**(0.1)**	0.6
– Acquisition integration costs	**0.3**	0.8
One-off employer contribution to UK pension scheme	**0.9**	4.6
Free cash flow	**103.8**	91.9

Free cash flow includes a net cash outflow in respect of other adjusting items charged in 2021 and 2022 of $2.6 million (2021: $4.0 million in respect of other adjusting items charged in 2020 and 2021).

Tax payments made in the year increased to $22.8 million (2021: $10.0 million) due to R&D cost capitalisation rules in the US coming into effect on 1 January 2022. The new rules require that, for tax purposes, product development costs are deferred and unwound over a number of years rather than deducted in the year in which they are incurred. This results in a timing difference only so does not directly impact the Group's effective tax rate.

Net capital expenditure of $8.2 million was slightly down on the prior year (2021: $9.8 million). Capital expenditure in the period was predominantly incurred on demonstration and test equipment. The one-off employer contribution to the UK pension scheme in the prior year arose in relation to an agreement to further fund the scheme when we also made a return to shareholders.

In 2022, the final dividend for 2021 and an interim dividend for 2022, totalling $39.9 million, were paid. This compared to total dividends of $83.6 million paid in 2021, which also included payment of a special dividend of $45.6 million. In addition, 7.1 million shares were purchased and placed into the Employee Share Ownership Trust at a cost of $22.9 million (2021: 3.9 million shares at a cost of $15.1 million).

Following these payments, cash and cash equivalents closed at $209.6 million at 31 December 2022, compared with $174.8 million at 31 December 2021. There continues to be no debt outside of lease liabilities.

Defined benefit pension plans

The Group operates two funded defined benefit pension plans in the United Kingdom, both of which are closed to new entrants.

As the plans near maturity the Company has sought to protect the balance sheet from further risk of market movements affecting the valuation of pension liabilities. So in October 2022, the Trustees, with the Company's support, purchased a bulk annuity insurance policy from specialist UK insurer Pension Insurance Corporation (PIC), in respect of the largest plan, the Staff Plan. The premium was met from the plan's assets and sufficient assets remain to meet the plan's ongoing costs. This insurance policy funds the plan each month exactly matching the plan's benefit payments to members, removing investment and inflation risk as well as longevity and other demographic risks. Following the purchase of the bulk annuity insurance policy, the Group does not expect to make any further cash contributions to this plan.

The accounting valuation of the funded defined benefit pension plans at 31 December 2022 gave rise to a net surplus of $8.0 million, compared with a net surplus of $37.8 million at 31 December 2021. The reduction in net surplus over the year is mainly due to a net actuarial loss of $29.0 million (2021: gain of $13.5 million) arising due to a remeasurement loss on plan assets and the bulk annuity insurance policy purchase, partly offset by contributions paid to the plans in the year of $1.1 million (2021: $6.7 million) and an actuarial gain on the plan obligations arising due to an increase in the discount rate.

Additionally, there is a liability for an unfunded plan of $0.5 million (31 December 2021: $0.7 million).

The Group also operates a deferred compensation plan for employees in the United States. As at 31 December 2022, the deferred compensation plan deficit amounted to $6.9 million (2021: $6.6 million). The key financial assumptions include a discount rate used to discount plan liabilities of 5.2 per cent (2021: 2.6 per cent) and an expected investment yield of 9.5 per cent (2021: 6.4 per cent).

Balance sheet

The consolidated balance sheet is set out on page 22.

Overall, net assets have increased by $17.7 million to $465.2 million at 31 December 2022, from $447.5 million at 31 December 2021.

Non-current assets have decreased by $30.9 million due to the pension buy-in which has resulted in a reduction in the fair value of defined benefit pension plan assets held in the UK Staff Plan.

Cash and cash equivalents have increased by $34.8 million within current assets to $209.6 million (2021: $174.8 million) following the robust trading performance, payment of dividends amounting to $39.9 million (2021: $83.6 million) and purchases of shares to satisfy employee awards of $22.9 million (2021: $15.1 million).

Overall, liabilities of $240.1 million are broadly flat at 31 December 2022 (2021: $243.8 million). A year-on-year increase in trade payables of $20.7 million due to timing and a disciplined focus on working capital and supply chain management has been partially offset by reduced accruals in 2022 relating to sales commissions and employee bonuses.

Liquidity and dividend policy

The Board's intention is to maintain a cash positive balance sheet over the medium to long term. This should allow the Company to maintain a strong capital position in the face of business risks, trading fluctuations and working capital demands.

The strong cash generation of the Group allows continued investment into R&D to maintain our market-leading positions and inorganic investments where opportunities support growth plans. If and when it is considered appropriate, the Company may take on modest gearing to fund inorganic investments.

The Board will regularly review the Company's balance sheet in light of current and expected trading performance and cash generation, working capital requirements and expected organic and inorganic investments. To the extent the Company has excess cash, it will consider returning such cash to shareholders. The Board will consider from time to time the appropriate mechanism for returning surplus cash to shareholders.

The Board has implemented a progressive dividend policy maintaining cover in the range of 2 to 2.5 times adjusted earnings.

Dividend

The Board is recommending the payment of a final dividend for 2022 of 4.94 cents (4.12 pence) per share which, together with the interim dividend of 2.63 cents (2.16 pence) per share paid in September 2022, brings the full year dividend to 7.57 cents (6.28 pence) per share, a dividend cover of 2.5 times adjusted earnings. This is a 12 per cent increase compared to the full year dividend for 2021. In Sterling terms this represents an increase of 24 per cent.

Consolidated income statement

$ million	Notes	**Year ended 31 December 2022**			Year ended 31 December 2021		
		Adjusted	**Adjusting items[1]**	**Reported**	Adjusted	Adjusting items[1]	Reported
Revenue	3	**607.5**	**-**	**607.5**	576.0	-	576.0
Cost of sales		**(170.4)**	**-**	**(170.4)**	(151.3)	-	(151.3)
Gross profit		**437.1**	**-**	**437.1**	424.7	-	424.7
Product development	3	**(111.3)**	**-**	**(111.3)**	(113.3)	-	(113.3)
Selling and marketing		**(138.9)**	**-**	**(138.9)**	(140.7)	-	(140.7)
Administration		**(57.4)**	**(16.8)**	**(74.2)**	(52.2)	(14.3)	(66.5)
Operating profit		**129.5**	**(16.8)**	**112.7**	118.5	(14.3)	104.2
Adjusting items:							
Acquired intangible asset amortisation		**-**	**(4.7)**	**(4.7)**	-	(4.2)	(4.2)
Share-based payment		**-**	**(8.5)**	**(8.5)**	-	(5.6)	(5.6)
Other adjusting items	4	**-**	**(3.6)**	**(3.6)**	-	(4.5)	(4.5)
Adjusting items		**-**	**(16.8)**	**(16.8)**	-	(14.3)	(14.3)
Finance income		**2.9**	**-**	**2.9**	0.6	-	0.6
Finance costs		**(1.0)**	**-**	**(1.0)**	(1.2)	-	(1.2)
Profit before tax		**131.4**	**(16.8)**	**114.6**	117.9	(14.3)	103.6
Tax	5	**(16.9)**	**2.2**	**(14.7)**	(17.0)	2.6	(14.4)
Profit for the year attributable to owners of the parent Company		**114.5**	**(14.6)**	**99.9**	100.9	(11.7)	89.2
Earnings per share (cents)	6						
Basic		**18.86**		**16.46**	16.59		14.67
Diluted		**18.75**		**16.36**	16.45		14.54

Note

1. Adjusting items comprise amortisation of acquired intangible assets, share-based payment, other adjusting items, tax on adjusting items and any over/under provision in respect of prior year tax.

The performance of the Group is assessed using a variety of non-GAAP alternative performance measures which are presented to provide additional financial information that is regularly reviewed by management. Adjusting items are identified and excluded by virtue of their size, nature or incidence as they do not reflect management's evaluation of the underlying trading performance of the Group. The alternative performance measures are presented in the appendix. The reported GAAP measures give the complete measure of financial performance.

Consolidated statement of comprehensive income

$ million	Note	Year ended 31 December **2022**	2021
Profit for the year attributable to owners of the parent Company		**99.9**	89.2
Other comprehensive (loss)/income			
Items that may subsequently be reclassified to profit or loss:			
– Exchange differences on retranslation on foreign operations		**(8.2)**	(0.3)
Items that will not subsequently be reclassified to profit or loss:			
– Re-measurement of the net defined benefit pension asset	8	**(29.0)**	13.5
– Income tax effect of re-measurement of the net defined benefit pension asset		**9.4**	(4.8)
– Re-measurement of the deferred compensation liability	8	**-**	(0.2)
		(19.6)	8.5
Other comprehensive (loss)/income		**(27.8)**	8.2
Total comprehensive income for the year attributable to owners of the parent Company		**72.1**	97.4

Consolidated balance sheet

$ million	Notes	At 31 December 2022	2021
Assets			
Non-current assets			
Intangible assets		**202.0**	208.2
Property, plant and equipment		**20.6**	23.7
Right-of-use assets		**19.5**	26.0
Trade and other receivables		**6.7**	7.6
Assets recognised from costs to obtain a contract		**0.5**	0.8
Defined benefit pension plan surplus	8	**9.7**	37.8
Deferred tax asset		**32.8**	18.6
		291.8	322.7
Current assets			
Inventories		**39.8**	26.0
Trade and other receivables		**160.8**	164.1
Assets recognised from costs to obtain a contract		**0.9**	1.1
Other financial assets		**-**	0.1
Current tax asset		**2.4**	2.5
Cash and cash equivalents		**209.6**	174.8
		413.5	368.6
Total assets		**705.3**	691.3
Liabilities			
Current liabilities			
Trade and other payables		**(94.8)**	(87.6)
Contract liabilities		**(75.5)**	(72.1)
Lease liabilities		**(7.1)**	(8.4)
Other financial liabilities		**(0.1)**	-
Current tax liability		**(7.2)**	(3.2)
Provisions		**(5.7)**	(5.4)
		(190.4)	(176.7)
Non-current liabilities			
Trade and other payables		**(0.2)**	(0.4)
Contract liabilities		**(22.7)**	(27.5)
Lease liabilities		**(15.0)**	(21.4)
Deferred tax liability		**-**	(8.0)
Defined benefit pension plan deficit	8	**(9.1)**	(7.3)
Provisions		**(2.7)**	(2.5)
		(49.7)	(67.1)
Total liabilities		**(240.1)**	(243.8)
Net assets		**465.2**	447.5
Capital and reserves			
Share capital		**24.7**	27.5
Share premium account		**24.4**	27.2
Capital redemption reserve		**16.0**	17.8
Other reserves		**20.9**	13.5
Translation reserve		**2.6**	10.8
Retained earnings		**376.6**	350.7
Total equity attributable to owners of the parent Company		**465.2**	447.5

Consolidated statement of changes in equity

$ million	Notes	Share capital	Share premium account	Capital redemption reserve	Other reserves	Translation reserve	Retained earnings	Total equity
		Attributable to the equity holders of the parent Company						
At 1 January 2021		27.9	27.6	18.0	12.5	11.1	345.7	442.8
Profit for the year		-	-	-	-	-	89.2	89.2
Other comprehensive income/(loss)[1]		-	-	-	-	(0.3)	8.5	8.2
Total comprehensive income/(loss)		-	-	-	-	(0.3)	97.7	97.4
Share-based payment		-	-	-	-	-	5.9	5.9
Tax credit on share incentives		-	-	-	-	-	0.6	0.6
Equity dividends	7	-	-	-	-	-	(84.1)	(84.1)
Employee Share Ownership Trust	12	-	-	-	-	-	(15.1)	(15.1)
Exchange adjustment		(0.4)	(0.4)	(0.2)	1.0	-	-	-
At 1 January 2022		**27.5**	**27.2**	**17.8**	**13.5**	**10.8**	**350.7**	**447.5**
Profit for the year		**-**	**-**	**-**	**-**	**-**	**99.9**	**99.9**
Other comprehensive income/(loss)[2]		**-**	**-**	**-**	**-**	**(8.2)**	**(19.6)**	**(27.8)**
Total comprehensive income/(loss)		**-**	**-**	**-**	**-**	**(8.2)**	**80.3**	**72.1**
Share-based payment		**-**	**-**	**-**	**-**	**-**	**8.5**	**8.5**
Tax charge on share incentives		**-**	**-**	**-**	**-**	**-**	**(0.1)**	**(0.1)**
Equity dividends	7	**-**	**-**	**-**	**-**	**-**	**(39.9)**	**(39.9)**
Employee Share Ownership Trust	12	**-**	**-**	**-**	**-**	**-**	**(22.9)**	**(22.9)**
Exchange adjustment		**(2.8)**	**(2.8)**	**(1.8)**	**7.4**	**-**	**-**	**-**
At 31 December 2022		**24.7**	**24.4**	**16.0**	**20.9**	**2.6**	**376.6**	**465.2**

Notes

1. The amount included in other comprehensive income/(loss) for 2021 of $8.5 million represents re-measurement gains on the net defined benefit pension asset of $13.5 million, net of a tax charge of $4.8 million, and re-measurement losses on the deferred compensation liability of $0.2 million. The amount included in the translation reserve of $0.3 million represents other comprehensive losses related to the translation of foreign operations.
2. The amount included in other comprehensive income/(loss) for 2022 of $19.6 million represents re-measurement losses on the net defined benefit pension asset of $29.0 million, net of a tax credit of $9.4 million. The amount included in the translation reserve of $8.2 million represents other comprehensive losses related to the translation of foreign operations.

Consolidated cash flow statement

$ million	Notes	Year ended 31 December 2022	2021
Cash flows from operating activities			
Cash flow from operations	9	**140.6**	112.9
Tax paid		**(22.8)**	(10.0)
Net cash inflow from operating activities		**117.8**	102.9
Cash flows from investing activities			
Interest received		**1.5**	0.4
Purchase of property, plant and equipment		**(8.4)**	(10.2)
Proceeds from the sale of property, plant and equipment		**0.2**	0.4
Lease payments received from finance leases		**0.6**	0.5
Acquisition of subsidiary, net of cash acquired	10	**-**	(51.3)
Net cash used in investing activities		**(6.1)**	(60.2)
Cash flows from financing activities			
Lease liability principal repayments		**(8.6)**	(8.9)
Lease liability interest paid		**(1.0)**	(1.1)
Dividend paid	7	**(39.9)**	(83.6)
Hedge contracts relating to dividend payments	7	**-**	(0.5)
Share purchase into Employee Share Ownership Trust	12	**(22.9)**	(15.1)
Net cash used in financing activities		**(72.4)**	(109.2)
Net increase/(decrease) in cash and cash equivalents		**39.3**	(66.5)
Cash and cash equivalents at the beginning of the year		**174.8**	241.2
Effect of foreign exchange rate changes		**(4.5)**	0.1
Cash and cash equivalents at the end of the year		**209.6**	174.8

Notes to the full year consolidated financial statements

1 Financial information presented

The financial information contained in this document does not constitute the Group's statutory accounts for the year ended 31 December 2022. Statutory accounts for the year ended 31 December 2022 will be delivered to the registrar in due course.

The Group financial statements have been prepared in accordance with International Accounting Standards in conformity with the requirements of the Companies Act 2006 and United Kingdom adopted International Accounting Standards. The comparative financial information is based on the statutory accounts for the year ended 31 December 2021 which have been delivered to the Registrar of Companies. The report of the auditors on the 2021 and 2022 accounts was unqualified, did not draw attention to any matters by way of emphasis and did not contain a statement made under Section 498 of the Companies Act 2006.

The full year announcement was approved by the Board of Directors on 7 March 2023.

2 Accounting policies

The accounting policies adopted and methods of computation used are consistent with those applied in the consolidated financial statements for the year ended 31 December 2021.

New accounting standards
There have been no applicable new standards, amendments to standards and interpretations effective from 1 January 2022 that have been applied by the Group which have resulted in a significant impact on its consolidated results or financial position.

Going concern
In adopting the going concern basis for preparing the consolidated financial statements, the Directors have considered the Group's principal risks and uncertainties.

The Directors have also considered sensitivities in respect of potential downside scenarios, including stress testing the latest cash flow projections that cover a period of 12 months from the date of approval of these consolidated financial statements. In these scenarios, the Group has more than sufficient headroom in its available resources.

At 31 December 2022, the Group had cash balances of $209.6 million and external debt only in relation to its lease liabilities.

The Directors have reviewed the detailed financial projections for the period ending 31 December 2023, as well as the business plan and cash flows for the three months ending 31 March 2024. The Directors have also considered the period to the end of 2025 which forms part of the Group's longer term viability assessment. In addition, they have considered the principal risks faced by the Group, the sensitivity analysis and the Group's significant financial headroom and are satisfied that the Group has adequate financial resources to continue in operational existence for the foreseeable future, a period of at least 12 months from the date of approval of this report. Accordingly, the going concern basis of accounting continues to be used in the preparation of the consolidated financial statements.

3 Operating segments

The Group's organisational structure is based on differences in the products and services offered by each segment and information regularly reviewed by the Group's Chief Executive Officer, its chief operating decision maker, is presented on this basis. The Group's operating segments follow this structure.

The Group's reportable operating segments are Lifecycle Service Assurance and Networks & Security. The Group evaluates adjusted operating profit before acquired intangible asset amortisation, share-based payment and other adjusting items. Finance income and finance costs are not allocated to the reportable segments. Corporate is not an operating segment and costs are separately reported and not allocated to the reportable segments. Information on segment assets and segment liabilities is not regularly provided to the Group's Chief Executive Officer and is therefore not disclosed below. There is no aggregation of operating segments.

The Group disaggregates revenue from contracts with customers by nature of products and services and primary geographical markets as this best depicts how the nature, amount, timing and uncertainty of the Group's revenue and cash flows are affected by economic factors.

$ million	Lifecycle Service Assurance	Networks & Security	Corporate	Total
2022				
Revenue				
Nature of products and services				
Sale of hardware and software	**146.0**	**276.1**	**-**	**422.1**
Maintenance and support services	**118.5**	**66.9**	**-**	**185.4**
	264.5	**343.0**	**-**	**607.5**
Primary geographical markets				
Americas	**179.7**	**156.6**	**-**	**336.3**
Asia Pacific	**61.8**	**144.0**	**-**	**205.8**
Europe, Middle East and Africa	**23.0**	**42.4**	**-**	**65.4**
	264.5	**343.0**	**-**	**607.5**
Profit before tax				
Adjusted operating profit	**51.0**	**86.8**	**(8.3)**	**129.5**
Other adjusting items *note 4*	**(0.9)**	**(2.1)**	**(0.6)**	**(3.6)**
Total reportable segment profit	**50.1**	**84.7**	**(8.9)**	**125.9**
Unallocated amounts:				
– Acquired intangible asset amortisation				**(4.7)**
– Share-based payment				**(8.5)**
Operating profit				**112.7**
Finance income				**2.9**
Finance costs				**(1.0)**
Profit before tax				**114.6**
Other information				
Product development	**56.6**	**54.7**	**-**	**111.3**
Intangible asset amortisation – other	**0.6**	**-**	**-**	**0.6**
Depreciation of property, plant and equipment	**4.7**	**6.2**	**0.1**	**11.0**
Depreciation of right-of-use assets	**3.4**	**3.6**	**0.3**	**7.3**

3 Operating segments *continued*

$ million	Lifecycle Service Assurance	Networks & Security	Corporate	Total
2021				
Revenue				
Nature of products and services				
Sale of hardware and software	157.9	253.4	-	411.3
Maintenance and support services	103.7	61.0	-	164.7
	261.6	314.4	-	576.0
Primary geographical markets				
Americas	179.0	145.6	-	324.6
Asia Pacific	58.7	126.4	-	185.1
Europe, Middle East and Africa	23.9	42.4	-	66.3
	261.6	314.4	-	576.0
Profit before tax				
Adjusted operating profit	63.1	63.5	(8.1)	118.5
Other adjusting items *note 4*	(0.6)	(1.4)	(2.5)	(4.5)
Total reportable segment profit	62.5	62.1	(10.6)	114.0
Unallocated amounts:				
– Acquired intangible asset amortisation				(4.2)
– Share-based payment				(5.6)
Operating profit				104.2
Finance income				0.6
Finance costs				(1.2)
Profit before tax				103.6
Other information				
Product development	54.3	59.0	-	113.3
Intangible asset amortisation – other	0.8	-	-	0.8
Depreciation of property, plant and equipment	4.8	7.5	0.1	12.4
Depreciation of right-of-use assets	3.4	4.2	0.3	7.9

3 Operating segments *continued*

Inter-segment revenue is eliminated in the above periods. All of the Group's revenue arose from contracts with customers.

Generally, revenue from the sale of hardware and software is recognised at a point in time and revenue from maintenance and support services is recognised over time.

Europe, Middle East and Africa includes United Kingdom revenue of $14.1 million (2021: $12.3 million).

Americas includes United States revenue of $317.3 million (2021: $305.6 million).

Asia Pacific includes China revenue of $110.9 million (2021: $102.8 million).

Revenues are attributed to regions and countries based on customer location.

No one customer accounted for 10 per cent or more of total Group revenue in 2022. One customer accounted for 10 per cent of total Group revenue in 2021, amounting to $57.8 million. Approximately 92 per cent of this revenue was in the Lifecycle Service Assurance operating segment.

4 Other adjusting items

$ million	**2022**	2021
R&D engineering plan	**1.5**	1.2
Direct acquisition transaction costs	**0.6**	1.9
Acquisition related performance payments	**(0.1)**	0.6
Acquisition integration costs	**0.3**	0.8
Strategic evaluation	**1.3**	-
Total charge in the income statement	**3.6**	4.5

In 2021, the Group commenced implementation of a global R&D engineering plan which will rationalise the number of sites and extend our flexibility to serve our global customers, incurring $1.2 million of costs comprising employee severance and set up costs. This plan continued into 2022 where $1.5 million was incurred in relation to retention payments and facility and team set up costs. The plan will conclude in 2023.

On 4 March 2021, the Group completed the acquisition of octoScope, Inc. Acquisition related performance payments of $0.6 million and $0.8 million in relation to post acquisition integration were incurred during 2021. During 2022, $0.1 million was credited to other adjusting items in relation to post acquisition performance payments and $0.3 million was incurred in relation to post acquisition integration. The acquisition related performance payments to key employees of the former octoScope business are contingent on meeting revenue growth targets for 2021 and 2022 and/or a continuing employment requirement and comprise $0.4 million (2021: $0.9 million) in respect of retention bonuses offset by $0.5 million (2021: $0.3 million) relating to a remeasurement of the contingent consideration liability recognised on acquisition. In addition, direct transaction related costs of $0.6 million (2021: $1.9 million) were incurred comprising adviser fees. See note 10 for further details.

The Group commenced a strategic evaluation in 2022 incurring employee separation costs of $1.3 million. This programme includes a number of initiatives designed to reshape the business to maximise market opportunities by focusing on larger bundled solutions sales and service-led engagements that address our customers' most pressing business challenges. These include enhancement of the leadership team to include some important new roles such as a Chief Information Officer, a Chief Marketing Officer and development of our sales and marketing organisation. This programme will continue into 2023 with total anticipated costs of $3-4 million.

4 Other adjusting items *continued*

The tax effect of other adjusting items is a credit of $0.9 million (2021: $1.1 million). There will be a total net cash outflow of $3.6 million in respect of other adjusting items charged in 2022, $1.7 million of which was in 2022 (2021: $4.4 million outflow with $3.5 million paid in 2021). The cash outflow in 2022 in respect of other adjusting items charged in 2021 was $0.9 million (2021: $0.5 million).

The total cash outflow in respect of other adjusting items is reported within cash flows from operating activities in the consolidated cash flow statement.

5 Tax

$ million	2022	2021
Current income tax		
UK tax	**2.5**	0.4
Foreign tax	**23.9**	10.1
Amounts underprovided in prior years	**1.7**	-
Total current income tax charge	**28.1**	10.5
Deferred tax		
Recognition of deferred tax assets	**(1.0)**	(1.9)
Reversal of temporary differences	**(12.4)**	5.1
Adjustments in respect of prior years	**-**	0.7
Total deferred tax (credit)/charge	**(13.4)**	3.9
Tax charge in the income statement	**14.7**	14.4

The current tax charge is impacted by the US R&D capitalisation rules which came into effect in 2022. The impact is an increase to our current tax charge with an offsetting deferred tax credit for the future tax benefit of the amortisation deduction.

The tax charge for the year ended 31 December 2022 was $14.7 million (2021: $14.4 million). This was after a prior year tax charge of $1.7 million and a tax credit on the adjusting items of $3.9 million (2021: prior year charge of $0.7 million and tax credit on adjusting items of $3.3 million). Excluding the prior year charge and tax credit on adjusting items, the effective tax rate was 12.9 per cent (2021: 14.4 per cent).

6 Earnings per share

Basic
Earnings per share is calculated by dividing the profit for the year attributable to owners of the parent Company by the weighted average number of Ordinary Shares outstanding during the year.

Diluted
Diluted earnings per share is calculated by dividing the profit for the year attributable to owners of the parent Company by the weighted average number of Ordinary Shares outstanding during the year plus the weighted average number of Ordinary Shares that would be issued on the conversion of all dilutive potential Ordinary Shares into Ordinary Shares.

6 Earnings per share *continued*

$ million	2022	2021
Profit for the year attributable to owners of the parent Company	**99.9**	89.2

Number million		
Weighted average number of Ordinary Shares in issue – basic	**607.0**	608.2
Dilutive potential of employee share incentives	**3.7**	5.3
Weighted average number of Ordinary Shares in issue – diluted	**610.7**	613.5

Cents		
Earnings per share		
Basic	**16.46**	14.67
Diluted	**16.36**	14.54

Adjusted

The Group is disclosing adjusted earnings per share attributable to owners of the parent Company in order to provide a measure to enable period-on-period comparisons to be made of its performance. The following items are excluded from adjusted earnings:

- acquired intangible asset amortisation;
- share-based payment;
- other adjusting items;
- tax effect on the above items; and
- prior year tax (adjustments made to provisions in respect of prior years).

A reconciliation is provided below:

		2022		2021
	$ million	**EPS cents**	$ million	EPS cents
Profit for the year attributable to owners of the parent Company	**99.9**	**16.46**	89.2	14.67
Acquired intangible asset amortisation	**4.7**		4.2	
Share-based payment	**8.5**		5.6	
Other adjusting items costs *note 4*	**3.6**		4.5	
Tax effect on the above items	**(3.9)**		(3.3)	
Prior year tax charge	**1.7**		0.7	
Adjusted basic	**114.5**	**18.86**	100.9	16.59
Adjusted diluted		**18.75**		16.45

There were no Ordinary Share transactions that occurred after 31 December that would have significantly changed the number of Ordinary Shares or potential Ordinary Shares outstanding at the period end if those transactions had occurred before the end of the reporting period in either year.

7 Dividends paid and proposed

$ million	2022	2021
Declared and paid in the year		
Equity dividend on Ordinary Shares		
Final dividend 2021 of 4.37 cents (3.34 pence) per Ordinary Share (2020: 3.87 cents (2.78 pence))	**25.0**	23.7
Special dividend 2020 of 7.50 cents (5.40 pence) per Ordinary Share	**-**	45.9
Interim dividend 2022 of 2.63 cents (2.16 pence) per Ordinary Share (2021: 2.39 cents (1.72 pence))	**14.9**	14.5
	39.9	84.1
Proposed for approval at AGM (not recognised as a liability at 31 December)		
Equity dividend on Ordinary Shares		
Final dividend 2022 of 4.94 cents (4.12 pence) per Ordinary Share (2021: 4.37 cents (3.34 pence))	**29.8**	25.0

The Directors are proposing a final dividend in respect of the financial year ended 31 December 2022 of 4.94 cents per Ordinary Share (4.12 pence) (2021: 4.37 cents (3.34 pence)), which will absorb an estimated $29.8 million of shareholders' funds (2021: $25.0 million). The final dividend will be paid on 10 May 2023 to Ordinary shareholders who are on the Register of Members at close of business on 17 March 2023. Payment will be made to ADR holders on 17 May 2023. No liability is recorded in the financial statements in respect of these dividends.

Dividends are determined in US Dollars and paid in Pound Sterling. The exchange rate for determining the amount of the final dividend to be paid for 2022 was $1.20: £1 (2021: $1.31: £1).

Reconciliation of dividends charged to equity to cash flow statement:

$ million	2022	2021
Dividends charged to equity	**39.9**	84.1
Hedge contracts relating to payment of dividends (cash flow statement)	**-**	(0.5)
Dividends paid (cash flow statement)	**39.9**	83.6

8 Defined benefit pension plans

The Group has ongoing obligations in relation to two funded defined benefit pension plans in the United Kingdom. In addition, there is a United Kingdom unfunded plan and a deferred compensation plan in the United States.

In October 2022, the Trustees with the Company's support, purchased a bulk annuity insurance policy from specialist UK insurer Pension Insurance Corporation (PIC), in respect of the largest plan, the Staff Plan. The premium was met from the plan's assets and sufficient assets remain to meet the plan's ongoing costs. This pension buy-in secures an insurance asset from PIC that matches the remaining pension liabilities of the Staff Plan, such that the Company no longer bears any investment, inflation, longevity or other demographic risks. An asset remeasurement loss of $7.4 million has been recorded in other comprehensive income as the premium paid was greater than the IAS 19 accounting value of the corresponding liabilities. Following the purchase of the bulk annuity insurance policy, the Group does not expect to make any further cash contributions to this plan. Cash contributions to the plan in 2022 amounted to $1.1 million (£0.9 million) (2021: $7.3 million (£5.4 million)).

8 Defined benefit pension plans *continued*

The most recent actuarial valuations, at 31 March 2021, of the funded defined benefit pension plans' assets and the present value of the plans' obligations, using the projected unit credit method, have been used and updated at 31 December 2022 as the basis for the accounting valuation.

The assets and liabilities on the balance sheet are as follows:

$ million	**2022**	2021
Schemes in net asset position		
UK defined benefit pension plan – Staff Plan	**14.9**	35.8
UK defined benefit pension plan – Cash Plan	**-**	2.0
	14.9	37.8
Withholding tax payable	**(5.2)**	-
	9.7	37.8
Schemes in net liability position		
UK defined benefit pension plan – Cash Plan	**(1.7)**	-
UK unfunded plan	**(0.5)**	(0.7)
US deferred compensation plan	**(6.9)**	(6.6)
	(9.1)	(7.3)
Net pension plan surplus on the balance sheet	**0.6**	30.5

The assets and liabilities in the funded defined benefit pension plans were as follows:

$ million	**2022**	2021
Fair value of defined benefit pension plans' assets	**190.0**	330.3
Present value of defined benefit pension plans' obligations	**(176.8)**	(292.5)
Surplus in the plans	**13.2**	37.8
Withholding tax payable	**(5.2)**	-
Net UK funded defined benefit pension plan surplus on the balance sheet	**8.0**	37.8

The key financial assumptions in respect of the funded plans are as follows:

%	**2022**	2021
Inflation – RPI	**3.3**	3.5
Inflation – CPI (pre-2030)	**RPI less 1.0% pa**	RPI less 1.0% pa
Inflation – CPI (post-2030)	**RPI less 0.1% pa**	RPI less 0.1% pa
Rate of increase in pensionable salaries	**CPI**	CPI
Rate of increase for pensions in payment:		
– Pre-2001 service	**3.7**	3.8
– 2001 to 5 April 2005 service	**3.1**	3.3
– Post-5 April 2005 service	**2.1**	2.2
Rate of increase in deferred pensions	**CPI**	CPI
Rate used to discount plan liabilities	**4.8**	1.8

An operating charge of $0.1 million (2021: $0.1 million) and finance income of $0.8 million (2021: $0.3 million) have been recognised in the income statement.

8 Defined benefit pension plans *continued*

The Group also operates a deferred compensation plan for employees in the United States. The plan has elements of a defined benefit pension retirement obligation and therefore is required to be valued in accordance with IAS 19 'Employee Benefits'. At 31 December 2022, the deferred compensation deficit amounted to $6.9 million (31 December 2021: $6.6 million). There was no remeasurement in 2022 (31 December 2021: $0.2 million recognised directly in the statement of comprehensive income).

9 Reconciliation of profit before tax to cash generated from operations

$ million	**2022**	2021
Profit before tax	**114.6**	103.6
Adjustments for:		
Finance income	**(2.9)**	(0.6)
Finance costs	**1.0**	1.2
Intangible asset amortisation	**5.3**	5.0
Depreciation of property, plant and equipment	**11.0**	12.4
Depreciation of right-of-use assets	**7.3**	7.9
Loss on the disposal of property, plant and equipment	**-**	0.2
Share-based payment	**8.9**	6.2
Changes in working capital:		
Increase in inventories	**(14.4)**	(2.2)
Decrease/(increase) in receivables	**3.2**	(31.7)
Increase in payables	**8.1**	9.7
Increase in contract liabilities	**0.2**	14.1
Increase/(decrease) in provisions	**0.7**	(1.9)
Defined benefit pension plan employer contributions net of plan administration expenses paid by the plan	**(2.0)**	(11.7)
Deferred compensation plan	**0.2**	0.7
Non-cash movements	**(0.6)**	-
Cash flow from operations	**140.6**	112.9

10 Business combinations

There were no business combinations in 2022.

On 4 March 2021, Spirent acquired 100 per cent of the issued share capital of octoScope, Inc (octoScope), a company based in the United States for an initial cash consideration of $57.9 million. Additionally, there are acquisition related performance payments of up to $17.8 million, payable based on revenue growth targets for 2021 and 2022 and/or retention of key staff. The transaction was funded by surplus cash in the Group.

octoScope provides market-leading accurate, repeatable and automated wireless test solutions and methodologies to the wireless industry. Its test solutions leverage patented technology to provide automated Wi-Fi and 5G testing in emulated real-world environments, including the Wi-Fi 6 and 6E technologies. The acquisition has enabled the Group to consolidate its leadership in Wi-Fi test. octoScope has been incorporated into our Lifecycle Service Assurance operating segment.

Of the acquisition related performance payments, amounts of up to $16.2 million are linked to post-acquisition service and therefore will be charged to the income statement in the relevant post-acquisition period, and amounts up to $1.6 million, which are not linked to post acquisition service and only to revenue growth targets, have been included as contingent consideration on acquisition and a liability recorded. The remaining acquisition related performance payments are retention bonuses.

10 Business combinations *continued*

In 2022, $0.1 million (2021: $0.6 million) of acquisition related performance payments have been credited (2021: charged) to other adjusting items in the income statement (note 4). On acquisition date, the fair value of the contingent consideration was estimated at $0.7 million and a liability recorded for this amount. During the year, the liability was remeasured down by $0.5 million (2021: $0.3 million), through other adjusting items in the income statement (note 4). During 2021, there was also $0.1 million incurred in relation to the unwind of discounting. At 31 December 2022, the liability had a fair value of nil (31 December 2021: $0.5 million).

The fair values of the identifiable net assets acquired are set out below:

$ million	**Book value**	**Fair value adjustment**	**Fair value**
Intangible assets	**-**	**26.8**	**26.8**
Property, plant and equipment	**0.8**	**-**	**0.8**
Right-of-use assets	**1.2**	**-**	**1.2**
Inventories	**1.7**	**-**	**1.7**
Trade and other receivables	**3.1**	**0.9**	**4.0**
Current tax asset	**0.4**	**-**	**0.4**
Cash and cash equivalents	**6.6**	**-**	**6.6**
Trade and other payables	**(3.7)**	**-**	**(3.7)**
Contract liabilities	**(2.2)**	**-**	**(2.2)**
Lease liabilities	**(1.2)**	**-**	**(1.2)**
Deferred tax asset/(liability)	**3.0**	**(5.4)**	**(2.4)**
Total identifiable net assets	**9.7**	**22.3**	**32.0**
Goodwill on acquisition			**26.6**
Total consideration			**58.6**
Satisfied by			
Initial cash consideration			**57.9**
Contingent consideration accrued			**0.7**
			58.6
Cash flows:			
Initial cash consideration			**57.9**
Cash acquired			**(6.6)**

The fair value adjustments arose in relation to the recognition of acquired intangible assets net of the associated deferred tax liability, and on the recognition of a receivable in relation to an indemnification asset in respect of a loan that existed on acquisition date. The trade and other receivables acquired were mainly trade receivables due from customers and the book value on acquisition date approximated the fair value. All of the receivables acquired were expected to be collected.

The intangible assets acquired represented current technology, customer relationships and brand. These intangible assets have been assigned a useful life of between three and six years.

The goodwill arising of $26.6 million consists largely of the synergies and economies of scale expected from the combination together with intangible assets not qualifying for separate recognition, such as workforce in place. The goodwill recognised is not expected to be deductible for income tax purposes.

10 Business combinations *continued*

Direct acquisition related costs of $0.6 million (2021: $1.9 million) have been expensed to other adjusting items within the income statement in 2022 (note 4).

From the date of acquisition to 31 December 2021, octoScope contributed $18.2 million of revenue and $5.2 million of profit before tax to the results of the Group before charging $1.9 million of direct acquisition related costs and $3.8 million of acquired intangible asset amortisation. If the combination had occurred at the beginning of the financial year, revenue of $20.2 million and a profit before tax of $3.9 million would have been included in the Group result before charging $1.9 million of direct acquisition related costs and $4.6 million of acquired intangible asset amortisation.

11 Fair value

The Directors consider that the carrying amounts of the financial instruments included within trade and other receivables, trade and other payables and contractual provisions approximates their fair value.

Corporate owned life insurance, included within trade and other receivables, is designated as financial assets at fair value through profit or loss, and is at Level 1 in the fair value hierarchy as the valuation of the linked investments is based on quoted prices in active markets, amounted to $3.4 million at 31 December 2022 (31 December 2021: $4.0 million).

12 Employee Share Ownership Trust

During the year, 7.1 million shares were purchased and placed into the Employee Share Ownership Trust at a cost of $22.9 million, and 2.7 million shares were transferred from the Employee Share Ownership Trust to satisfy options exercised under the Spirent employee share plans (2021: 3.9 million shares purchased and placed at a cost of $15.1 million, and 2.3 million shares transferred).

Appendix

Alternative Performance Measures

The performance of the Group is assessed using a variety of alternative performance measures (APMs) which are presented to provide users with additional financial information that is regularly reviewed by management. The APMs presented are not defined under IFRS and therefore may not be directly comparable with similarly identified measures used by other companies.

In management's view, the APMs reflect the underlying performance of the Group and provide an alternative basis for evaluating how the Group is managed and measured on a day-to-day basis. Such APMs are non-GAAP measures and should not be viewed in isolation or as an alternative to the equivalent GAAP measure.

The APMs and key performance indicators are aligned to the Group's strategy and collectively are used to measure the performance of the Group and form the basis of the metrics for Director and management remuneration. The Group's key performance indicators are presented within the Strategic Report of its 2022 Annual Report.

Order intake

Order intake represents commitments from customers to purchase goods and/or services from Spirent that will ultimately result in recognised revenue. Where there can reasonably be changes to the scope or duration of an order, the Group exercises judgement on the amount of the order that is booked.

Order intake is a measure of operating performance used by management to assess whether future activity levels are increasing or slowing and therefore how effective we have been in the execution of our strategy. Order intake is a key performance indicator used to measure Group, operating segment and regional performance for internal reporting purposes.

Orderbook

Orderbook comprises the value of all unsatisfied orders from customers and provides an indication of the amount of revenue that has been secured and will be recognised in future periods. Orderbook represents the transaction price allocated to wholly and partially unsatisfied performance obligations, including amounts held in contract liabilities at the period end. There is no comparable IFRS measure.

Book to bill

Book to bill is the ratio of orders booked to revenue recognised in the year and is a measure of the visibility of future revenues at current levels of activity. Book to bill is a key performance indicator used to measure Group and operating segment performance for internal reporting purposes.

Adjusted operating profit

Adjusted operating profit is reported operating profit excluding amortisation of acquired intangible assets, share-based payment and other adjusting items. Management uses adjusted operating profit, in conjunction with other GAAP and non-GAAP financial measures, to evaluate the overall operating performance of the Group as well as each of the operating segments and believes that this measure is relevant to understanding the Group's financial performance, as specific items (adjusting items) are identified and excluded by virtue of their size, nature or incidence, as they are not considered part of the Group's normal ongoing operations and therefore can lead to period-on-period fluctuations that can make it difficult to assess financial performance.

Specifically, items are excluded from adjusted operating profit if they are acquisition related in nature, including acquired intangible asset amortisation which is dependent on being able to identify intangible assets and assessing their useful economic lives, or if their exclusion allows for more meaningful comparisons with peer companies such as share-based payment which can fluctuate from period to period. The exclusion of adjusting items from adjusted operating profit is consistent from period to period.

Adjusted operating profit is also used in setting Director and management remuneration targets and in discussions with the investment analyst community.

Adjusted operating margin

Adjusted operating margin is adjusted operating profit as a percentage of revenue. It is a measure of the Group's overall profitability and how successful we are in executing on our overall strategy, and demonstrates our ability to improve margin through efficient operations and cost management, whilst being mindful of the need to invest for the future.

Effective tax rate

Effective tax rate is the adjusted tax charge, before tax on adjusting items, expressed as a percentage of adjusted profit before tax. The adjusted tax charge is the reported tax charge excluding the tax effect on adjusting items and adjustments made to provisions in respect of prior year tax.

Adjusted basic earnings per share

Adjusted basic earnings per share (EPS) is adjusted earnings attributable to owners of the parent Company divided by the weighted average number of Ordinary Shares outstanding during the year. Adjusted earnings is reported profit before tax excluding amortisation of acquired intangible assets, share-based payment, other adjusting items, tax on adjusting items and over/under provisions in respect of prior year tax.

Adjusted basic EPS is a measure of how successful we are in executing on our strategy and ultimately delivering increased value for shareholders. Adjusted basic EPS is also used in setting Director and management remuneration targets and in discussions with the investment analyst community. The Group sets out the calculation of adjusted basic EPS in note 6 of Notes to the consolidated financial statements.

Product development spend as a percentage of revenue

Product development as a percentage of revenue in the year. It is a measure of how much the Group is investing to support further organic growth initiatives in line with the strategic objectives, whilst driving improved productivity and effectiveness.

Free cash flow

Free cash flow is cash flow generated from operations, less tax and net capital expenditure, lease liability principal repayments and lease liability interest paid, add interest received and lease payments received from finance leases, excluding acquisition related other adjusting items and one-off employer contributions to the UK pension scheme.

Free cash flow is a measure of the quality of the Group's earnings and reflects the ability to convert profits into cash and ultimately to generate funds for future investment. It gives us financial strength and flexibility and the ability to pay sustainable dividends to our shareholders. Free cash flow is an important indicator of overall operating performance as it reflects the cash generated from operations after capital expenditure, financing and tax which are significant ongoing cash flows associated with investing in the business and financing operations.

Free cash flow excludes corporate level cash flows that are independent of ongoing trading operations such as dividends, acquisitions and disposals and share repurchases and therefore is not a measure of the funds that are available for distribution to shareholders.

A reconciliation of cash generated from operations, the closest equivalent GAAP measure, to free cash flow is provided within the Financial review on page 17.

Free cash flow conversion

Free cash flow conversion is the ratio of free cash flow to adjusted earnings, presented as a percentage.

Free cash flow conversion is a measure used in conjunction with free cash flow to assess the Group's ability to convert profit into cash and ultimately to generate funds for future investment.