SPIRENT COMMUNICATIONS PLC
Results for the six months ended 30 June 2020

$ million	**First half 2020**	First half 2019	Change (%)
Order intake[1]	**232.1**	219.5	+6
Revenue	**233.7**	217.4	+7
Gross margin (%)	**73.4**	72.0	+1.4
Adjusted operating profit[2]	**39.5**	20.7	+91
Adjusted operating margin[3] (%)	**16.9**	9.5	+7.4
Reported operating profit	**35.6**	18.1	+97
Reported profit before tax	**36.0**	18.7	+93
Adjusted basic earnings per share[4] (cents)	**5.70**	3.03	+88
Basic earnings per share (cents)	**5.28**	2.72	+94
Closing cash	**221.4**	141.8	+$79.6m
Interim dividend per share[5] (cents)	**2.17**	1.94	+12

Strong H1 performance

- Good result despite challenging Q2 environment, order intake growth of 6 per cent.
- Revenue up 7 per cent driven by strong uptick in 400G Ethernet test solutions and continued 5G acceleration, particularly in APAC.
- Strong orders and revenue growth from our Lifecycle Service Assurance business.
- Gross margin improvement as software content grew.
- Cost benefit from some deferred discretionary investment into H2.
- Material increase in adjusted operating profit to $39.5 million (H1 2019: $20.7 million).
- Interim dividend up 12 per cent to 2.17 cents.
- Continued strong cash conversion, cash closed at $221.4 million.

Operational highlights

- Resilient supply chain and agile assembly planning with no disruption to customer shipments.
- Business operations carefully managed during challenging environment with no staff reduction or furlough.
- Secured more than 250 5G-related wins from across the portfolio to support the market's acceleration.
- Released a number of new products and solutions, increasing our R&D investment and its effectiveness.
- Our strategic initiatives are gaining traction:
    - Further strengthened senior leadership team.
    - Expanded the customer Key Account programme and sales leadership skillset.
    - Reorganised our Global marketing function to develop stronger go to market channels.

Spirent Communications plc
Origin One, 108 High Street, Crawley, West Sussex RH10 1BD, United Kingdom
Tel +44 (0)1293 767676 | Fax +44 (0)1293 767677 | www.spirent.com
Registered in England Number 470893 | Registered at the above office

Networks & Security

- Strong uptick in 400G Ethernet test performance, driven by 5G, Cloud, IoT and internet traffic growth.
- Significant wins at service providers and leading network equipment manufacturers (NEMs) in North America, China and India.
- We benefited from the expansion of SD-WAN as the exclusive partner of the industry consortium for certification testing to its new global SD-WAN standard.
- Our Security Solutions business focused on important areas of threat growth, including 5G, critical infrastructure and emergency services.
- Whilst we benefited from continued revenue growth in our Positioning business in the second quarter, we also started to experience some slowing of order placement from US government related customers.

Lifecycle Service Assurance

- Landslide (lab-based 5G network testing) continued its industry leadership, growing strongly as service providers in multiple regions and the world's leading NEMs invested to validate 5G core networks in the lab.
- Landslide was chosen by Japan's Rakuten Mobile for core testing of the world's first fully-virtualised, cloud-native mobile network.
- Our VisionWorks (live network testing) operational network assurance solutions saw good growth in the period, including a large probe order from a tier-1 US service provider.
- We continued our transition to an outcome-driven service delivery model, delivering on existing commitments and developing multiple new opportunities.

Connected Devices

- Demand for our device test services on live networks in North America remained robust.
- 5G device launch delays by our customers impacted our test growth plans.
- We were selected by Amazon as one of only two Authorised Test Labs in the US for Alexa Built-in devices, leveraging our deep audio and acoustic test expertise.

Outlook

We had a strong start to the year in Q1, while in early Q2 we did experience some softness in order intake which rebounded in June. Overall, the first six month's trading resulted in continued top line growth and significantly increased profitability, driven by prudent discretionary cost management. As we look forward, we remain vigilant about the impact COVID-19 may have on customer spending.

Our performance is expected to be weighted to the second half of the year. The Board remains confident of continued progress and the outlook for the year remains unchanged. As an evolving organisation, Spirent maintains a relentless focus on its customers. We continue to innovate for growth by investing across our portfolio and maintain an acute focus on driving operational excellence.

Eric Updyke, Chief Executive Officer, commented:

"Spirent has demonstrated a resilient business model at a time when remote connectivity is critical. We delivered progress across the portfolio and materially improved our profitability.

"Since the crisis began, our talented, agile staff have seamlessly fulfilled customer demand with no disruption or supply chain issues. I would like to recognise their excellent service to our customers.

"While there is much to deliver in the second half, our fundamentals, operational platform and balance sheet remain strong. Spirent will continue to manage through the crisis, executing on our strategy, with a relentless focus on customer centricity, innovation for growth and operational excellence."

Notes

1. Order intake represents commitments from customers to purchase goods and/or services that will ultimately result in recognised revenue.
2. Adjusted operating profit is before charging exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment amounting to $3.9 million in total (first half 2019: $2.6 million).
3. Adjusted operating profit as a percentage of revenue in the period.
4. Adjusted basic earnings per share is based on adjusted earnings as set out in note 6 of Notes to the half year condensed consolidated financial statements.
5. Dividends are determined in US dollars and paid in sterling at the exchange rate prevailing when the dividend is proposed. The interim dividend proposed for 2020 of 2.17 cents per Ordinary Share is equivalent to 1.67 pence per Ordinary Share (first half 2019: 1.59 pence).

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Enquiries

Eric Updyke, Chief Executive Officer Paula Bell, Chief Financial & Operations Officer	Spirent Communications plc	+44 (0)1293 767676
James Melville-Ross/Dwight Burden/Emma Hall	FTI Consulting Limited	+44 (0)20 3727 1000

The Company will publish a recorded presentation today at 7.00am UK time on its website. The Company will also host a live, virtual results Q&A session for the analyst community today at 12.30pm UK time. A recording of the presentation will be available in the Investors section of the Spirent Communications plc website https://corporate.spirent.com/.

About Spirent Communications plc

Spirent Communications plc (LSE: SPT) offers test, measurement, analytics and assurance solutions for next-generation devices and networks. Spirent provides products, services and information solutions for high-speed Ethernet, positioning, and network infrastructure markets, with expanding focus on service assurance, cybersecurity and 5G. Spirent is accelerating the transition of connected devices, network equipment and applications from development labs to the operational network, as it continues to innovate toward fully-automated testing and autonomous service assurance solutions. 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 http://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 review

Spirent has a resilient business that supports critical infrastructure. Our fundamental drivers remain the same despite the global disruption due to COVID-19. In fact, the reliance on technology to stay connected has only increased and our testing solutions remain mission critical, enabling businesses to connect remotely and seamlessly. I'm proud of the job that we have done in the face of such turmoil.

COVID-19 Update
During the period we have taken a number of actions in light of COVID-19. Employee safety remains our number one priority and at the beginning of March we took swift action to move over 95 per cent of our employees to full-time remote work. At Spirent, we benefited from our strong, agile supply chain management and financial discipline and have been fortunate to avoid furloughs or lay-offs due to COVID-19. Our talented team quickly innovated the way we work, sell and collaborate remotely. Strategic initiatives underway to evolve our sales team to a more solutions-based mindset have enabled us to engage in deeper conversations and strengthen relationships with our customers. We continue to monitor the situation closely and have a phased plan for our return to onsite work.

Market Overview
The COVID-19 crisis has created uncertainty and unforeseen challenges for all industries, including for our customers. Customer spending patterns remain uncertain, particularly for our lab and government markets. The unprecedented impact on society has forced many people to stay at home, to virtually work, learn and connect with friends and family. The need for connectivity has highlighted the essential services and infrastructure that we support.

Despite this disruption, our major drivers for growth remain unchanged, including 5G Momentum, High-Speed Ethernet, Cloud and Network Virtualization, Cybersecurity Threats and Connected Devices Proliferation.

Although we have seen some customer 5G device launch delays, the 5G market remains robust, with China and the US accelerating their 5G plans. We are seeing new opportunities for government and private network applications, with organisations increasingly adopting SD-WAN to support their work-from-home workforce. Spirent has again been nominated as a finalist for the Leading Lights Awards 2020 in the "Outstanding Test & Measurement Vendor" category due to our 5G business. We have won the award the last two years in a row.

To seize these market opportunities, our strategy is focused around three pillars: Customer Centricity, Innovation for Growth and Operational Excellence.

Customer Centricity
We strive to create a more agile collaborative organisation, capable of solving bigger business problems for our customers.

Deepening and expanding our customer reach is a key focus. Due to our understanding and connection to our customers, we are expanding Spirent's footprint by diversifying our customers as well as increasing our share with existing customers. Our end-to-end solutions supporting the entire customer lifecycle continue to deliver competitive wins across regions.

To strengthen customer relationships, the team has worked hard to refresh and instil a solutions-based selling mindset. Within the North American market, we have seen progress across the Canadian service providers, and in the US, we are making important inroads with the large cable and multiple-system operators (MSOs). We performed well and drove solid growth in the Asia-Pacific region, despite the global pandemic and turmoil in international trade. As Asian countries, especially China, begin to rebound from COVID-19, we are seeing heavy investment in 5G by our customers. Going forward, we will continue to manage a dynamic, challenging geopolitical landscape. In the European market, we continued to win in 5G wireless and SD-WAN at service providers and network equipment manufacturers (NEMs). We enhanced our digital outreach across all regions, as we continue to broaden and deepen our customer engagements.

To increase our customer reach, targeting new geographies and market segments, we are expanding into more enterprise customers while increasing share of wallet with our key service provider and NEM accounts. To ensure Spirent makes a broader impact, our Key Account Management Programme continues to deliver excellent results as we strengthen our relationships with key accounts and strategically partner with them.

By focusing on solutions and services, we are delivering value across the customer lifecycle. We established a cross-company services approach to formalise and govern our strategic services offerings.

Innovation for Growth
We continue to invest in product innovation, making our products even easier for customers to use and our leading 5G portfolio continues to be a winning advantage across our business. The market for 5G continues to be robust, with China and the US accelerating deployments. Our investment in 5G is reaping rewards as we continue to win new business, with strong growth in 5G orders over last year. From 5G device testing and accelerating time-to-market, to assuring and securing live networks, our portfolio offers award-winning solutions to customer challenges.

Through our leading Position, Navigation and Timing (PNT) solutions, Spirent enables innovation and development in global navigation satellite system (GNSS) technologies that are influencing more and more areas of our lives. From the development of new satellites to positioning and navigation systems for miniature drones, Spirent solutions are working behind the scenes to improve accuracy, reliability, and robustness. Our PNT business maintained growth and in the first half of 2020, released the innovative SimHIL, an integrated software for realistic testing of the scenarios that power advanced automotive systems. We are growing from our leadership to expand into new markets, focused on the next evolution of PNT simulation and assurance.

Our service assurance solutions are making good progress in the transition to an outcome-driven service delivery model. Our innovative collaboration with Rakuten Mobile in Japan will support the rollout of 5G non-standalone and standalone, for Rakuten’s world-first fully virtualized, cloud-native mobile network. In addition to an ongoing, large Testing-as-a-Service (TaaS) project at a tier-1 provider, we are managing several additional service delivery opportunities.

Our innovation in cloud and our CloudSure solution is driving opportunities across a spectrum of customers. Continued investments into the CloudSure platform will enable us to grow into new customer segments including enterprise private and hybrid clouds and the emerging edge cloud market.

Spirent was the first to launch a WiFi6 test solution, which enables us to tap into the planned mass-deployments of WiFi6 networks for traditional network access as well as 5G hand-off.

In addition to technology innovation, we are establishing new business models to grow recurring revenues, including services and software, providing the Group with enhanced visibility.

Operational Excellence
Operational excellence is vital to support Spirent's growth. We maintained our operational and financial strength during the global pandemic due to our operational discipline, supply chain management and strong balance sheet. We closed out the first half of 2020 with a cash balance of $221.4 million.

Throughout the pandemic, the resilience of our supply chain operations underpinned our success and helped ensure all customer shipments were made during a very challenging environment. The agility and proactiveness of the team was exemplary.

Our leadership team has stayed connected with our employees. Communicating through email updates, video messages and townhalls, we strive to keep our staff constantly up to date on the latest safety guidelines and state of the business. In May, we completed an employee engagement survey and, with over 92 per cent of employees responding, we received an improved score of highly engaged.

We continue to invest in talent and to develop our processes and business systems to support our continued growth.

In the period, as part of evolving our sales and marketing structure to pivot to a more customer-centric organisation, we benchmarked our global marketing function and established a new operating model to increase the effectiveness of our routes to market and to improve focus on our strategic growth priorities.

We are working hard to improve the overall efficiency and effectiveness of our global teams. We have further strengthened our sales team during the period and continue to evolve our salesforce, expanding our key account programme where we are engaging on bigger business problems with our customers.

We have built a new central services team which will enable us to drive more cross-company service offerings. As we look to enhance security across our portfolio, we have appointed a new leader for our Security Solutions business. In addition, we continue to drive our corporate development activities as we continue to explore opportunities to grow our portfolio both organically and inorganically to seize market opportunities and have appointed a new leader for this vital area.

Sustainability and corporate responsibility are fundamental to our operational excellence and the overall success of our business. As we continue to innovate and grow, our ESG programme, FuturePositive, focuses on embedding sustainability across our products, procurement, people and property. We continue to look for new ways to embed sustainable thinking across Spirent and have reduced our total energy usage by 19 per cent over the last five years, sourcing 90 per cent of our electricity from renewable sources. In addition, our Global STEM Ambassador Programme is focused on bridging the skills gaps in the STEM world and aims to inspire, support and encourage students of all ages in their learning and development of STEM subjects.

Business review

Spirent focuses on three strategic business segments: **Networks & Security**, **Lifecycle Service Assurance** and **Connected Devices**. This structure positions the Group to meet the needs and expectations of our customers and to capitalise on the business opportunities created as they:

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

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

Networks & Security – 61% of Group revenue

Networks & Security is a world leader in high-speed Ethernet/IP performance testing, in Wi-Fi and automotive Ethernet, and develops test methodologies, tools and services for virtualised networks and cloud. We provide consulting services, test tools, methodologies and proactive security validation solutions. We continue to be the world leader for global navigation satellite system (GNSS) simulation products and tailored solutions as we expand into the Position, Navigation and Timing (PNT) market.

$ million	**First half 2020**	First half 2019
Revenue	**142.0**	131.0
Adjusted operating profit[1]	**25.5**	16.0
Adjusted operating margin[1] (%)	**18.0**	12.2

Note
1. Before exceptional items of $0.7 million charged in the first half of 2020.

Networks & Security delivered revenue growth of $11.0 million or 8.4 per cent over the first half of 2019, primarily driven by 400G Ethernet test and Positioning business. Adjusted operating profit increased by $9.5 million, benefiting from both the higher revenue and improved gross margin, with adjusted operating margin up 5.8 percentage points to 18.0 per cent.

Performance highlights

- Against a background of strong half-on-half growth in our 400G Ethernet test business, Spirent partnered with H3C to assure that large-scale data centres can confidently transition to 400G Ethernet connections triggered by 5G, cloud computing, IoT and the explosive growth in internet traffic. With 72 ports of 400GE, this collaboration became the industry's largest-scale 400G test with SRv6 (segment routing over IPv6 data plane) capabilities;
- Spirent has certified multiple vendors and service providers for MEF 3.0 SD-WAN services since the introduction of the MEF 3.0 SD-WAN Certification Program in November 2019. As MEF's SD-WAN Authorised Certified Test Partner, Spirent certified the SD-WAN products and managed services to validate their conformance to the industry-leading SD-WAN Service Attributes and Services (MEF 70) global standard;
- Our Security Solutions business focused on supporting proactive security concerns with critical infrastructure and emergency services. We spoke at RSA 2020 on "SCADA/ICS Inherited Insecurity: From Nuclear Power Plants to Oil Rigs". We also tested the security of more than two dozen devices for critical infrastructure and emergency service systems;
- We applied our 5G security expertise to engagements with the UK and US governments in an advisory capacity on key 5G security issues such as secure supply chains, and we opened several new 5G security consulting services engagements with leading service providers;

- The Positioning business continued to show good progress despite orders from US government contractors softening in the second quarter; and
- In the Positioning businesses commercial segments, its mid-range simulation platform (GSS7000) and record playback solution (GSS6450) all saw half-on-half sales growth. The latter was the result of a successful transfer of technology acquired in late 2019. The business also continued to operate a full manufacturing capability throughout the COVID-19 pandemic to ensure all customers were engaged and served.

Lifecycle Service Assurance – 25% of Group revenue

Our Lifecycle Service Assurance solutions radically reduce the time and cost to turn-up new services and to rapidly diagnose, troubleshoot and resolve issues with production networks and services. We lead the market in pre-deployment testing of mobile core networks, and our cloud-native active test and assurance solutions automate service turn-up, monitoring and troubleshooting of 5G, LTE, Ethernet, SD-WAN and cloud networks in NetDevOps environments.

$ million	**First half 2020**	First half 2019
Revenue	**58.5**	51.0
Adjusted operating profit[1]	**12.8**	4.0
Adjusted operating margin[1] (%)	**21.9**	7.8

Note
1. Before exceptional items of $0.7 million charged in the first half of 2020.

Lifecycle Service Assurance grew revenue by $7.5 million or 14.7 per cent over the first half of 2019, with strong demand for our mobility, automation and service assurance test solutions. Adjusted operating profit benefited from the higher revenue, improved gross margin and lower operating costs, coming in $8.8 million higher than over the same period last year. The increased sales volume drove an adjusted operating margin increase to 21.9 per cent.

Performance highlights

- We continue to set the pace for 5G verification and assurance in the lab. Customer demand for our Landslide lab solution remained strong in the Americas, with an increasing opportunity landscape in the APAC region;
- We saw good half-on-half orders growth for our VisionWorks live network solution in the first half, especially in top-tier accounts in the Americas;
- We made good progress in our transition from a vendor of traditional test tools to an outcome-driven service delivery model. In addition to an ongoing large Testing-as-a-Service (TaaS) project at a tier-1 provider in the Americas, Lifecycle Service Assurance is currently managing several additional service delivery opportunities;
- We revealed our extensive collaboration with Japan's Rakuten Mobile in support of current LTE services, as well as planned 5G non-standalone and standalone rollouts, for the world's first fully virtualized cloud native mobile network. Rakuten selected Spirent Landslide for its demanding core network test needs; and
- We announced our work with China Telecom on system-wide performance verification and assessment efforts for 5G standalone network equipment. China Telecom used Spirent Landslide to rapidly test 5G core network commercial equipment from four vendors, conducting end-to-end system function verification and interoperability.

Connected Devices – 14% of Group revenue

Connected Devices helps those who build wireless devices and networks to meet their promise of delivering the very best end-user experience. Our automated test systems and services offerings test mobile devices and supported voice, video and location services in the lab or on operational networks. Our solutions for 5G air interface technology testing and digital twins for network and radio systems let manufacturers and service providers get to market faster with peak performance.

$ million	**First half 2020**	First half 2019
Revenue	**33.2**	35.4
Adjusted operating profit[1]	**4.5**	5.2
Adjusted operating margin[1] (%)	**13.6**	14.7

Note
1. Before exceptional items of $0.2 million charged in the first half of 2020.

Revenue at Connected Devices was down marginally half-on-half, however effective management of the cost base almost mitigated the impact on adjusted operating profit. Adjusted operating margin was broadly maintained, coming in at 13.6 per cent in the first half of 2020, compared to 14.7 per cent over the same period last year.

Performance highlights

- While demand for our device test capabilities on live networks remained robust in the first half, we saw softness in lab solutions at some key chipset and device customers as a result of program delays which we expect to return later this year;
- 5G device launch delays by our customers impacted our test growth plans;
- We won new 5G device testing business at tier-1 accounts, spanning chipset vendors, device manufacturers and test labs, and we saw continued expansion in demand for 5G device testing on live networks as 5G deployment ramps and 5G standalone networks go into service;
- We expanded into new addressable markets with wins into the automotive ecosystem for development of next-generation Cellular Vehicle-to-Everything communication technology; and
- Connected Devices was approved by Amazon as an Authorised Test Lab for Alexa Built-in devices, with our state-of-the-art lab providing a range of audio and acoustic test services for devices seeking Amazon certification.

Financial review

Group financial performance

Spirent delivered a strong financial performance in the first half of 2020, despite the global impact of COVID-19, with order intake growth of 6 per cent and revenue growth of 7 per cent. Adjusted operating profit almost doubled, from $20.7 million in the first half of 2019 to $39.5 million in first half 2020, an increase of $18.8 million. The strong operating profit performance was due to a number of factors; we not only benefited from good revenue growth but increased software content continued, driving our 1.4 percentage point increase in gross margin; and we carefully managed our cost base, deferring discretionary expenditure to later in the year, when we may have improved visibility. These benefits had the result of delivering a strong operating margin at the end of the first half, and as we make investment into our operational plans in the second half of the year, the full year operating margin outlook remains unchanged as 'high teens'.

The increment in adjusted operating profit was reflected in profit before tax, which increased by $17.3 million, to $36.0 million. With the effective tax rate unchanged at 13.0 per cent, adjusted basic earnings per share came in at 5.70 cents, up from 3.03 cents in first half 2019. Cash conversion continued to be robust, resulting in closing cash of $221.4 million.

As in previous years, our usual trading performance seasonality is expected to be weighted to the second half of the financial year but this year it is particularly difficult to predict the impact of COVID-19 on customer spending over the rest of the year.

The following table shows the summary financial performance for the Group:

$ million	**First half 2020**	First half 2019	Change (%)
Order intake[1]	**232.1**	219.5	+5.7
Revenue	**233.7**	217.4	+7.5
Gross profit	**171.5**	156.5	+9.6
Gross margin (%)	**73.4**	72.0	+1.4
Adjusted operating costs[2]	**132.0**	135.8	-2.8
Adjusted operating profit[2]	**39.5**	20.7	+90.8
Adjusted operating margin[3] (%)	**16.9**	9.5	+7.4
Reported operating profit	**35.6**	18.1	+96.7
Effective tax rate[4] (%)	**13.0**	13.1	-0.1
Reported profit before tax	**36.0**	18.7	+92.5
Adjusted basic earnings per share[5] (cents)	**5.70**	3.03	+88.1
Basic earnings per share (cents)	**5.28**	2.72	+94.1
Free cash flow[6]	**65.5**	44.6	+46.9
Closing cash	**221.4**	141.8	+79.6m
Interim dividend per share[7] (cents)	**2.17**	1.94	+12.0

Notes
1. Order intake represents commitments from customers to purchase goods and/or services that will ultimately result in recognised revenue.
2. Before charging exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment amounting to $3.9 million in total (first half 2019: $2.6 million).
3. Adjusted operating profit as a percentage of revenue in the period.
4. Effective tax rate is the adjusted tax charge, before tax on adjusting items, expressed as a percentage of adjusted profit before tax.
5. Adjusted basic earnings per share is based on adjusted earnings as set out in note 6 of Notes to the half year condensed consolidated financial statements.
6. Cash flow generated from operations, less tax and net capital expenditure, after interest paid and/or received, payment of lease liabilities and finance lease payments received.
7. Dividends are determined in US dollars and paid in sterling at the exchange rate prevailing when the dividend is proposed. The interim dividend proposed for 2020 of 2.17 cents per Ordinary Share is equivalent to 1.67 pence per Ordinary Share (first half 2019: 1.59 pence).

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 consolidated financial statements.

Revenue

$ million	**First half 2020**	**%**	First half 2019	%
Revenue by segment				
Networks & Security	**142.0**	**60.8**	131.0	60.2
Lifecycle Service Assurance	**58.5**	**25.0**	51.0	23.5
Connected Devices	**33.2**	**14.2**	35.4	16.3
	233.7	**100.0**	217.4	100.0
Revenue by geography				
Americas	**119.9**	**51.3**	117.3	54.0
Asia Pacific	**90.3**	**38.6**	75.7	34.8
Europe, Middle East and Africa	**23.5**	**10.1**	24.4	11.2
	233.7	**100.0**	217.4	100.0

Overall Group revenue increased by 7.5 per cent, with Networks & Security and Lifecycle Service Assurance up 8.4 and 14.7 per cent, respectively, and Connected Devices 6.2 per cent lower, compared to the same period last year. The growth in Networks & Security primarily came from strong demand for 400G Ethernet test driven by 5G roll out, particularly in APAC, and continuing demand for satellite simulators provided by our Positioning business. Lifecycle Service Assurance revenue growth was driven by demand for both our Landslide lab solution and VisionWorks live network solution offerings, as customers invested to verify and assure 5G. Connected Devices experienced some softness as our customers delayed their launches of 5G devices.

Regionally we experienced strong growth in APAC, particularly China, driven by investment in 5G. Revenues generated in the Americas and EMEA remained essentially flat, despite the impact of COVID-19 in these regions

Gross margin

$ million	**First half 2020**	**%**	First half 2019	%
Networks & Security	**103.9**	**73.2**	93.8	71.6
Lifecycle Service Assurance	**45.5**	**77.8**	38.9	76.3
Connected Devices	**22.1**	**66.6**	23.8	67.2
	171.5	**73.4**	156.5	72.0

Gross margin for the total Group increased by 1.4 percentage points, compared to the same period last year, due to product mix and the continuing trend of growth in software content.

Adjusted operating costs

$ million	**First half 2020**	First half 2019
Product development	**50.7**	48.5
Selling and marketing	**56.7**	63.1
Administration[1]	**24.6**	24.2
Adjusted operating costs[1]	**132.0**	135.8
Networks & Security	**78.4**	77.8
Lifecycle Service Assurance	**32.7**	34.9
Connected Devices	**17.6**	18.6
Corporate	**3.3**	4.5
Adjusted operating costs[1]	**132.0**	135.8

Note
1. Before charging exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment amounting to $3.9 million in total (first half 2019: $2.6 million).

Adjusted operating costs in the first half of 2020 decreased by $3.8 million compared to the same period last year, benefiting in the main from timing of discretionary type expenditure which is deferred to the second half year. This benefit is primarily reflected in selling and marketing costs in the above table. Investment into product development has increased across all of our operating segments and overall by more than inflation, as we continue to invest in 5G. Administration costs reflect an inflationary increase. We expect a catch up in expenditure in the second half of the year as we continue to invest to underpin our growth agenda.

Operating profit and other items

$ million	**First half 2020**	**Adjusted operating margin[1] (%)**	First half 2019	Adjusted operating margin[1] (%)
Networks & Security	**25.5**	**18.0**	16.0	12.2
Lifecycle Service Assurance	**12.8**	**21.9**	4.0	7.8
Connected Devices	**4.5**	**13.6**	5.2	14.7
Corporate	**(3.3)**		(4.5)	
Adjusted operating profit[1]	**39.5**	**16.9**	20.7	9.5
Other items charged in arriving at operating profit:				
Exceptional items	**(2.0)**		-	
Acquisition related costs	**-**		(0.1)	
Acquired intangible asset amortisation	**(0.2)**		(0.8)	
Share-based payment	**(1.7)**		(1.7)	
Reported operating profit	**35.6**		18.1	

Note
1. Before charging exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment amounting to $3.9 million in total (first half 2019: $2.6 million).

Adjusted operating margin for first half 2020, based on adjusted operating profit, increased by 7.4 percentage points to 16.9 per cent, from 9.5 per cent over the same period last year.

Other items charged in arriving at operating profit, being exceptional items, acquired intangible asset amortisation and share-based payment, amounted to $3.9 million in total (first half 2019: $2.6 million, including acquisition related costs of $0.1 million).

Exceptional costs charged in the first half of 2020 of $2.0 million (first half 2019: nil) were associated with the continuation of the CEO strategic review initiated in the second half of 2019 (second half 2019: $1.8 million). This program involves a number of initiatives designed to evolve the strategic direction of Spirent to maximise market opportunities by creating a more agile, customer-focused organisation, including a strategic focus on recurring revenue streams over time; a strengthened leadership team and development of our sales and marketing structure to drive improved effectiveness to exploit our leading technologies. See note 4 to Notes to the half year condensed consolidated financial statements on page 29 for more information on exceptional items.

The acquired intangible asset amortisation charge continues to reduce because more of the assets have reached the end of their useful economic lives and are no longer being amortised.

Reported operating profit for the first half of 2020 increased by $17.5 million to $35.6 million, from $18.1 million in the first half of 2019.

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.

In the first half year, the Group's income statement included a foreign exchange loss of $0.1 million arising from transactional exposure, reflected in administration costs, compared to a $0.4 million loss over the same period in 2019.

Finance income and costs
Finance income in the first half of 2020 comprised bank interest received of $1.0 million (first half 2019: $1.4 million) and $0.1 million (first half 2019: $0.1 million) of interest income in relation to the UK defined benefit pension plans. The decrease in bank interest received half-on-half reflected the decrease in US dollar fixed term deposit rates.

Finance costs in the first half were $0.7 million (first half 2019: $0.9 million), being interest on lease liabilities.

Tax
The reported tax charge for the Group for the first half of 2020 was $3.8 million (first half 2019: $2.1 million). The normalised tax charge, excluding the tax credit on the adjusting items of $0.6 million and the credit in respect of adjustments to prior year tax of $0.8 million, was $5.2 million (first half 2019: $2.8 million), resulting in an effective tax rate of 13.0 per cent of adjusted pre-tax profit. This compared with an effective tax rate of 13.1 per cent for the first half of 2019. For the full year 2020 it is expected that the effective tax rate will be in the region of 13-14 per cent.

Earnings per share
Adjusted basic earnings per share was 5.70 cents, compared with 3.03 cents for the first half of 2019, reflecting the significant improvement in trading performance. There were 609.3 million weighted average shares in issue (first half 2019: 609.9 million). Basic earnings per share was 5.28 cents compared with 2.72 cents for the first half of 2019. See note 6 to Notes to the half year condensed consolidated financial statements on page 30 for the calculation of earnings per share.

Financing and cash flow
Cash generated from operations in the first half year of 2020 was $74.8 million, compared to $57.2 million in the first half of 2019. The increase was primarily due to the higher operating profit, as the net change in working capital in both half years was similar. We continue to benefit from a focus on debt collection and are pleased to report that we have seen no significant impact from COVID-19 on our ability to collect trade receivables on a timely basis. To a small extent we have built inventory to mitigate any potential supply chain risk as a result of COVID-19. Payables naturally unwind during the first half year, following the increase in activity levels at year end, and in the first half of 2020 we sought to ensure our suppliers continued to be paid on a timely basis to support them and lessen the impact of COVID-19 on their businesses.

Free cash flow is set out below:

$ million	**First half 2020**	First half 2019
Cash flow from operations	**74.8**	57.2
Tax paid	**(1.2)**	(2.7)
Cash inflow from operating activities	**73.6**	54.5
Interest received	**1.1**	1.2
Net capital expenditure	**(4.4)**	(6.2)
Payment of lease liabilities, principal and interest[1]	**(4.8)**	(4.9)
	65.5	44.6

Note
1. Net of lease payments received from finance leases of $0.2 million (first half 2019: nil).

Free cash flow includes a cash outflow in respect of exceptional items charged in the first half of 2020 and the second half of 2019 of $1.9 million in total (first half 2019: nil).

Net capital expenditure of $4.4 million was marginally lower than over the same period last year due to the timing of investment in 5G.

In the first half of 2020, the final dividend for 2019 of $20.5 million was paid (first half 2019: $16.7 million) and 2.0 million shares were purchased and placed into the Employee Share Ownership Trust (ESOT) at a cost of $4.7 million (first half 2019: 3.0 million shares at a cost of $6.1 million).

Following these payments, cash and cash equivalents closed at $221.4 million at 30 June 2020, compared with $183.2 million at 31 December 2019. There continues to be no bank debt.

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

The accounting valuation of the funded defined benefit pension plans at 30 June 2020 gave rise to a net surplus of $8.6 million, compared with a net surplus of $11.6 million at 31 December 2019. The 30 June 2020 position reflects the fact that positive investment returns have substantially offset an increase in liabilities due to a reduction in the rate used to discount those liabilities. See note 8 to Notes to the half year condensed consolidated financial statements on page 32 for more information on the defined benefit pension plans and key financial assumptions. In addition, contributions to the plans paid under the deficit reduction plan put in place following the latest triennial valuation at 31 March 2018, were $3.3 million during the first half of 2020 (first half 2019: $3.3 million).

There is also a liability for an unfunded plan in the UK of $0.6 million (31 December 2019: $0.7 million).

The Group operates a deferred compensation plan for employees in the United States. At 30 June 2020, the deficit on this deferred compensation plan amounted to $5.0 million (31 December 2019: $4.8 million).

Balance sheet and dividend

The Board currently intends 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. In addition, the Board wishes to maintain flexibility to invest in the business organically and inorganically. Where appropriate, the Company may take on modest gearing to fund inorganic investments.

The Board continues to regularly review the Company's balance sheet in light of current and expected trading performance and cash generation, working capital requirements and expected investments, and COVID-19 related risks. 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 declared an interim dividend of 2.17 cents per Ordinary Share, a 12 per cent increase over the dividend declared for the first half 2019 of 1.94 cents. This is equivalent to 1.67 pence per Ordinary Share at an exchange rate of $1.30:£1 (first half 2019: 1.59 pence). The payment will be approximately $13.3 million. The dividend will be paid to Ordinary shareholders on 11 September 2020 and to ADR holders on 18 September 2020. The dividend is payable to all shareholders on the Register of Members at the close of business on 14 August 2020.

The Board is continuing to pursue a progressive dividend policy targeting cover of 2 to 2.5 times adjusted earnings.

Risks and uncertainties

The principal risks and uncertainties affecting the Spirent Communications Group in respect of the remaining six months of the year to 31 December 2020 remain those as identified on pages 40 to 45 of the Annual Report 2019. A copy of the Annual Report 2019 is available on the Company's website at https://corporate.spirent.com/. In addition, the Group continues to monitor the impact of the COVID-19 virus outbreak and has conducted an assessment of the potential impacts of COVID-19 on the principal risks and uncertainties. In summary, the principal risks and uncertainties are as follows:

Risk	**Description**
Macro-economic change	Spirent is a global business exposed to current world economic conditions and political and trade embargo uncertainties over which it has no control. The business is also exposed to government spending priorities, principally in the United States. The COVID-19 crisis has created uncertainty to current world economic conditions and government spending priorities. The Group continues to monitor the impact to the global economy.
Technology change	Spirent sells complex solutions in industries that can be subject to rapid technological changes. Testing new technologies drives our business, but the opportunity also brings high risk since keeping at the forefront of these key future technologies is critical to our success and to ensuring that we remain competitive in our markets. It is critical that our product development investment is directed at the right areas in order to deliver the solutions that our customers need, when they need them. Spirent's success is dependent in part on proprietary technology which may be infringed by others. Open-source tools become more prevalent providing some of the functionality of our products. Due to COVID-19, there is an increased risk that technology changes may take longer to occur.

Risk	**Description**
Customer dependence / customer investment plans	The Group sells its products and services to a wide range of companies and continually seeks to expand its customer base. In 2019, no one customer accounted for more than 10 per cent of Group revenue, although the top ten customers represented 42 per cent of Group revenue (2018: 40 per cent). In some of our markets certain customers have a dominant market share, which makes doing business with these customers and their suppliers critical to the success of our business. In addition, many of the companies with which we do business are some of the largest global telecommunications corporations. Therefore meeting our development obligations, producing high quality products and being on time are vital to Spirent's reputation and success. Changes in our major customers' priorities in technology investments can also have a significant impact on their spending on Spirent products and on those in the customers' supply chain. The industry continues to experience consolidation which does disrupt the spending patterns of affected customers. As a result of COVID-19, customer spending patterns remain uncertain, particularly for lab and government markets. The Group has taken steps to evolve the sales team in order to strengthen relationships with customers.
Business continuity	Operational risks are present in the Group's businesses, including the risk of failed internal and external processes and systems, human error and external events, such as a natural disaster, a global pandemic or cybersecurity attacks. For example, a significant portion of our communications operations are located in California which has in the past experienced natural disasters, including earthquakes and wildfires. Contract manufacturers are used for the manufacture of a substantial amount of Spirent's products. Spirent's major contract manufacturer is located in Thailand. The incidence of cybercrime continues to rise. Spirent is dependent on its information technology systems for both internal and external communications as well as for its day-to-day operations. The Group has taken steps to manage the increase to business continuity risk as a result of the COVID-19 pandemic, including invoking business continuity plans in each location, closely monitoring the impact to the supply chain with additional inventory procured on key components and by adding secondary suppliers, and by boosting the global Spirent information technology systems to enable the workforce to work remotely.

Risk	Description
Competition	Spirent operates in a range of highly competitive niche markets which experience rapid technological change. In order to compete effectively, it is necessary to establish and maintain technological differentiation in our solutions. The Group faces competition from new market start-ups as well as more established and well-resourced companies. Industry consolidation amongst our direct competitors may bring about a shift in competitive advantage.
Acquisitions	A key emerging element of Spirent's strategy is to develop new capabilities and technologies, sometimes through acquisition. Integration of acquisitions can be a complex process and the results expected from acquisitions may not be achieved due to problems encountered in integration, changes in market conditions, the rate of adoption of new technologies, or sometimes deficiencies arising in the due diligence processes.
Employee skill base	Employees are crucial to the success of our business. Attracting and retaining highly qualified and skilled employees is essential to enable the Group to deliver on its strategy and to the success of the business.

Condensed consolidated income statement

		First half 2020			First half 2019		
$ million	Notes	**Adjusted**	**Adjusting items[1]**	**Reported**	Adjusted	Adjusting items[1]	Reported
Revenue	3	**233.7**	**-**	**233.7**	217.4	-	217.4
Cost of sales		**(62.2)**	**-**	**(62.2)**	(60.9)	-	(60.9)
Gross profit		**171.5**	**-**	**171.5**	156.5	-	156.5
Product development	3	**(50.7)**	**-**	**(50.7)**	(48.5)	-	(48.5)
Selling and marketing		**(56.7)**	**-**	**(56.7)**	(63.1)	-	(63.1)
Administration		**(24.6)**	**-**	**(24.6)**	(24.2)	-	(24.2)
Other items		**-**	**(3.9)**	**(3.9)**	-	(2.6)	(2.6)
Operating profit		**39.5**	**(3.9)**	**35.6**	20.7	(2.6)	18.1
Other items charged in arriving at operating profit:							
Exceptional items	4	**-**	**(2.0)**	**(2.0)**	-	-	-
Acquisition related costs	9	**-**	**-**	**-**	-	(0.1)	(0.1)
Acquired intangible asset amortisation		**-**	**(0.2)**	**(0.2)**	-	(0.8)	(0.8)
Share-based payment		**-**	**(1.7)**	**(1.7)**	-	(1.7)	(1.7)
Other items		**-**	**(3.9)**	**(3.9)**	-	(2.6)	(2.6)
Finance income		**1.1**	**-**	**1.1**	1.5	-	1.5
Finance costs		**(0.7)**	**-**	**(0.7)**	(0.9)	-	(0.9)
Profit before tax		**39.9**	**(3.9)**	**36.0**	21.3	(2.6)	18.7
Tax	5	**(5.2)**	**1.4**	**(3.8)**	(2.8)	0.7	(2.1)
Profit for the period attributable to owners of the parent Company		**34.7**	**(2.5)**	**32.2**	18.5	(1.9)	16.6
Earnings per share (cents)	6						
Basic		**5.70**		**5.28**	3.03		2.72
Diluted		**5.63**		**5.23**	3.00		2.69

Note
1. Adjusting items comprise exceptional items, acquisition related costs, amortisation of acquired intangible assets, share-based payment, tax on adjusting items and adjustments 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.

Condensed consolidated statement of comprehensive income

$ million	Note	**First half 2020**	First half 2019
Profit for the period attributable to owners of the parent Company		**32.2**	16.6
Other comprehensive (loss)/income			
Items that may subsequently be reclassified to profit or loss:			
– Exchange differences on retranslation of foreign operations		**(3.6)**	0.7
Items that will not subsequently be reclassified to profit or loss:			
– Re-measurement of the net defined benefit pension asset		**(5.5)**	5.4
– Income tax effect of re-measurement of the net defined benefit pension asset		**1.0**	(1.0)
– Re-measurement of the deferred compensation liability	8	**-**	(0.4)
– Income tax effect of re-measurement of the deferred compensation liability		**-**	0.1
		(4.5)	4.1
Other comprehensive (loss)/income		**(8.1)**	4.8
Total comprehensive income for the period attributable to owners of the parent Company		**24.1**	21.4

Condensed consolidated balance sheet

$ million	Note	**30 June 2020**	30 June 2019	Audited 31 December 2019
Assets				
Non-current assets				
Intangible assets		**159.0**	159.5	160.3
Property, plant and equipment		**27.4**	32.6	29.5
Right-of-use assets		**22.3**	24.9	26.0
Trade and other receivables		**7.0**	7.3	6.9
Assets recognised from costs to obtain a contract		**0.2**	0.3	0.3
Defined benefit pension plan surplus	8	**8.6**	10.9	11.6
Deferred tax asset		**22.3**	21.2	22.4
		246.8	256.7	257.0
Current assets				
Inventories		**30.1**	28.0	20.6
Trade and other receivables		**89.2**	105.8	142.8
Assets recognised from costs to obtain a contract		**0.4**	0.5	0.5
Other financial assets		**-**	-	0.1
Current tax asset		**2.6**	2.3	0.5
Cash and cash equivalents		**221.4**	141.8	183.2
		343.7	278.4	347.7
Total assets		**590.5**	535.1	604.7
Liabilities				
Current liabilities				
Trade and other payables		**(59.4)**	(56.3)	(81.8)
Contract liabilities		**(58.4)**	(57.8)	(55.5)
Lease liabilities		**(8.3)**	(9.2)	(8.5)
Current tax liability		**(7.2)**	(0.4)	(3.8)
Provisions		**(5.7)**	(10.4)	(4.8)
		(139.0)	(134.1)	(154.4)
Non-current liabilities				
Trade and other payables		**(1.5)**	(2.7)	(1.0)
Contract liabilities		**(17.3)**	(14.5)	(13.6)
Lease liabilities		**(20.5)**	(23.7)	(24.5)
Defined benefit pension plan deficit	8	**(5.6)**	(4.9)	(5.5)
Provisions		**(3.4)**	(2.8)	(3.4)
		(48.3)	(48.6)	(48.0)
Total liabilities		**(187.3)**	(182.7)	(202.4)
Net assets		**403.2**	352.4	402.3
Capital and reserves				
Share capital		**25.0**	25.9	26.8
Share premium account		**24.8**	25.7	26.6
Capital redemption reserve		**16.2**	16.7	17.4
Other reserves		**20.0**	17.7	15.2
Translation reserve		**6.5**	8.9	10.1
Retained earnings		**310.7**	257.5	306.2
Total equity attributable to owners of the parent Company		**403.2**	352.4	402.3

Condensed consolidated statement of changes in equity

$ million	Notes	Share capital	Share premium account	Capital redemption reserve	Other reserves	Translation reserve	Retained earnings	Total equity
At 1 January 2019 (audited)		26.0	25.7	16.8	17.5	8.2	257.7	351.9
Profit for the period		-	-	-	-	-	16.6	16.6
Other comprehensive income		-	-	-	-	0.7	4.1	4.8
Total comprehensive income		-	-	-	-	0.7	20.7	21.4
Share-based payment		-	-	-	-	-	1.7	1.7
Tax credit on share incentives		-	-	-	-	-	0.2	0.2
Equity dividends	7	-	-	-	-	-	(16.7)	(16.7)
Employee Share Ownership Trust	12	-	-	-	-	-	(6.1)	(6.1)
Exchange adjustment		(0.1)	-	(0.1)	0.2	-	-	-
At 30 June 2019		25.9	25.7	16.7	17.7	8.9	257.5	352.4
At 1 January 2020 (audited)		**26.8**	**26.6**	**17.4**	**15.2**	**10.1**	**306.2**	**402.3**
Profit for the period		**-**	**-**	**-**	**-**	**-**	**32.2**	**32.2**
Other comprehensive loss		**-**	**-**	**-**	**-**	**(3.6)**	**(4.5)**	**(8.1)**
Total comprehensive (loss)/income		**-**	**-**	**-**	**-**	**(3.6)**	**27.7**	**24.1**
Share-based payment[1]		**-**	**-**	**-**	**-**	**-**	**1.9**	**1.9**
Tax credit on share incentives		**-**	**-**	**-**	**-**	**-**	**0.1**	**0.1**
Equity dividends	7	**-**	**-**	**-**	**-**	**-**	**(20.5)**	**(20.5)**
Employee Share Ownership Trust	12	**-**	**-**	**-**	**-**	**-**	**(4.7)**	**(4.7)**
Exchange adjustment		**(1.8)**	**(1.8)**	**(1.2)**	**4.8**	**-**	**-**	**-**
At 30 June 2020		**25.0**	**24.8**	**16.2**	**20.0**	**6.5**	**310.7**	**403.3**

Note
1. Includes $0.2 million in respect of deferred shares for Executive Directors' Annual Incentive which is charged to administration expenses in the income statement.

Condensed consolidated cash flow statement

$ million	Notes	First half 2020	First half 2019
Cash flows from operating activities			
Cash flow from operations	10	**74.8**	57.2
Tax paid		**(1.2)**	(2.7)
Net cash inflow from operating activities		**73.6**	54.5
Cash flows from investing activities			
Interest received		**1.1**	1.2
Purchase of intangible assets		**-**	(0.3)
Purchase of property, plant and equipment		**(4.7)**	(6.1)
Proceeds from sale of property, plant and equipment		**0.3**	0.2
Lease payments received from finance leases		**0.2**	-
Acquisition of business	9	**-**	(1.9)
Net cash used in investing activities		**(3.1)**	(6.9)
Cash flows from financing activities			
Lease liability principal repayments		**(4.3)**	(4.1)
Lease liability interest paid		**(0.7)**	(0.8)
Dividend paid	7	**(20.5)**	(16.7)
Share purchase into Employee Share Ownership Trust	12	**(4.7)**	(6.1)
Net cash used in financing activities		**(30.2)**	(27.7)
Net increase in cash and cash equivalents		**40.3**	19.9
Cash and cash equivalents at the beginning of the period		**183.2**	121.6
Effect of foreign exchange rate changes		**(2.1)**	0.3
Cash and cash equivalents at the end of the period		**221.4**	141.8

Notes to the half year condensed consolidated financial statements

1 General information

The half year condensed consolidated financial statements do not constitute statutory accounts within the meaning of the Companies Act 2006. The statutory accounts for the year ended 31 December 2019 were approved by the Board of Directors on 5 March 2020 and have been delivered to the Registrar of Companies. The auditor's report on those accounts was unqualified, did not draw attention to any matters by way of emphasis and did not contain a statement made under Section 498(2) or (3) of the Companies Act 2006.

The half year condensed consolidated financial statements have been reviewed, not audited, by the Group's auditor pursuant to the Auditing Practices Board guidance on Review of Interim Financial Information. A copy of their review report is included at the end of this report.

The half year condensed consolidated financial statements for the period ended 30 June 2020 were approved by the directors on 6 August 2020.

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 2019. The annual financial statements of the Group are prepared in accordance with International Financial Reporting Standards as adopted by the EU.

Basis of preparation
The half year condensed consolidated financial statements have been prepared in accordance with IAS 34 'Interim Financial Reporting' as issued by the International Accounting Standards Board and endorsed by and adopted for use in the EU. This condensed set of half year financial statements has also been prepared in accordance with the Disclosure and Transparency Rules of the Financial Conduct Authority.

Presentation
A new line item, 'Contract liabilities', has been added to the Group's balance sheet in order to present the Group's contract liabilities arising under IFRS 15 'Revenue from Contracts with Customers'. Deferred income, a separate line item in the Group's balance sheet, has been reclassified to 'Contract liabilities' together with the 'Payments received on account' balance from 'Trade and other payables – current'. The presentation of the comparative amounts in the Group's balance sheet has also been amended to reflect this change. The impact of the reclassifications is set out below.

$ million	Decrease/(increase) at 30 June 2019	Decrease/(increase) at 31 December 2019	Decrease/(increase) at 1 January 2019
Current liabilities			
Deferred income	54.8	53.2	55.2
Trade and other payables	3.0	2.3	1.0
Contract liabilities	(57.8)	(55.5)	(56.2)
	-	-	-
Non-current liabilities			
Deferred income	14.5	13.6	14.4
Contract liabilities	(14.5)	(13.6)	(14.4)
	-	-	-

The related cash flow movement in the first half of 2019 was also reclassified using the appropriate corresponding line item within the 'Cash flow from operating activities' category in the Group's condensed consolidated cash flow statement. This reclassification had no impact on the Group's net assets, income statement or net cash flow from operating activities reported in 2019.

2 Accounting policies continued

As at 31 December 2019, the Group reclassified its deferred costs balance from 'Trade and other receivables – current' to 'Inventories' as this classification more appropriately represented the nature of the balance. Accordingly, the presentation of the comparative amounts in the Group's condensed consolidated balance sheet was also amended to reflect this change. This resulted in a reclassification of $0.7 million at 30 June 2019. The related cash flow movement in the first half of 2019 was also reclassified using the appropriate corresponding line item within the 'Cash flow from operating activities' category in the Group's condensed consolidated cash flow statement. This reclassification had no impact on the Group's net assets, income statement or net cash flow from operating activities reported in 2019.

Critical accounting estimates and judgements
The preparation of the half year financial statements requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities, income and expense. Actual results may differ from these estimates.

In preparing these half year condensed financial statements, the significant judgements made by management in applying the Group's accounting policies and the key sources of estimation uncertainty were the same as those that applied to the consolidated financial statements for the year ended 31 December 2019.

The Group is required to perform an impairment review on goodwill annually and where there are indicators of impairment. The Group has an annual impairment testing date of 30 November. At 30 June 2020, management have reviewed the goodwill for indicators of impairment and have considered the trading performance, the Group's principal risks and uncertainties, the impact of the COVID-19 pandemic on the Group's cash flow forecasts and the other assumptions used in the value in use calculations. Management have also considered sensitivities in respect of potential downside scenarios. There are no indicators of impairment at any of the cash generating units.

Going concern
In adopting the going concern basis for preparing the half year condensed financial statements, the directors have considered the Group's principal risks and uncertainties as set out on page 17, including the potential impact of the COVID-19 pandemic on the Group and any longer-term impact to the global economy. In the first half of 2020, the COVID-19 pandemic has not had a significant impact on the Group's trading performance and the Group has continued to operate effectively.

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 18 months from the date of these half year condensed financial statements. In these scenarios, the Group has more than sufficient headroom in its available resources.

At 30 June 2020, the Group had cash balances of $221.4 million and external debt only in relation to its lease liabilities.

Having assessed and considered the principal risks faced by the Group, the potential impact of COVID-19, the sensitivity analysis and the Group's significant financial headroom, the directors 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 this report. Accordingly, the going concern basis of accounting continues to be used in the preparation of the condensed consolidated financial statements.

New standards and interpretations
There have been no new standards or amendments to existing standards effective from 1 January 2020 that are applicable to the Group or that has had any material impact on the financial statements and related notes as at 30 June 2020.

The directors do not anticipate that the adoption of any of the new standards and interpretations issued by the IASB and IFRIC with an effective date for the Group after the date of these interim financial statements will have a material impact on the Group's interim financial statements in the period of initial application.

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 Networks & Security, Lifecycle Service Assurance and Connected Devices. The Group evaluates adjusted operating profit before exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment. 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 management believe this best depicts how the nature, amount, timing and uncertainty of the Group's revenue and cash flows are affected by economic factors.

$ million	Networks & Security	Lifecycle Service Assurance	Connected Devices	Corporate	Total
First half 2020					
Revenue					
Nature of products and services					
Sale of hardware and software	**117.7**	**37.7**	**12.2**	**-**	**167.6**
Maintenance and support services	**24.3**	**20.8**	**21.0**	**-**	**66.1**
	142.0	**58.5**	**33.2**	**-**	**233.7**
Primary geographical markets					
Americas	**62.8**	**41.3**	**15.8**	**-**	**119.9**
Asia Pacific	**62.5**	**12.3**	**15.5**	**-**	**90.3**
Europe, Middle East and Africa	**16.7**	**4.9**	**1.9**	**-**	**23.5**
	142.0	**58.5**	**33.2**	**-**	**233.7**
Profit before tax					
Total reportable segment profit before exceptional items	**25.5**	**12.8**	**4.5**	**(3.3)**	**39.5**
Exceptional items *note 4*	**(0.7)**	**(0.7)**	**(0.2)**	**(0.4)**	**(2.0)**
Total reportable segment profit	**24.8**	**12.1**	**4.3**	**(3.7)**	**37.5**
Unallocated amounts:					
– Acquired intangible asset amortisation					**(0.2)**
– Share-based payment					**(1.7)**
Operating profit					**35.6**
Finance income					**1.1**
Finance costs					**(0.7)**
Profit before tax					**36.0**
Other information					
Product development	**29.5**	**14.3**	**6.9**	**-**	**50.7**
Intangible asset amortisation – other	**-**	**-**	**0.5**	**-**	**0.5**
Depreciation of property, plant and equipment	**4.0**	**1.2**	**1.0**	**0.1**	**6.3**
Depreciation of right-of-use assets	**2.5**	**0.9**	**0.6**	**0.1**	**4.1**
Inventory write-down	**1.0**	**0.3**	**-**	**-**	**1.3**

3 Operating segments continued

$ million	Networks & Security	Lifecycle Service Assurance	Connected Devices	Corporate	Total
First half 2019					
Revenue					
Nature of products and services					
Sale of hardware and software	107.6	29.2	14.4	-	151.2
Maintenance and support services	23.4	21.8	21.0	-	66.2
	131.0	51.0	35.4	-	217.4
Primary geographical markets					
Americas	58.8	39.4	19.1	-	117.3
Asia Pacific	55.0	6.1	14.6	-	75.7
Europe, Middle East and Africa	17.2	5.5	1.7	-	24.4
	131.0	51.0	35.4	-	217.4
Profit before tax					
Total reportable segment profit	16.0	4.0	5.2	(4.5)	20.7
Unallocated amounts:					
– Acquisition related costs *note 9*					(0.1)
– Acquired intangible asset amortisation					(0.8)
– Share-based payment					(1.7)
Operating profit					18.1
Finance income					1.5
Finance costs					(0.9)
Profit before tax					18.7
Other information					
Product development	28.0	13.9	6.6	-	48.5
Intangible asset amortisation – other	-	-	0.4	-	0.4
Depreciation of property, plant and equipment	4.5	1.4	1.5	0.1	7.5
Depreciation of right-of-use assets	2.3	0.9	0.5	0.1	3.8
Inventory write-down	0.1	-	-	-	0.1

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 $2.8 million (first half 2019: $4.1 million).

Americas includes United States revenue of $113.2 million (first half 2019: $112.2 million).

Asia Pacific includes China revenue of $50.1 million (first half 2019: $41.2 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 either the first half of 2020 or 2019.

The Group's activities are seasonal and are typically weighted towards the second half of the year.

4 Exceptional items

$ million	**First half 2020**	First half 2019
CEO strategic review	**2.0**	-

In the second half of 2019, the Group incurred $1.8 million of costs associated with a strategic review, instigated by Spirent's new CEO, involving a number of initiatives designed to evolve the strategic direction of Spirent to maximise market opportunities by creating a more agile, customer-focused organisation. These include a strategic focus on recurring revenue streams over time; a strengthened leadership team and development of our sales and marketing structure to drive improved effectiveness to exploit our leading technologies. This review has continued into 2020 with a further $2.0 million being incurred. This charge comprised employee severance costs of $1.5 million, recruitment costs of $0.2 million and consulting costs of $0.3 million.

The tax effect of exceptional items is a credit of $0.4 million. The total cash outflow in respect of exceptional items charged in the first half of 2020 is anticipated to be $2.0 million, with $1.3 million paid in the period. The cash outflow in the first half of 2020 in respect of exceptional items charged in 2019 was $0.6 million.

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

5 Tax

$ million	First half 2020	First half 2019
Current income tax		
UK tax	**0.4**	-
Overseas tax	**3.4**	1.3
Total income tax	**3.8**	1.3
Deferred tax		
Recognition of deferred tax assets	**(1.2)**	(1.7)
Reversal of temporary differences	**2.0**	2.5
Adjustments in respect of prior years	**(0.8)**	-
Total deferred tax	**-**	0.8
Tax charge in the income statement	**3.8**	2.1

The effective tax rate for the first half year is 13.0 per cent (first half 2019: 13.1 per cent), being the current period tax charge, excluding tax on adjusting items and the adjustment in respect of prior year tax, as a percentage of adjusted profit before tax.

6 Earnings per share

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

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

$ million	First half 2020	First half 2019
Profit for the period attributable to owners of the parent Company	**32.2**	16.6
Number million		
Weighted average number of Ordinary Shares in issue – basic	**609.3**	609.9
Dilutive potential of employee share incentives	**6.5**	7.6
Weighted average number of Ordinary Shares in issue – diluted	**615.8**	617.5
Cents		
Earnings per share		
Basic	**5.28**	2.72
Diluted	**5.23**	2.69

6 **Earnings per share** continued

The Group is disclosing adjusted earnings per share for continuing operations 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:

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

		First half 2020		First half 2019
	$ million	**EPS cents**	$ million	EPS cents
Profit for the period attributable to owners of the parent Company	**32.2**	**5.28**	16.6	2.72
Exceptional items *note 4*	**2.0**		-	
Acquisition related costs *note 9*	**-**		0.1	
Acquired intangible asset amortisation	**0.2**		0.8	
Share-based payment	**1.7**		1.7	
Tax effect on the above items	**(0.6)**		(0.7)	
Prior year tax credit	**(0.8)**		-	
Adjusted basic	**34.7**	**5.70**	18.5	3.03
Adjusted diluted		**5.63**		3.00

7 **Dividends paid and proposed**

		First half 2020		First half 2019
	Cents per Ordinary Share	**$ million**	Cents per Ordinary Share	$ million
Amounts recognised as distributions to equity in the period				
Final dividend paid for previous year	**3.45**	**20.5**	2.73	16.7
Amounts approved by the directors (not recognised as a liability at the balance sheet date)	**2.17**	**13.3**	1.94	11.9

An interim dividend of 2.17 cents per Ordinary Share (2019: 1.94 cents per Ordinary Share) was declared by the Board on 6 August 2020 and will be paid to Ordinary shareholders on 11 September 2020 and to ADR holders on 18 September 2020. This dividend has not been included as a liability in these financial statements. The dividend is payable to all shareholders on the Register of Members at the close of business on 14 August 2020.

Dividends are declared or proposed in US dollars but will be paid in pounds sterling at the exchange rate prevailing when the dividend is declared or proposed. The exchange rate used for determining the amount of interim dividend to be paid was $1.30:£1.

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.

The most recent actuarial valuations, at 31 March 2018, of the plans' assets and the present value of the plans' obligations, using the projected unit credit method, have been used and updated at 30 June 2020 as the basis for the accounting valuation.

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

$ million	**First half 2020**	First half 2019	Year 2019
Schemes in net asset position			
UK funded defined benefit pension plan	**8.6**	10.9	11.6
Schemes in net liability position			
UK unfunded plan	**(0.6)**	(0.6)	(0.7)
US deferred compensation plan	**(5.0)**	(4.3)	(4.8)
	(5.6)	(4.9)	(5.5)
Net pension plan surplus on the balance sheet	**3.0**	6.0	6.1

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

$ million	**First half 2020**	First half 2019	Year 2019
Fair value of defined benefit pension plans' assets	**286.5**	275.1	291.1
Present value of defined benefit pension plans' obligations	**(277.9)**	(264.2)	(279.5)
Net UK funded defined benefit pension plan surplus on the balance sheet	**8.6**	10.9	11.6

The key financial assumptions are as follows:

%	**First half 2020**	First half 2019	Year 2019
Inflation – RPI	**2.9**	3.2	3.0
Inflation – CPI	**2.1**	2.1	2.2
Rate of increase in pensionable salaries	**2.1**	2.1	2.2
Rate of increase for pensions in payment			
Pre 2001 service	**3.6**	3.7	3.6
2001 to 5 April 2005 service	**2.8**	3.1	2.9
Post 5 April 2005 service	**2.0**	2.1	2.0
Rate of increase in deferred pensions	**2.1**	2.1	2.2
Rate used to discount plan liabilities	**1.4**	2.3	2.1

An operating charge of $0.2 million (first half 2019: $0.4 million) and finance income of $0.1 million (first half 2019: $0.1 million) have been recognised.

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 30 June 2020, the deferred compensation deficit amounted to $5.0 million (31 December 2019: $4.8 million). There was no re-measurement at 30 June 2020 (31 December 2019: $0.4 million loss recognised directly in the statement of comprehensive income). The key financial assumptions include a discount rate used to discount plan liabilities of 2.6 per cent and an investment yield of 6.4 per cent (31 December 2019: 2.9 per cent discount rate and 6.4 per cent investment yield).

9 Business combinations

There were no business combinations in the first half of 2020.

On 31 May 2019, Spirent acquired a key business from Integrated Navigation Systems Limited (INS), a company based in United Kingdom, for cash consideration of $1.9 million. The acquired business was reported within the Group's Networks & Security operating segment. INS develops and supplies the Group with a system for recording GNSS and Wi-Fi signals. The business acquisition enabled Spirent to streamline its supply chain process and improve gross margin on the product line. The acquisition gave rise to a current technology intangible asset of $1.0 million and goodwill of $0.9 million. Acquisition related costs were $0.1 million and were expensed to other items within the income statement.

10 Reconciliation of profit before tax to cash generated from operations

$ million	**First half 2020**	First half 2019
Profit before tax	**36.0**	18.7
Adjustments for:		
Finance income	**(1.1)**	(1.5)
Finance expense	**0.7**	0.9
Intangible asset amortisation	**0.7**	1.2
Depreciation of property, plant and equipment	**6.3**	7.5
Depreciation of right-of-use assets	**4.1**	3.8
Loss on the disposal of property, plant and equipment	**-**	0.4
Share-based payment	**1.9**	1.7
Changes in working capital		
Increase in inventories	**(9.6)**	(0.5)
Decrease in receivables	**52.7**	32.3
Decrease in payables	**(21.4)**	(5.8)
Increase in contract liabilities	**6.8**	1.6
Increase/(decrease) in provisions	**0.7**	(0.1)
Defined benefit pension plan employer contributions net of administration expenses paid by the plan	**(3.1)**	(3.3)
Deferred compensation plan	**0.1**	0.3
Cash flow from operations	**74.8**	57.2

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 $2.8 million at 30 June 2020 (31 December 2019: $3.0 million).

12 Employee Share Ownership Trust

During the first half of 2020, 2.0 million shares were purchased and placed into the Employee Share Ownership Trust (ESOT) at a cost of $4.7 million (first half 2019: 3.0 million shares at a cost of $6.1 million) and 2.7 million shares were transferred from the ESOT to satisfy options exercised under the Spirent employee share plans (first half 2019: 2.6 million transferred). At 30 June 2020, the ESOT held 0.9 million Ordinary Shares (31 December 2019: 1.6 million Ordinary Shares).

Statement of directors' responsibilities

The directors confirm that to the best of their knowledge:

The condensed set of financial statements has been prepared in accordance with IAS 34 'Interim Financial Reporting' as issued by the IASB and endorsed and adopted by the EU.

The half year management report includes a fair review of the information required by:

(a) DTR 4.2.7R of the Disclosure and Transparency Rules, being an indication of important events that have occurred during the first six months of the financial year and their impact on the condensed set of financial statements; and a description of the principal risks and uncertainties for the remaining six months of the financial year; and

(b) DTR 4.2.8R of the Disclosure and Transparency Rules, being related party transactions that have taken place in the first six months of the current financial year and that have materially affected the financial position or performance of the entity during that period; and any changes in the related party transactions described in the 2019 Annual Report.

The directors of Spirent Communications plc are listed below and are unchanged from the Spirent Communications plc Annual Report at 31 December 2019.

Sir William Thomas
Eric Updyke
Paula Bell
Jonathan Silver
Gary Bullard
Wendy Koh
Edgar Masri

By order of the Board of Spirent Communications plc.

E A Updyke
Chief Executive Officer
6 August 2020

Independent review report to Spirent Communications plc

Introduction

We have been engaged by the company to review the condensed set of financial statements in the half-yearly financial report for the six months ended 30 June 2020 which comprises the condensed consolidated income statement, condensed consolidated statement of comprehensive income, condensed consolidated balance sheet, condensed consolidated cash flow statement, condensed consolidated statement of changes in equity and the related notes 1 to 12. We have read the other information contained in the half yearly financial report and considered whether it contains any apparent misstatements or material inconsistencies with the information in the condensed set of financial statements.

This report is made solely to the company in accordance with guidance contained in International Standard on Review Engagements 2410 (UK and Ireland) "Review of Interim Financial Information Performed by the Independent Auditor of the Entity" issued by the Auditing Practices Board. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company, for our work, for this report, or for the conclusions we have formed.

Directors' Responsibilities

The half-yearly financial report is the responsibility of, and has been approved by, the directors. The directors are responsible for preparing the half-yearly financial report in accordance with the Disclosure Guidance and Transparency Rules of the United Kingdom's Financial Conduct Authority.

As disclosed in note 2, the annual financial statements of the group are prepared in accordance with IFRSs as adopted by the European Union. The condensed set of financial statements included in this half-yearly financial report has been prepared in accordance with International Accounting Standard 34, "Interim Financial Reporting", as adopted by the European Union.

Our Responsibility

Our responsibility is to express to the company a conclusion on the condensed set of financial statements in the half-yearly financial report based on our review.

Scope of Review

We conducted our review in accordance with International Standard on Review Engagements (UK and Ireland) 2410, "Review of Interim Financial Information Performed by the Independent Auditor of the Entity" issued by the Auditing Practices Board for use in the United Kingdom. A review of interim financial information consists of making enquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with International Standards on Auditing (UK) and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe that the condensed set of financial statements in the half-yearly financial report for the six months ended 30 June 2020 is not prepared, in all material respects, in accordance with International Accounting Standard 34 as adopted by the European Union and the Disclosure Guidance and Transparency Rules of the United Kingdom's Financial Conduct Authority.

Ernst & Young LLP
London
6 August 2020

Appendix

Alternative Performance Measures (APM)

The performance of the Group is assessed using a variety of 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 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 2019 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.

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.

Order intake is a non-GAAP measure and as such should not be considered in isolation or as a substitute for GAAP measures of operating performance.

Book to bill

Book to bill is the ratio of orders booked to revenue billed in the period 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.

Book to bill is a non-GAAP measure and as such should not be considered in isolation or as a substitute for GAAP measures of operating performance.

Adjusted operating profit

Adjusted operating profit is reported operating profit excluding exceptional items, acquisition related costs, amortisation of acquired intangible assets and share-based payment. 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 do not reflect the underlying trading performance of the Group. 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.

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 period. Adjusted earnings is reported profit before tax excluding exceptional items, acquisition related costs, amortisation of acquired intangible assets, share-based payment, tax on adjusting items and adjustments 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 half year condensed consolidated financial statements.

Product development spend as a percentage of revenue
Product development as a percentage of revenue in the period. 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, and interest received and lease payments received from finance leases.

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 15.

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.