Spirent Communications plc
Full year results for the year ended 31 December 2019

$ million	2019	2018	Change (%)
Order intake[1]	**532.0**	470.0	+13.2
Revenue	**503.6**	476.9	+5.6
Adjusted operating profit[2]	**92.9**	77.1	+20.5
Adjusted operating margin[3] (%)	**18.4**	16.2	+2.2
Adjusted profit before tax[4]	**93.9**	78.4	+19.8
Adjusted basic earnings per share[5] (cents)	**13.40**	10.86	+23.4
Reported operating profit	**88.6**	57.5	+54.1
Reported profit before tax	**89.6**	61.2	+46.4
Closing cash	**183.2**	121.6	+50.7
Dividend per share[6] (cents)	**5.39**	4.49	+20.0

Strong profitable growth

- Order intake was up 13.2 per cent and benefited from an increased level of multi-year support contract wins, with 24 per cent of the closing orderbook for delivery in more than 12 months, compared to 17 per cent at the end of last year, which improves visibility of future revenue.
- Revenue up 5.6 per cent, driven by demand for 400G high-speed Ethernet and a higher win rate with US defence contractors for GNSS positioning products.
- Adjusted operating profit increased by 20 per cent, with an improved operating margin of 18.4 per cent.
- Adjusted basic EPS up 23 per cent to 13.40 cents.
- Cash closed at $183.2 million, following another year of highly effective working capital management.
- 20 per cent increase in full year dividend, up 25 per cent in sterling, broadly in line with the increase in earnings. Final dividend of 3.45 cents to be paid in May 2020.

Operational highlights – continuing progress across segments

- Secured over 250 5G related wins and are well positioned for ongoing growth across the Spirent portfolio.
- Focus on driving services revenue has already resulted in a large strategic win for ‘testing-as-a-service’ (TaaS) with a leading North American service provider for 2020 delivery.
- Continued innovation and investment in leading technologies to enable sustainable revenue growth.
- Strategy review instigated by the CEO involving a number of initiatives designed to maximise market opportunities and become more agile and customer-centric, including the reorganisation of the marketing function to drive further effectiveness ($1.8 million exceptional cost in 2019, $2.7 million estimated for 2020).
    - Key customer account management programme extended to strengthen our relationships with more of our largest customers.
    - Several new experienced leaders added to the senior management team to drive and evolve our growth strategy.

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Networks & Security

- Leading market positions and technologies are driving good growth with revenue up 12 per cent.
- Surge in order placements for 400G high-speed Ethernet in the latter part of the year validates our market leadership.
- Positioning business delivered a record year for revenue, benefiting from continued momentum across its customer base and maintaining a high win rate for GNSS defence projects in the United States.
- Released new data breach assessment security product and won first landmark deal in China with continued focus on building pipeline for 2020 revenue.

Lifecycle Service Assurance

- Strong orders growth, secured later in the year, resulted in a robust close to the orderbook with revenue broadly level in 2019.
- Strong demand for lab-based 5G network testing (Landslide products) mitigated some slower traction of VisionWorks solutions.
- New leader appointed in October 2019, who is evolving our strategies for growth and global expansion.

Connected Devices

- Maintained a solid operating margin, despite some revenue decline driven by expected decline of 4G testing.
- Robust 5G market demand, including the release of a new 5G device testing product for which we won the first orders.
- Secured a key win for our Service Experience field test methodology for proving 5G networks and devices from a tier-one service provider.

Summary and outlook

Our strategy to focus on applying our market-leading technology and expertise to address key customer business challenges continues to yield success.

In 2019, Spirent delivered another year of robust revenue growth and a material increase in earnings and cash. The momentum of our high-speed Ethernet sales and the US government requirement for our GNSS positioning solutions remained strong.

We are focused on increasing visibility and decreasing cyclicality risks in our portfolio by expanding our services and software offerings. Order intake grew solidly as we secured more large, multi-year contracts, building orderbook for delivery in future years across all operating segments. Our investment in, and rollout of, our key account programme is delivering successfully and will expand in 2020.

5G is an important driver for the business. We are benefiting across the portfolio from customers seeking our market-leading expertise and solutions to develop, deploy and secure their 5G infrastructure and network equipment.

We are carefully managing the coronavirus situation and already have in place processes to protect our staff, including working from home and restricted travel arrangements. We are continuing to engage with our customers in the most optimal way during this period. Supplies for our products and solutions are in the vast majority dual sourced to mitigate against potential risk in the supply chain process. We continue to be extremely vigilant and at this time we have not assumed a financial impact to our outlook. We will continue to analyse potential implications and implement Government guidelines as the situation evolves.

At present, the Board is confident that the Group will continue to see steady profitable growth in 2020. The target operating model of mid-single digit revenue growth, whilst broadly maintaining our operating margin target of 17-19 per cent, allows for a healthy level of investment to continue to develop our leading technologies to sustain momentum, whilst delivering attractive returns for shareholders.

Eric Updyke, Chief Executive Officer, commented:

"As I complete my first year with Spirent, I'm delighted with the progress we have made and remain optimistic about our ability to seize opportunities and ensure we are well positioned for continued sustainable, profitable growth. We have a world class customer base that trusts us and respects our expertise. We have market-leading technology in which we continue to invest and innovate and our strong financial platform affords us great flexibility to evolve and grow our business.

"We have also further strengthened our leadership team during the year, adding more expertise and new energy to an already excellent talent base. This team will execute our strategy with a focus on three key pillars: Customer Centricity, Innovation for Growth and Operational Excellence.

"Overall, we are confident in our ability to continue to add value to each of our stakeholders, our customers, our investors and our people."

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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 $4.3 million in total (2018: $19.6 million).
3. Adjusted operating profit as a percentage of revenue in the period.
4. Before the items set out in note 2 and gain on divestment in 2018.
5. Adjusted basic earnings per share is based on adjusted earnings as set out in note 6 of Notes to the full year consolidated financial statements.
6. Dividends are determined in US dollars and paid in sterling at the exchange rate prevailing when the dividend is proposed. The final dividend proposed for 2019 of 3.45 cents per Ordinary Share is equivalent to 2.70 pence per Ordinary Share.

Enquiries

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The Company will host a results presentation today at 9.15am for 9.30am UK time at FTI Consulting Limited, 200 Aldersgate, Aldersgate Street, London EC1A 4HD. A simultaneous webcast 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 mobile 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.

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Cautionary statement regarding forward-looking statements

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

Chief Executive Officer's review

I am delighted to have joined Spirent in April 2019 and to be leading a business that is so well respected by its customers, has such engaged and innovative employees, and has a solid financial platform. We have a strong foundation to drive sustainable, profitable growth but as I highlighted at the half year, we need to move faster to capture new opportunities.

As such, we will accelerate our growth by pushing beyond selling products into labs to solving customer issues across their lifecycle and expanding our customer reach. We remain focused on the opportunities arising from emerging market drivers, including 5G, 400G Ethernet and cloud.

Market overview
In this digital age, our customers face ever-increasing demands from massive network traffic and escalating customer expectations, to pervasive security threats and cost pressures. We are in a continuum of testing, measuring, monitoring and optimising where service assurance is no longer an afterthought. As networks become more complex and virtualised, the challenge of delivering flawless performance to satisfy customers is a constantly evolving journey. Spirent is well positioned to help customers navigate this challenge.

In 2019, Spirent successfully demonstrated the ability to reach beyond the lab and pursue next-generation opportunities. We are leading the industry at the front lines of 5G and closed over 250 5G deals this year. We look forward to maintaining our leadership in enabling 5G networks, devices and services in 2020.

In order to realise our vision, we are focused on three strategic priorities: Customer Centricity, Innovation for Growth and Operational Excellence.

Customer Centricity
We are evolving our strategic direction, working to increase share of wallet with our existing customers and broadening our customer base in new segments, adjacencies and geographies.

Across our business, we partner as our customers' trusted advisers across the DevOps journey, helping them overcome the challenges of a transforming world. In order to seize the opportunities open to us, we are positioning ourselves to take on a broader role on behalf of our customers by solving bigger problems and adding more value. We plan to deliver this value by enhancing our portfolio to offer innovative solutions and services addressing key business challenges.

Our Client Partner Executive initiative was a great success this year in our key accounts, moving us from transactional buying centres into ones with broader business impact. We plan to expand this programme, along with our account-based marketing approach, to strengthen our relationships with our largest customers. Spirent has a diversified customer base, with no single customer accounting for more than 8 per cent of total revenue in 2019.

Customers are more connected than ever in this digital age and expect their business partners to be proactive in addressing potential issues. However, often only *after* a network outage or service-impacting event, do organisations perform manual tests to evaluate data and find root causes. With Spirent solutions, they can identify and address degradation *before* the customer experience is affected.

We say to our customers: Every day, you make a promise to your customers. We're here to assure that you fulfil it.

Innovation for Growth

As a global leader in testing and assurance, it's vital that we invest to stay ahead on key emerging technologies. To maintain our leadership in key areas such as 5G, cloud and cybersecurity, we invested 19.2 per cent of revenue on research and development in 2019.

As our customers' businesses and networks become increasingly complex, our tools help them gain clarity. We are investing in enhancing our solution portfolio, augmenting feature functionality and making our products even easier to use, which in turn will expand our customer reach. To best leverage increasing market opportunities, we are making our solutions more flexible and scalable.

In addition to investing in product innovation to drive sustainable, profitable growth, we remain invested in our people. In 2019, in order to evolve Spirent into a more customer-focused organisation, we have made new senior leadership appointments, adding valuable experience and new energy to strengthen our teams.

To support our growth and to gain more future visibility, we will be focused on building recurring revenue streams over time. With our talented leadership team and refreshed, solutions-selling mindset, we will expand our software and service offerings.

As we focus on innovating and expanding our customer base, we are investing in strategic partnerships to provide new growth opportunities. In 2019, our 5G solution partnership with National Instruments (NI) yielded excellent strategic value and enabled us to reach adjacent markets. NI is part of Spirent's recent 5G End-to-End Digital Twin solution and is bringing Spirent into universities and research organisations focused on leading-edge 5G applications.

Operational Excellence

We are focused on cash generation and maintaining a strong balance sheet. Our results, including our improved operating margin, demonstrate strong operational discipline and dedication to our competitive cost structure. In 2019, we maintained a strong balance sheet with $183.2 million of cash and no bank debt.

Sustainability and corporate responsibility are integral to the success of our business. Spirent is committed to embedding the highest standards of environmental management, social practices and governance into our operations, products and across our supply chain. We do this via our FuturePositive programme aimed at addressing sustainability issues facing our business and how we can contribute to the communities in which we operate. Building on a foundation of compliance, we will continue to seek out innovation and drive commercial performance by continuing to embed sustainable thinking across our entire business.

The geopolitical landscape was particularly turbulent in 2019 with US/China trade challenges. We navigated regulatory changes throughout the year and continue to work closely with our customers in impacted regions.

In order to pivot to a more customer-centric organisation, we are evolving our sales and marketing structure and we remain focused on improving the overall efficiency and effectiveness of these teams. This will result in a more agile, collaborative organisation, capable of solving bigger business problems for our customers.

We will continue evaluating and rationalising our portfolio to meet the needs of our customers. We will look to grow our portfolio both organically and inorganically to keep pace with those objectives and the markets that we serve.

Business review

Spirent operates in three strategic business segments: Networks & Security, Lifecycle Service Assurance and Connected Devices. This structure best 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 – 64% 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 systems (GNSS) simulation products and tailored solutions as we expand into the positioning, navigation and timing (PNT) market.

$ million	**2019**	2018	Change (%)
Revenue	**319.9**	285.1	12.2
Operating profit[1]	**73.9**	56.4	31.0
Operating margin[1]	**23.1%**	19.8%	3.3

Note
1. Before exceptional items of $1.1 million charged in 2019.

Performance highlights

- Revenue growth of 12.2 per cent resulted in strong profit growth and operating margin improvement, driven in particular by high-speed Ethernet and demand from US government contracts for our GNSS positioning products.
- We also built a strong opening orderbook for 2020 as a result of large Cloud and IP contracts and custom solution projects at our Positioning business, as well as growth in subscription solutions from our cybersecurity business.
- Our Cloud and IP business extended our market leadership in 100G and 400G Ethernet performance test with the introduction of the industry’s highest-density solution and 400G growth, securing multiple 400G wins in the second half.
- Cloud and virtual solutions from our Cloud and IP business also saw a strong performance on the back of cloud and 5G transformation wins with tier-one service providers in North America and APAC.
- Our Positioning business had another record revenue year, cementing our market leadership in GNSS simulation systems, driven primarily by government projects in the United States.
- Our cybersecurity business gained additional traction with new enterprise and government customers and once again grew its year-on-year subscription sales. We introduced our Cyberflood Data Breach Assessment solution, providing holistic and hyper-realistic security testing of production networks and devices.

Accomplishments

High-speed Ethernet/IP, cloud and virtualisation

- We saw robust high-speed Ethernet test growth in 2019, with multiple key 100G and 400G wins, particularly in the second half of the year, that affirmed our product and market leadership.
- We demonstrated the world's highest density 400/200/100/50G test system at the Optical Networking and Communication conference & exhibition (OFC), which subsequently won a 2019 Lightwave Innovation Honouree award and 2019 Best of Interop Tokyo award.
- Our Wi-Fi business grew significantly in 2019, driven by our Wi-Fi 6 test leadership. We launched the industry leading Spirent TestCenter Wi-Fi 6 test solution to accelerate development and deployment of the technology, access points, gateways and for end-to-end testing, which also won a 2019 Best of Interop Tokyo award.
- The automotive Ethernet business grew, with wins at automotive original equipment manufacturers in APAC and EMEA, to meet the need for compliance to industry standards, including such world-class customers as Jaguar Land Rover.
- Spirent introduced CloudSure, a cloud test platform designed to enable customers to validate and certify their virtualised infrastructure and network functions.

Applications performance and cybersecurity

- In the second half of the year, we introduced our Cyberflood Data Breach Assessment solution, providing holistic and hyper-realistic security testing of networks and devices for awareness of data breach and intruder activity. The solution was selected by a leading Chinese consulting company for deployment throughout Chinese financial markets.
- We released our C200, the industry's most powerful 1U appliance for security and application assessment. It offers support for five data speeds from 10G to 100G, while doubling the cryptographic acceleration capacity of the previous generation of solutions.
- Our SecurityLabs services offering continued to successfully provide security certification and penetration testing for critical Internet of Things (IoT) and Industrial Internet of Things (IIoT) devices globally, including those authorised for CTIA IoT Cybersecurity and the First Responder Network Authority (FirstNet) in the US.

Positioning, navigation and timing

- We saw strong momentum for our Positioning business in the US defence market. We further enhanced our solutions to maintain our leadership in this space, with Spirent Federal Systems becoming the unique provider of simulation for the US government's next phase of signal modernisation for its global positioning system (GPS). A major upgrade to our flagship GNSS simulator, providing significantly improved capability, flexibility and performance, was released mid-year and very well received in this demanding market.
- In addition to commercial off-the-shelf products and solutions, Positioning has also expanded its capability to design and build solutions to meet an individual customer's specific testing need. This tailored solution capability is a clear differentiator.
- Growth in the China market was underpinned by two large tailored solution sales to the National Space and Science Institute of Metrology.
- Traction in our strategy of moving beyond GNSS simulation towards the use of co-simulation of multiple PNT sensors and assurance solutions in adjacent markets, such as autonomous vehicles.

Lifecycle Service Assurance – 22% 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 do this through automation, visibility and analytics, all of which improve customer satisfaction and retention while reducing the cost and complexity of operating and managing a network.

$ million	**2019**	2018	Change (%)
Revenue	**111.2**	112.8	(1.4)
Operating profit[1]	**18.1**	17.4	4.0
Operating margin[1]	**16.3%**	15.4%	0.9

Note
1. Before exceptional items of $0.4 million charged in 2019.

Performance highlights

- In 2019, Spirent extended its position as a leading provider of validation and assurance solutions to address emerging, rapidly growing new segments for 5G, SD-WAN, DevOps Automation and test-as-a-service (TaaS).
- Although revenue was broadly level, orders grew year-on-year building a strong opening orderbook for 2020.
- A favourable mix of software to hardware sales, resulting in an increase in operating profit.
- We secured a major strategic win for an innovative new TaaS managed service for one of the largest mobile service providers in the world, to reduce the upfront investment in testing infrastructure and expertise required for new technologies, such as 5G.
- We benefited from strong demand for our automated validation and assurance solutions for 5G, SD-WAN and virtual networks, in particular our Landslide products.
- Our cutting-edge work in validating new technologies in the lab enabled us to bring operational network assurance solutions to market with unprecedented speed. Our first 5G assurance solution is already delivered to a tier-one US service provider to accelerate its rollout.
- Spirent's 5G mobile core validation solutions were selected by over 70 service providers, network equipment manufacturers (NEMs) and research centre labs worldwide.
- We launched a new category of solutions that help network operators automate their DevOps workflows (known as NetDevOps). Our first NetDevOps solution deployment is underway, automating complex network troubleshooting for a tier-one network operator.

Accomplishments

- Spirent was recognised as 2019 Leading Lights "Outstanding Test & Measurement Vendor" due to our industry leadership in 5G and adoption of our solutions by 5G pioneers.

Network validation

- Spirent is the 5G mobile core validation leader, with Landslide for 5G adopted by over 50 service providers, NEMs and research centre labs worldwide, including Nokia, a leading 5G NEM, making this a key contributor to Spirent's overall 5G success.
- We secured a large multi-million dollar contract for a TaaS managed service offering, a collaboration between Spirent's Lifecycle Service Assurance and Cloud and IP businesses. A tier-one US mobile provider selected Spirent to design 5G core network validation tests and provide web-accessible test infrastructure to it and its vendors. This will result in reductions in the upfront capital spend on testing infrastructure and expertise for new 5G technologies, shifting instead to a more nimble operating expenditure cost model.

Active assurance

- In our first VisionWorks 5G active assurance win, Spirent was selected by a tier-one US mobile service provider to support its nationwide 5G assurance efforts. The service provider will deploy Spirent VisionWorks for active assurance, initially testing end-to-end performance across its non-standalone 5G network.
- A tier-one mobile service provider is deploying VisionWorks to automate change management. VisionWorks is enabling the service provider's operations teams to run pre-defined tests prior, during and after updates, to automatically validate changes to their LTE core network and proactively identify issues.

DevOps automation

- We launched our VisionWorks NetDevOps solution in 2019 and closed the first sale with a tier-one US fixed network operator. This deployment automates advanced troubleshooting of complex network issues and manages their distribution and operational use.

Connected Devices – 14% of Group revenue

Ubiquitous wireless connectivity drives our modern lifestyle. Our mission is to help those who build wireless devices and networks to meet their promise of delivering the very best end-user experience. Our live network testing and digital twins for network and radio systems let manufacturers and service providers get to market faster with peak performance.

$ million	2019	2018	Change (%)
Revenue	**72.5**	79.0	(8.2)
Operating profit[1]	**9.5**	10.5	(9.5)
Operating margin[1]	**13.1%**	13.3%	(0.2)

Notes
1. Before exceptional items of $0.3 million charged in 2019.

Performance highlights

- As planned, 2019 was a transition year for Connected Devices as we launched our new 5G location device test solution ready for market demand in 2020.
- Revenue reduced as 4G legacy device test declined, however, multi-year support contracts were secured to strengthen the opening orderbook for 2020.
- 5G related orders saw good growth with sales to all major customer sub-segments including research institutions, chipset vendors, infrastructure suppliers, device manufacturers and service providers.
- Demand for our Vertex Channel Emulation solution was robust, driven by the industry’s investment in 5G as well as sales into new use cases, such as V2X and Defence.

Accomplishments

5G radio channel emulation and services testing

- We delivered our first 5G Mobile Device Test System solution through our National Instruments partnership. Using this platform, several rounds of interoperability testing were completed with leading tier-one chipset vendors, and 5G location test cases were validated.
- A tier-one US service provider turned to Spirent’s Fit4Launch advanced field test methodology for proving in its 5G network and devices. Vendors use the service before launching a device with the carrier.
- With a unique ability to lower the cost of testing through instrument integration and modularity, we won several multi-million-dollar deals with a tier-one 5G chipset vendor to evaluate its modem performance, in multiple 5G frequency bands.
- China Mobile collaborated with Spirent to build the first comprehensive 5G over-the-air device evaluation system, using the solution to benchmark and publish the performance of new flagship 5G chipsets and handsets.

Expanding the use cases of our products into applications beyond smartphones

- Two global-leading chipset manufacturers began using Spirent’s Vertex RF Channel Emulation solution to prove in the unique device-to-device radio challenges of their V2X chipsets, relying on our expertise in device-to-device channel modelling to provide the most realistic test scenarios.
- Warwick University in the UK adopted Spirent’s 5G “digital twin” as part of its end-to-end solution to develop 5G-based Industry 4.0 applications.

Financial review

Group overview

2019 trading performance demonstrably proves our strategy is working with continued revenue growth and another year of material profit growth. Our operational execution model is strong, balancing investment into our leading technology portfolio and our people, to drive sustainable revenue and earnings growth.

We secured double digit growth in orders, and we saw progress in all operating segments. We benefited from some late support contracts from 2018 closing in early 2019, and we are also winning more multi-year contracts providing more underpin to revenue in the forthcoming years.

Revenue growth of 5.6 per cent was driven by demand for high-speed Ethernet test solutions and satellite simulators within our Networks & Security operating segment. Orders for our Lifecycle Service Assurance business, secured late in 2019, built a strong opening orderbook for 2020, but as a result revenue was level for 2019. Connected Devices revenue was impacted by a faster decline in the 4G legacy smartphone device lab test business, outpacing the ramp-up in 5G related business. Another year of expansion in gross margin was driven by new product launches and higher software sales. We continued to be mindful of resource allocation and exercised careful management of the cost base, directing product development effort to high-growth, high-margin areas and targeting sales and marketing investment to expand our key account management programme and develop routes to market for our new technologies to a broadening customer base.

The year-on-year increase in revenue of $26.7 million has driven increased adjusted operating profit to $92.9 million, from $77.1 million in 2018. Adjusted operating margin has increased by 2.2 percentage points to 18.4 per cent, from 16.2 per cent last year.

Net exceptional income was $0.5 million in the year (2018: $13.1 million cost), being the net of the cost associated with a strategic review initiated by our new CEO of $1.8 million and $2.3 million of income following a successful reclaim for VAT on French Custom's duty, treated as an exceptional cost in 2018. We anticipate incurring a further cost of circa $2.7 million in 2020 to complete the strategic review.

A further reduction in the Group's effective tax rate from 15.4 per cent in 2018 to 13.0 per cent for 2019, due to a combination of factors including a new tax treaty between Hong Kong and India, has also benefited earnings. Adjusted basic earnings per share has increased by 23 per cent, up from 10.86 cents last year to 13.40 cents for 2019.

Cash at bank closed at $183.2 million, up $61.6 million on the position at the end of last year, with free cash flow effectively doubling year-on-year, driven by highly effective working capital management. Free cash flow conversion increased significantly and now stands at 123 per cent of adjusted earnings (2018: 77 per cent).

As a result of the strong financial performance, we propose a 20 per cent increase to the full year dividend per share, from 4.49 cents to 5.39 cents, and looking forward we will maintain our progressive dividend policy ensuring that we maintain dividend cover of 2 to 2.5 times.

The following table shows summary financial performance for the Group:

$ million	**2019**	2018	Change (%)
Order intake[1]	**532.0**	470.0	+13.2
Revenue	**503.6**	476.9	+5.6
Gross profit	**368.6**	344.5	+7.0
Gross margin (%)	**73.2**	72.2	+1.0
Adjusted operating costs[2]	**275.7**	267.4	+3.1
Adjusted operating profit[2]	**92.9**	77.1	+20.5
Adjusted operating margin[3] (%)	**18.4**	16.2	+2.2
Reported operating profit	**88.6**	57.5	+54.1
Effective tax rate[4] (%)	**13.0**	15.4	-2.4
Reported profit before tax	**89.6**	61.2	+46.4
Adjusted basic earnings per share[5] (cents)	**13.40**	10.86	+23.4
Basic earnings per share (cents)	**12.79**	9.14	+39.9
Free cash flow[6]	**100.1**	50.9	+96.7
Closing cash	**183.2**	121.6	+50.7
Final dividend per share[7] (cents)	**3.45**	2.73	+26.4

Notes

1. Order intake represents commitments from customers to purchase goods and/or services that will ultimately result in recognised revenue.
2. Before exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment amounting to $4.3 million in total (2018: $19.6 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 full year consolidated financial statements.
6. Cash flow generated from operations, less tax and net capital expenditure, interest paid and/or received, and payment of lease liabilities/sublease income.
7. Dividends are determined in US dollars and paid in sterling at the exchange rate prevailing when the dividend is proposed. The final dividend proposed for 2019 of 3.45 cents per Ordinary Share is equivalent to 2.70 pence per Ordinary Share.

Note on Alternative Performance Measures (APMs)

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 appendix 2. 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	**2019**	**% of total**	2018	% of total
Revenue by segment				
Networks & Security	**319.9**	**63.5**	285.1	59.8
Lifecycle Service Assurance	**111.2**	**22.1**	112.8	23.6
Connected Devices	**72.5**	**14.4**	79.0	16.6
	503.6	**100.0**	476.9	100.0
Revenue by geography				
Americas	**266.1**	**52.8**	265.4	55.7
Asia Pacific	**187.8**	**37.3**	159.1	33.3
Europe, Middle East and Africa	**49.7**	**9.9**	52.4	11.0
	503.6	**100.0**	476.9	100.0

Total Group revenue grew by $26.7 million in 2019, an increase of 5.6 per cent over the prior year.

The Networks & Security operating segment achieved year-on-year revenue growth of 12.2 per cent. Within that segment all of our lines of business grew revenue compared to the prior year but the primary growth drivers were demand for high-speed Ethernet testing within our core business, particularly from China customers, and satellite simulators provided by our Positioning business, particularly US government related. The cybersecurity line of business also experienced revenue growth, although this remains a relatively small part of the overall Networks & Security portfolio.

Revenue at Lifecycle Service Assurance was essentially level year-on-year with revenue growth for next-generation automated validation and assurance solutions offset by a reduction in legacy solution revenues. However, we experienced robust growth in order intake year-on-year, growing the orderbook as a result of strong demand for our automated validation and assurance solutions for 5G, SD-WAN and virtual networks. New product offerings for automated NetDevOps testing and TaaS managed services also saw significant initial orders late in the year, with revenue to be recognised in 2020 and beyond.

Connected Devices experienced a reduction in revenue of 8.2 per cent, primarily a consequence of the continuing decline in the 4G legacy smartphone device lab test business outpacing the ramp-up in 5G-related business. Notwithstanding the fall in recognised revenue, order intake showed some growth over the prior year, as several large multi-year support contracts and orders closed in the final quarter that will not convert to revenue until 2020.

Geographically, we have continued to see growth in revenue from the Asia Pacific region (up 18 per cent year-on-year), particularly China customers purchasing high-speed Ethernet test solutions, with the Americas broadly level and EMEA marginally down. The growth in China revenue has been achieved despite the ongoing geopolitical landscape challenges. However, we saw order intake growth in the Americas and EMEA and closed the year with a solid orderbook for all regions.

Gross margin

$ million	2019	%	2018	%
Networks & Security	**232.3**	**72.6**	205.3	72.0
Lifecycle Service Assurance	**88.6**	**79.7**	87.9	77.9
Connected Devices	**47.7**	**65.8**	51.3	64.9
	368.6	**73.2**	344.5	72.2

The Group achieved further gross margin expansion in 2019 with an increase of 1.0 percentage points, to 73.2 per cent from 72.2 per cent in 2018. This followed an increase of 0.7 percentage points last year. Once again, all the operating segments achieved an improvement in gross margin, benefiting from new product launches and a higher proportion of software sales.

Operating costs

$ million	2019	2018
Product development	**96.5**	96.9
Selling and marketing	**129.2**	123.9
Administration[1]	**50.0**	46.6
Adjusted operating costs[1]	**275.7**	267.4
Networks & Security	**158.4**	148.9
Lifecycle Service Assurance	**70.5**	70.5
Connected Devices	**38.2**	40.8
Corporate	**8.6**	7.2
Adjusted operating costs[1]	**275.7**	267.4

Note
1. Before exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment amounting to $4.3 million in total (2018: $19.6 million).

Total Group adjusted operating costs were up $8.3 million or 3.1 per cent in 2019 compared to last year, broadly in line with inflation. The emphasis remained on effective resource allocation and careful cost management. The overall investment in product development was maintained, with continuing focus on high-growth, high-margin areas. Investment in the sales and marketing organisation was targeted on expanding our key account management programme to drive incremental business with our most valuable customers and developing routes to market for our new technologies to a broadening customer base. Administration costs in 2019 reflected an inflationary increase and higher corporate costs, primarily due to CEO transition.

Segmentally, investment continued in Networks & Security, where we see the most near-term opportunities for growth, particularly in relation to 400G high-speed Ethernet and our Positioning business. A new General Manager joined Lifecycle Service Assurance in October and a review is in progress to evolve the business and optimise the organisational structure to expand the customer base and deliver on our growth agenda. Proactive cost management has once again been demonstrated within Connected Devices, where we have seen a decrease in legacy product revenue year-on-year. As stated above, corporate costs in 2019 included costs associated with CEO transition.

Operating profit

$ million	**2019**	**Adjusted operating margin[1, 2] %**	2018	Adjusted operating margin[1, 2] %
Networks & Security	**73.9**	**23.1**	56.4	19.8
Lifecycle Service Assurance	**18.1**	**16.3**	17.4	15.4
Connected Devices	**9.5**	**13.1**	10.5	13.3
Corporate	**(8.6)**		(7.2)	
Adjusted operating profit[1]	**92.9**	**18.4**	77.1	16.2
Exceptional items	**0.5**		(13.1)	
Acquisition related costs	**(0.1)**		-	
Acquired intangible asset amortisation	**(1.2)**		(3.7)	
Share-based payment	**(3.5)**		(2.8)	
Reported operating profit	**88.6**		57.5	

Notes
1. Before exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment amounting to $4.3 million in total (2018: $19.6 million).
2. Adjusted operating profit as a percentage of revenue in the period.

Adjusted operating profit increased by $15.8 million or 20.5 per cent to $92.9 million in 2019, compared with $77.1 million in 2018. Adjusted operating margin increased by 2.2 per cent to 18.4 per cent, from 16.2 per cent in 2018.

Reported operating profit was up by $31.1 million or 54.1 per cent to $88.6 million (2018: $57.5 million). Total adjusting items were lower in 2019 at $4.3 million, compared to $19.6 million in 2018, mainly due to exceptional items totalling $13.1 million charged last year (see below).

Exceptional items
Net exceptional income of $0.5 million has been recognised in 2019, this was comprised of:

1) $2.3 million of income received in relation to the provision set up in 2018 for French import duty (see below), which arose following a successful claim for reimbursement of VAT on the duty, and
2) $1.8 million of costs associated with a strategic review instigated by Spirent's new CEO, appointed 1 May 2019, 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. The total exceptional cost of these planned changes is circa $4.5 million with the remainder of this cost to be incurred in 2020.

In 2018, the Group incurred $13.1 million of exceptional costs in relation to:

1) a provision for $9.1 million in respect of import duty and VAT following receipt of a Notice of Recovery from French Customs; and
2) a pension scheme past service cost of $4.0 million (£3.1 million) arising from a benefit change for GMP equalisation under the UK defined benefit pension plans.

Acquired intangible asset amortisation and share-based payment
As a result of some acquired intangible assets reaching the end of their useful economic lives and no longer being amortised, acquired intangible asset amortisation has continued to reduce, decreasing to $1.2 million in 2019 from $3.7 million in 2018.

Share-based payment has increased to $3.9 million in 2019 (2018: $2.8 million), of which $3.5 million (2018: $2.8 million) has been treated as an adjusting item. This increase reflects the incremental cost associated with new awards.

Acquisitions and divestments
On 31 May 2019, Spirent acquired a key business from a small navigation systems company based in the United Kingdom, for cash consideration of $1.9 million. This company develops and supplies the Group with a system for recording GNSS and Wi-Fi signals, and is reported within the Group's Networks & Security operating segment. Costs related to the acquisition of $0.1 million were expensed and treated as an adjusting item. The transaction gave rise to an intangible asset of $1.0 million, being current technology with a useful life of five years, and goodwill of $0.9 million.

During 2018, a $2.0 million loan, which had previously been impaired, was repaid to the Group from subsidiaries divested of in 2017. In addition, a provision for $0.4 million relating to a disposal in 2012, which was classified as a discontinued operation, was released.

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

The Group's income statement includes a foreign exchange loss, included in administration costs, of $0.6 million (2018: $0.6 million) arising from transacting in foreign currencies, primarily US dollars in the United Kingdom, and the translation of foreign currency cash balances.

Forward foreign currency exchange contracts are entered into to manage the exposure arising from transacting in US dollars in the United Kingdom.

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

Finance income and costs
Interest income of $2.7 million was earned from cash on deposit (2018: $1.4 million) and $0.1 million (2018: nil) of interest income was recognised in relation to the UK defined benefit pension plans. The increase in bank interest received year-on-year reflected higher cash balances and proactive treasury management across the Group. Surplus funds are held principally in the United Kingdom and United States on short-term or overnight deposit and earn market rates of interest.

Finance costs in 2019 were $1.8 million (2018: $0.1 million), $1.7 million of which related to interest on lease liabilities following the implementation of IFRS 16 on 1 January 2019.

Tax
The adjusted effective tax rate, being the adjusted tax charge expressed as a percentage of adjusted profit before tax, shown on the face of the consolidated income statement, was 13.0 per cent in 2019, down from 15.4 per cent in 2018.

Spirent's effective tax rate has benefited from a combination of factors in 2019, including the ratification of a new tax treaty between India and Hong Kong, and an increase in non-taxed income. Additionally, the Group received tax benefits from the United Kingdom Patent Box Scheme, the United States R&D Tax Credit, and a current year recognition of deferred tax assets in the United States.

Going forward it is anticipated that Spirent's effective tax rate will be maintained at around 13-14 per cent, subject to changes in tax legislation.

Earnings per share
Adjusted basic earnings per share was up 23.4 per cent to 13.40 cents (2018: 10.86 cents). Basic earnings per share was 12.79 cents (2018: 9.14 cents). There were 609.9 million (2018: 610.4 million) weighted average Ordinary Shares in issue. See note 6 of Notes to the full year consolidated financial statements on page 33 for the calculation of earnings per share.

Financing and cash flow
The Group delivered very strong cash generation in 2019, driven by higher operating profit and effective working capital management. Changes in working capital, reflected within cash flow from operations, benefited from:

- our continued focus on improving trade receivables collection;
- a reduction in inventory levels due to a high level of shipments at the end of 2019; and
- growth in payables, resulting from the increase in activity levels and emphasis on extending supplier payment terms.

Free cash flow for 2019 almost doubled year-on-year coming in at $100.1 million, compared to $50.9 million in 2018, resulting in a free cash flow conversion which represented 123 per cent of adjusted earnings (2018: 77 per cent).

Free cash flow is set out below:

$ million	**2019**	2018
Cash flow from operations	**124.9**	65.9
Tax paid	**(5.6)**	(5.7)
Net cash inflow from operating activities	**119.3**	60.2
Interest received	**2.6**	1.3
Net capital expenditure	**(11.9)**	(10.6)
Payment of lease liabilities, principal and interest[1]	**(10.3)**	-
Lease payments received from finance leases	**0.4**	-
Free cash flow	**100.1**	50.9

Note

1. Spirent adopted IFRS 16 on 1 January 2019, in prior periods operating lease payments were included within cash flow from operations.

Free cash flow includes a net cash outflow in respect of exceptional items in 2018 and 2019 of $5.5 million (2018: $3.6 million in respect of exceptional items charged in 2017 and 2018).

Tax payments of $5.6 million made in 2019 were consistent with the prior year (2018: $5.7 million). Net capital expenditure of $11.9 million was also broadly consistent with the prior year (2018: $10.6 million), with the incremental spend of $1.3 million primarily related to investment in 5G. We continue to exercise careful management of capital investment to ensure efficient use of capital and maximise return on investment.

Following the adoption of IFRS 16 on 1 January 2019, the payment of lease liabilities, both the principal and interest elements, are shown separately from net cash flow from operating activities. In previous periods they would have been reflected in that number. There is no overall impact in comparing free cash flow year-on-year.

In 2019, the final dividend for 2018 and an interim dividend for 2019 totalling $28.6 million were paid. This compared to total dividends of $54.8 million paid in 2018, including a special dividend of $29.9 million. In addition, 4.0 million shares were purchased and placed into the Employee Share Ownership Trust at a cost of $8.6 million (2018: 1.5 million shares at a net cost of $2.5 million) and $1.9 million of cash consideration was paid to acquire the business of a navigation systems company based in the United Kingdom.

Following these payments, cash and cash equivalents closed at $183.2 million at 31 December 2019, compared with $121.6 million at 31 December 2018. There continues to be no bank debt.

Defined benefit pension plans

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

The accounting valuation of the funded defined benefit pension plans at 31 December 2019 gave rise to a net surplus of $11.6 million, compared with a net surplus of $2.5 million at 31 December 2018.

The 31 December 2019 position has benefited from contributions paid to the plans in the year of $6.6 million (2018: $6.8 million) together with a return on pension plan assets in excess of the increase in plan liabilities, the latter arising primarily from a reduction in discount rate.

The latest triennial actuarial valuation dated 31 March 2018 indicated a deficit of £22.5 million, calculated on a technical provisions basis using more prudent assumptions than the accounting valuation, particularly in relation to discount rate, inflation and demographic. A deficit reduction plan has been agreed with the Trustees which requires the Company to pay an annual contribution of £5.0 million, increasing in line with CPI, through to June 2023 (or earlier if self-sufficiency is reached). In addition, the Company will fund the plan by an amount equal to 10 per cent of any special dividend paid during that period.

Additionally, there is a liability for an unfunded plan of $0.7 million (31 December 2018: $0.6 million).

The Group also operates a deferred compensation plan for employees in the United States. As at 31 December 2019, the deferred compensation plan deficit amounted to $4.8 million (2018: $3.5 million). The key financial assumptions include a discount rate used to discount plan liabilities of 2.9 per cent (2018: 4.2 per cent) and an expected investment yield of 6.4 per cent (2018: 6.4 per cent).

Balance sheet
The consolidated balance sheet is set out on page 25.

Overall, net assets have increased by $47.0 million to $402.3 million at 31 December 2019, from $355.3 million at 31 December 2018. Much of the increase arises from the change in cash and cash equivalents, which have grown by $61.6 million to $183.2 million (31 December 2018: $121.6 million), offset by increased liabilities driven by higher activity levels at the end of 2019, relative to 2018.

In terms of non-current assets, these have increased by $33.4 million, with $26.0 million of right-of-use assets now on the balance sheet following the implementation of IFRS 16 on 1 January 2019. The UK defined benefit pension plan surplus has increased by $9.1 million to $11.6 million but this has been substantially offset by a $6.6 million fall in the value of property, plant and equipment.

Current assets have increased by $58.6 million, primarily reflecting the increase in cash. High levels of activity at year end 2019 resulted in an increase in receivables of $4.7 million, constrained to some extent by successful action taken by management to reduce the number of days sales outstanding reflected in trade receivables, offset by a decrease in inventory of $6.9 million, due to a high level of year end shipments.

Current liabilities have increased by $24.2 million to $154.4 million (31 December 2018: $130.2 million), with growth in trade and other payables driven by higher activity levels. In addition, the 31 December 2019 balance sheet includes $8.5 million of lease liabilities arising from the implementation of IFRS 16 on 1 January 2019. Provisions have decreased by $5.9 million following payment of $6.5 million during the year in respect of French Customs import duty.

The implementation of IFRS 16 on 1 January 2019 has added $24.5 million of lease liabilities to non-current liabilities at 31 December 2019.

Liquidity and dividend policy

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. If and when it is deemed appropriate, the Company may take on modest gearing to fund inorganic investments.

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

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

Dividend

The Board is recommending the payment of a final dividend for 2019 of 3.45 cents (2.70 pence) per share which, together with the interim dividend of 1.94 cents (1.59 pence) per share paid in September 2019, brings the full year dividend to 5.39 cents (4.29 pence) per share, a dividend cover of 2.5 times adjusted earnings. This is a 20 per cent increase compared to the full year dividend for 2018. In sterling terms this represents an increase of 25 per cent.

Subject to approval by shareholders at the Annual General Meeting on 29 April 2020, the final dividend will be paid on 1 May 2020 to shareholders on the register at 13 March 2020. Payment to ADR holders will be made on 8 May 2020. In total the payment of the final dividend for 2019 will consume approximately $21 million of cash.

New accounting standards – IFRS 16

The Group transitioned to IFRS 16, the new lease accounting standard, on 1 January 2019, using the modified retrospective transition method. This approach does not require comparatives to be restated. Instead, the cumulative effect of applying IFRS 16 is applied to the opening balance of retained earnings at 1 January 2019.

The cumulative effect of the adoption of IFRS 16 has resulted in a decrease in net assets of $3.4 million as at 1 January 2019. This reflects the difference between right-of-use assets and lease liabilities, as right-of-use assets depreciate quicker than lease liabilities are settled.

The following balances have been added to the Group's balance sheet at 1 January 2019:

- right-of-use assets of $30.9 million;
- lease liabilities of $36.7 million; and
- deferred tax assets of $1.0 million.

The above balances include net reclassification adjustments to liabilities of $1.4 million.

In terms of the income statement impact, adjusted operating profit marginally increased in 2019 through the operating lease expense being removed and replaced by a smaller depreciation charge. There was also an increase to finance costs under IFRS 16 as a result of interest on lease liabilities, which offset the increase to adjusted operating profit. The impact to the Group's earnings and income statement overall was immaterial.

An explanation of the impact of IFRS 16 on the Group's financial statements and related matters consequent upon the adoption of IFRS 16 are set out in appendix 1.

Consolidated income statement

$ million	Notes	**Year ended 31 December 2019** Adjusted	Adjusting items[1]	Reported	Year ended 31 December 2018 Adjusted	Adjusting items[1]	Reported
Revenue	3	**503.6**	**-**	**503.6**	476.9	-	476.9
Cost of sales		**(135.0)**	**-**	**(135.0)**	(132.4)	-	(132.4)
Gross profit		**368.6**	**-**	**368.6**	344.5	-	344.5
Product development	3	**(96.5)**	**-**	**(96.5)**	(96.9)	-	(96.9)
Selling and marketing		**(129.2)**	**-**	**(129.2)**	(123.9)	-	(123.9)
Administration		**(50.0)**	**-**	**(50.0)**	(46.6)	-	(46.6)
Other items		**-**	**(4.3)**	**(4.3)**	-	(19.6)	(19.6)
Operating profit		**92.9**	**(4.3)**	**88.6**	77.1	(19.6)	57.5
Other items credited/(charged) in arriving at operating profit:							
Exceptional items	4	**-**	**0.5**	**0.5**	-	(13.1)	(13.1)
Acquisition related costs	13	**-**	**(0.1)**	**(0.1)**	-	-	-
Acquired intangible asset amortisation		**-**	**(1.2)**	**(1.2)**	-	(3.7)	(3.7)
Share-based payment		**-**	**(3.5)**	**(3.5)**	-	(2.8)	(2.8)
Other items		**-**	**(4.3)**	**(4.3)**	-	(19.6)	(19.6)
Finance income		**2.8**	**-**	**2.8**	1.4	-	1.4
Finance costs		**(1.8)**	**-**	**(1.8)**	(0.1)	-	(0.1)
Gain on divestment	12	**-**	**-**	**-**	-	2.4	2.4
Profit before tax		**93.9**	**(4.3)**	**89.6**	78.4	(17.2)	61.2
Tax	5	**(12.2)**	**0.6**	**(11.6)**	(12.1)	6.7	(5.4)
Profit for the year attributable to owners of the parent Company		**81.7**	**(3.7)**	**78.0**	66.3	(10.5)	55.8
Earnings per share (cents)	6						
Basic		**13.40**		**12.79**	10.86		9.14
Diluted		**13.23**		**12.63**	10.75		9.05

Note
1. Adjusting items comprise exceptional items, acquisition related costs, amortisation of acquired intangible assets, share-based payment, gain on divestment, tax on adjusting items and 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 appendix 2.

Consolidated statement of comprehensive income

$ million	Note	Year ended 31 December **2019**	2018
Profit for the year attributable to owners of the parent Company		**78.0**	55.8
Other comprehensive income/(loss)			
Items that may subsequently be reclassified to profit or loss:			
– Exchange differences on retranslation on foreign operations		**1.9**	(3.1)
Items that will not subsequently be reclassified to profit or loss:			
– Re-measurement of the net defined benefit pension asset	9	**2.7**	2.8
– Income tax effect of re-measurement of defined benefit pension asset		**(0.5)**	(0.6)
– Re-measurement of the deferred compensation liability	9	**(0.4)**	0.5
– Income tax effect of re-measurement of the deferred compensation liability		**0.1**	(0.1)
		1.9	2.6
Other comprehensive income/(loss)		**3.8**	(0.5)
Total comprehensive income for the year attributable to owners of the parent Company		**81.8**	55.3

Consolidated balance sheet

$ million	Notes	At 31 December 2019	2018
Assets			
Non-current assets			
Intangible assets		**160.3**	158.0
Property, plant and equipment		**29.5**	36.1
Right-of-use assets		**26.0**	-
Trade and other receivables		**6.9**	4.5
Assets recognised from costs to obtain a contract		**0.3**	0.5
Defined benefit pension plan surplus	9	**11.6**	2.5
Deferred tax asset		**22.4**	22.0
		257.0	223.6
Current assets			
Inventories		**20.6**	27.5
Trade and other receivables		**142.8**	138.1
Assets recognised from costs to obtain a contract		**0.5**	0.5
Other financial assets		**0.1**	-
Current tax asset		**0.5**	1.4
Cash and cash equivalents		**183.2**	121.6
		347.7	289.1
Total assets		**604.7**	512.7
Liabilities			
Current liabilities			
Trade and other payables		**(84.1)**	(63.1)
Deferred income		**(53.2)**	(55.2)
Lease liabilities		**(8.5)**	-
Current tax liability		**(3.8)**	(1.2)
Provisions	8	**(4.8)**	(10.7)
		(154.4)	(130.2)
Non-current liabilities			
Trade and other payables		**(1.0)**	(5.4)
Deferred income		**(13.6)**	(14.4)
Lease liabilities		**(24.5)**	-
Defined benefit pension plan deficit	9	**(5.5)**	(4.1)
Provisions	8	**(3.4)**	(3.3)
		(48.0)	(27.2)
Total liabilities		**(202.4)**	(157.4)
Net assets		**402.3**	355.3
Capital and reserves			
Share capital		**26.8**	26.0
Share premium account		**26.6**	25.7
Capital redemption reserve		**17.4**	16.8
Other reserves		**15.2**	17.5
Translation reserve		**10.1**	8.2
Retained earnings		**306.2**	261.1
Total equity attributable to owners of the parent Company		**402.3**	355.3

Consolidated statement of changes in equity

		Attributable to the equity holders of the parent Company						
$ million	Notes	Share capital	Share premium account	Capital redemption reserve	Other reserves	Translation reserve	Retained earnings	Total equity
At 1 January 2018		27.5	27.3	17.8	13.4	11.3	256.8	354.1
Profit for the year		-	-	-	-	-	55.8	55.8
Other comprehensive (loss)/income[1]		-	-	-	-	(3.1)	2.6	(0.5)
Total comprehensive (loss)/income		-	-	-	-	(3.1)	58.4	55.3
Share-based payment		-	-	-	-	-	2.8	2.8
Tax credit on share incentives		-	-	-	-	-	0.4	0.4
Equity dividends	7	-	-	-	-	-	(54.8)	(54.8)
Employee Share Ownership Trust	15	-	-	-	-	-	(2.5)	(2.5)
Exchange adjustment		(1.5)	(1.6)	(1.0)	4.1	-	-	-
At 31 December 2018, as reported		**26.0**	**25.7**	**16.8**	**17.5**	**8.2**	**261.1**	**355.3**
Impact of change in accounting standard – IFRS 16	2	**-**	**-**	**-**	**-**	**-**	**(3.4)**	**(3.4)**
At 1 January 2019		**26.0**	**25.7**	**16.8**	**17.5**	**8.2**	**257.7**	**351.9**
Profit for the year		**-**	**-**	**-**	**-**	**-**	**78.0**	**78.0**
Other comprehensive income[2]		**-**	**-**	**-**	**-**	**1.9**	**1.9**	**3.8**
Total comprehensive income		**-**	**-**	**-**	**-**	**1.9**	**79.9**	**81.8**
Share-based payment		**-**	**-**	**-**	**-**	**-**	**3.9**	**3.9**
Tax credit on share incentives		**-**	**-**	**-**	**-**	**-**	**1.9**	**1.9**
Equity dividends	7	**-**	**-**	**-**	**-**	**-**	**(28.6)**	**(28.6)**
Employee Share Ownership Trust	15	**-**	**-**	**-**	**-**	**-**	**(8.6)**	**(8.6)**
Exchange adjustment		**0.8**	**0.9**	**0.6**	**(2.3)**	**-**	**-**	**-**
At 31 December 2019		**26.8**	**26.6**	**17.4**	**15.2**	**10.1**	**306.2**	**402.3**

Notes

1. The amount included in other comprehensive (loss)/income for 2018 of $2.6 million represents re-measurement gains on the net defined benefit pension asset of $2.8 million, net of a tax charge of $0.6 million, and re-measurement gains on the deferred compensation liability of $0.5 million, net of a tax charge of $0.1 million. The amount included in the translation reserve of $3.1 million represents other comprehensive loss related to the translation of foreign operations.
2. The amount included in other comprehensive income for 2019 of $1.9 million represents re-measurement gains on the net defined benefit pension asset of $2.7 million, net of a tax charge of $0.5 million, and re-measurement losses on the deferred compensation liability of $0.4 million, net of a tax credit of $0.1 million. The amount included in the translation reserve of $1.9 million represents other comprehensive income related to the translation of foreign operations.

Consolidated cash flow statement

$ million	Notes	Year ended 31 December 2019	2018
Cash flows from operating activities			
Cash flow from operations	10	**124.9**	65.9
Tax paid		**(5.6)**	(5.7)
Net cash inflow from operating activities		**119.3**	60.2
Cash flows from investing activities			
Interest received		**2.6**	1.3
Purchase of intangible assets		**(2.0)**	-
Purchase of property, plant and equipment		**(10.9)**	(12.0)
Proceeds from the sale of property, plant and equipment		**1.0**	1.4
Lease payments received from finance leases		**0.4**	-
Net expenses of divestments	12	**-**	(0.2)
Repayment of loans to divested subsidiaries	12	**-**	2.0
Acquisition of business	13	**(1.9)**	-
Net cash used in investing activities		**(10.8)**	(7.5)
Cash flows from financing activities			
Lease liability principal repayments		**(8.6)**	-
Lease liability interest paid		**(1.7)**	-
Dividend paid	7	**(28.6)**	(54.8)
Share purchase into Employee Share Ownership Trust	15	**(8.6)**	(2.5)
Net cash used in financing activities		**(47.5)**	(57.3)
Net increase/(decrease) in cash and cash equivalents		**61.0**	(4.6)
Cash and cash equivalents at the beginning of the year		**121.6**	128.4
Effect of foreign exchange rate changes		**0.6**	(2.2)
Cash and cash equivalents at the end of the year		**183.2**	121.6

Notes to the full year consolidated financial statements

1 Financial information presented

The financial information contained in this document does not constitute the Group's statutory accounts for the year ended 31 December 2019.

As required by the European Union's IAS Regulation and the Companies Act 2006, the Group has prepared its consolidated financial statements for the year ended 31 December 2019 in accordance with International Financial Reporting Standards (IFRS) as adopted by the European Union and issued by the International Accounting Standards Board. The comparative financial information is based on the statutory accounts for the year ended 31 December 2018 which have been delivered to the Registrar of Companies. The report of the auditors 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 of the Companies Act 2006.

The full year announcement was approved by the Board of Directors on 5 March 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 2018, except for the adoption of IFRS 16 'Leases' effective 1 January 2019.

Presentation
The Group's deferred costs balance has been reclassified from 'trade and other receivables - current' to 'inventories' as this classification more appropriately represents the nature of the balance. The presentation of the comparative amounts in the Group's balance sheet has also been amended to reflect this change. This resulted in a reclassification of $1.8 million in 2018. The related cash flow movement in 2018 was also reclassified using the appropriate corresponding line item within the 'cash flow from operating activities' category in the Group's 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 2018.

New accounting standards
The Group has adopted IFRS 16 'Leases' on 1 January 2019. Other than this, there have been no new standards or amendments to existing standards and interpretations that have been applied by the Group which have resulted in a significant impact on its consolidated results or financial position.

IFRS 16 Leases
IFRS 16 'Leases' is effective from 1 January 2019 and replaces the existing standard IAS 17 'Leases'. The consolidated financial statements for the year ending 31 December 2019 are the first financial statements presented under IFRS 16.

In the lessee's financial statements, the standard eliminates the classification of leases as either operating leases or finance leases as per IAS 17 and introduces a single lessee accounting model. Lease agreements give rise to the recognition of an asset representing the right to use the leased item and a corresponding loan obligation for future lease payables.

The Group has applied IFRS 16 using the modified retrospective approach, meaning comparatives are not restated and the cumulative effect of initially applying the standard is recognised as an adjustment to the opening balance of retained earnings at the date of initial application. Under this option, the Group has elected to calculate the asset value as if the standard had always been applied since the lease commencement date but discounted using the Group's incremental borrowing rate at the date of initial application. Lease liabilities were recognised based on the present value of the remaining lease payments, discounted using the incremental borrowing rate at the date of initial application. The Group has also elected to use the following practical expedients:

- the application of a single discount rate to a portfolio of leases with reasonably similar characteristics;
- use of its onerous lease assessment calculated in accordance with IAS 37 'Provisions, Contingent Liabilities and Contingent Assets' as an alternative to performing an impairment review of right-of-use assets on initial application;
- leases with less than 12 months remaining at the date of initial application can be accounted for as short-term leases and continue to be expensed as incurred;
- initial direct costs can be excluded from the measurement of right-of-use assets at the date of initial application; and
- hindsight can be used in determining the lease term if the contract contains options to extend or terminate the lease.

The Group also made use of the exemptions in respect of short-term leases and leases for which the underlying asset is of low value in accordance with paragraph 6 of IFRS 16.

An explanation of the impact of IFRS 16 on the Group's financial statements and related matters consequent upon the adoption of IFRS 16 are set out in appendix 1. The accounting policy in respect of leases, from 1 January 2019, is set out in the Group's 2019 Annual Report.

Going concern

At 31 December 2019, the Group had cash of $183.2 million and external debt only in relation to its lease liabilities.

The directors have reviewed the detailed financial projections for a period of 12 months from the date of this report and the business plans for the 2021 and 2022 financial years. They have also considered the principal risks and uncertainties that the Group faces and its current financial position and are satisfied that the Group has adequate financial resources to continue in operational existence for the foreseeable future, a period of not less than 12 months from the date of this report. Accordingly, the going concern basis of accounting continues to be used in the preparation of the financial statements.

3 Operating segments

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

The Group's reportable operating segments are 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, finance costs and gain on divestment are not allocated to the reportable segments. Corporate is not an operating segment and costs are separately reported and not allocated to the reportable segments. Information on segment assets and segment liabilities is not regularly provided to the Group's Chief Executive Officer and is therefore not disclosed below. There is no aggregation of operating segments.

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

$ million	Networks & Security	Lifecycle Service Assurance	Connected Devices	Corporate	Total
2019					
Revenue					
Nature of products and services					
Sale of hardware and software	**272.0**	**67.8**	**32.6**	**-**	**372.4**
Maintenance and support services	**47.9**	**43.4**	**39.9**	**-**	**131.2**
	319.9	**111.2**	**72.5**	**-**	**503.6**
Primary geographical markets					
Americas	**141.0**	**85.5**	**39.6**	**-**	**266.1**
Asia Pacific	**143.3**	**15.2**	**29.3**	**-**	**187.8**
Europe, Middle East and Africa	**35.6**	**10.5**	**3.6**	**-**	**49.7**
	319.9	**111.2**	**72.5**	**-**	**503.6**
Profit before tax					
Total reportable segment profit before exceptional items	**73.9**	**18.1**	**9.5**	**(8.6)**	**92.9**
Exceptional items *note 4*	**(1.1)**	**(0.4)**	**(0.3)**	**2.3**	**0.5**
Total reportable segment profit	**72.8**	**17.7**	**9.2**	**(6.3)**	**93.4**
Unallocated amounts:					
– Acquisition related costs *note 13*					**(0.1)**
– Acquired intangible asset amortisation					**(1.2)**
– Share-based payment					**(3.5)**
Operating profit					**88.6**
Finance income					**2.8**
Finance costs					**(1.8)**
Profit before tax					**89.6**
Other information					
Product development	**56.0**	**27.6**	**12.9**	**-**	**96.5**
Intangible asset amortisation – other	**-**	**-**	**0.9**	**-**	**0.9**
Depreciation of property, plant and equipment	**9.2**	**2.7**	**2.7**	**0.1**	**14.7**
Depreciation of right-of-use assets	**4.4**	**1.7**	**1.1**	**0.3**	**7.5**

3 Operating segments *continued*

$ million	Networks & Security	Lifecycle Service Assurance	Connected Devices	Corporate	Total
2018					
Revenue					
Nature of products and services					
Sale of hardware and software	239.8	66.9	40.0	-	346.7
Maintenance and support services	45.3	45.9	39.0	-	130.2
	285.1	112.8	79.0	-	476.9
Primary geographical markets					
Americas	133.7	93.4	38.3	-	265.4
Asia Pacific	112.6	9.8	36.7	-	159.1
Europe, Middle East and Africa	38.8	9.6	4.0	-	52.4
	285.1	112.8	79.0	-	476.9
Profit before tax					
Total reportable segment profit before exceptional items	56.4	17.4	10.5	(7.2)	77.1
Exceptional items *note 4*	-	-	-	(13.1)	(13.1)
Total reportable segment profit	56.4	17.4	10.5	(20.3)	64.0
Unallocated amounts					
– Acquired intangible asset amortisation					(3.7)
– Share-based payment					(2.8)
Operating profit					57.5
Finance income					1.4
Finance costs					(0.1)
Gain on divestment *note 13*					2.4
Profit before tax					61.2
Other information					
Product development	53.0	29.6	14.3	-	96.9
Intangible asset amortisation – other	-	-	0.6	-	0.6
Depreciation	9.7	3.1	3.6	0.1	16.5

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 $8.2 million (2018: $6.8 million).

Americas includes United States revenue of $252.4 million (2018: $254.1 million).

Asia Pacific includes China revenue of $114.1 million (2018: $92.2 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 2019 or 2018.

4 Exceptional items

$ million	**2019**	2018
CEO strategic review	**1.8**	-
French Customs (refund)/duty	**(2.3)**	9.1
UK pension fund GMP equalisation past service cost	**-**	4.0
	(0.5)	13.1

In 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 charge comprised employee severance costs of $1.1 million, recruitment costs of $0.3 million and consulting costs of $0.4 million. This review will continue into 2020.

In 2018, the Group recognised a $9.1 million charge in relation to an ongoing compliance dispute with Direction Générale des Douanes et Droits Indirects (French Customs) concerning the valuation and classification of imports into France which commenced in 2011. The amount was comprised of a provision for $8.9 million (note 8) and $0.2 million of other costs. In 2019, the Group received a refund amounting to $2.3 million following a successful claim for reimbursement of VAT paid on the imports.

Additionally in 2018, following the Lloyds Bank GMP inequalities court judgement published in October of that year, the Group equalised GMP benefits amounting to $4.0 million (£3.1 million) of defined benefit pension past service costs.

The tax effect of exceptional items is a charge of $0.2 million (2018: $3.8 million credit). There will be a total net cash inflow of $0.5 million in respect of exceptional items credited in 2019, $1.0 million of which was received in 2019 (2018: $9.1 million with $0.2 million paid in 2018). The cash outflow in 2019 in respect of exceptional items charged in 2018 was $6.5 million (2018: $3.4 million).

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

5 Tax

$ million	**2019**	2018
Current income tax		
UK tax	**0.3**	0.1
Foreign tax	**9.2**	6.2
Amounts underprovided/(overprovided) in previous years	**0.3**	(1.2)
Total current income tax charge	**9.8**	5.1
Deferred tax		
Recognition of deferred tax assets	**(1.5)**	(0.8)
Reversal of temporary differences	**3.5**	1.4
Adjustments in respect of prior years	**(0.2)**	(0.3)
Total deferred tax charge	**1.8**	0.3
Tax charge in the income statement	**11.6**	5.4

The tax charge for the year ended 31 December 2019 was $11.6 million (2018: $5.4 million). This was after a prior year tax charge of $0.1 million and a tax credit on adjusting items of $0.7 million (2018: prior year credit of $1.5 million and a tax credit on adjusting items of $5.2 million). Excluding the prior year and tax credit on adjusting items, the effective tax rate was 13.0 per cent (2018: 15.4 per cent).

6 Earnings per share

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

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

$ million	2019	2018
Profit for the year attributable to owners of the parent Company	**78.0**	55.8

Number million		
Weighted average number of Ordinary Shares in issue – basic	**609.9**	610.4
Dilutive potential of employee share incentives	**7.5**	6.5
Weighted average number of Ordinary Shares in issue – diluted	**617.4**	616.9

Cents		
Earnings per share		
Basic	**12.79**	9.14
Diluted	**12.63**	9.05

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

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

6 Earnings per share *continued*

A reconciliation is provided below:

	2019		2018	
	$ million	**EPS cents**	$ million	EPS cents
Profit for the year attributable to owners of the parent Company	**78.0**	**12.79**	55.8	9.14
Exceptional items (credit)/charge *note 4*	**(0.5)**		13.1	
Acquisition related costs	**0.1**		-	
Acquired intangible asset amortisation	**1.2**		3.7	
Share-based payment	**3.5**		2.8	
Gain on divestment	**-**		(2.4)	
Tax effect on the above items	**(0.7)**		(5.2)	
Prior year tax charge/(credit)	**0.1**		(1.5)	
Adjusted basic	**81.7**	**13.40**	66.3	10.86
Adjusted diluted		**13.23**		10.75

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

7 Dividends paid and proposed

$ million	**2019**	2018
Declared and paid in the year		
Equity dividend on Ordinary Shares		
Final dividend 2018 of 2.73 cents (2.08 pence) per Ordinary Share (2017: 2.40 cents (1.73 pence))	**16.7**	14.3
Special dividend 2017 of 5.00 cents (3.60 pence) per Ordinary Share	**-**	29.9
Interim dividend 2019 of 1.94 cents (1.59 pence) per Ordinary Share (2018: 1.76 cents (1.34 pence))	**11.9**	10.6
	28.6	54.8
Proposed for approval at AGM (not recognised as a liability at 31 December)		
Equity dividend on Ordinary Shares		
Final dividend 2019 of 3.45 cents (2.70 pence) per Ordinary Share (2018: 2.73 cents (2.08 pence))	**21.0**	16.7

The directors are proposing a final dividend in respect of the financial year ended 31 December 2019 of 3.45 cents per Ordinary Share (2.70 pence) (2018: 2.73 cents (2.08 pence)), which will absorb an estimated $21.0 million of shareholders' funds (2018: $16.7 million). The final dividend will be paid on 1 May 2020 to Ordinary shareholders who are on the Register of Members at close of business on 13 March 2020. Payment will be made to ADR holders on 8 May 2020. No liability is recorded in the financial statements in respect of this dividend.

Dividends are determined in US dollars and paid in pounds sterling. The exchange rate for determining the amount of the final dividend to be paid for 2019 was $1.28: £1 (2018: $1.31: £1).

8 Provisions

$ million	Lease provisions	Restructuring provisions	Other provisions	Total
At 1 January 2018	3.5	1.4	1.9	6.8
Charged in the year	-	0.5	9.4	9.9
Asset retirement obligation	0.5	-	-	0.5
Released in the year	-	(0.1)	(0.9)	(1.0)
Utilised in the year	(0.5)	(1.8)	(0.1)	(2.4)
Unwind of discount	0.1	-	-	0.1
Exchange difference	-	-	0.1	0.1
At 31 December 2018, as reported	**3.6**	**-**	**10.4**	**14.0**
Impact of change in accounting standard – IFRS 16	**(0.6)**	**-**	**-**	**(0.6)**
At 1 January 2019	**3.0**	**-**	**10.4**	**13.4**
Charged in the year	**0.1**	**1.3**	**0.9**	**2.3**
Asset retirement obligation	**0.4**	**-**	**-**	**0.4**
Released in the year	**-**	**-**	**(0.3)**	**(0.3)**
Utilised in the year	**-**	**(0.9)**	**(6.5)**	**(7.4)**
Unwind of discount	**0.1**	**-**	**-**	**0.1**
Exchange difference	**-**	**-**	**(0.3)**	**(0.3)**
At 31 December 2019	**3.6**	**0.4**	**4.2**	**8.2**

$ million	**2019**	2018
Current	**4.8**	10.7
Non-current	**3.4**	3.3
	8.2	14.0

The lease provisions are for the continuing obligations under leases in respect of property dilapidation and reinstatement provisions. The Group expects these provisions to be utilised over one to ten years. Other provisions comprise environmental provisions related to property disposed of, provisions relating to legal claims and a provision relating to a Notice of Recovery received from French Customs, discussed below. The Group expects these provisions to be utilised in less than one year.

In 2018, the Group made a provision for $8.9 million following the receipt of a Notice of Recovery from the Direction Générale des Douanes et Droits Indirects (French Customs) in relation to the valuation and classification of duty on certain imports into France. This dispute commenced with enquiries in 2011. The import regulations changed on 1 January 2017 and no liability exists after that date. During the period in question, Spirent adopted a duty tariff based on World Customs Organisation guidelines which conflicted with European Union regulation. In 2019, the Group paid $6.5 million in relation to this claim but strongly refutes the basis of it and reserves the right to challenge it in the courts at some future date.

9 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 funded defined benefit pension plans' assets and the present value of the plans' obligations, using the projected unit credit method, have been used and updated at 31 December 2019 as the basis for the accounting valuation.

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

$ million	**2019**	2018
Schemes in net asset position		
UK funded defined benefit pension plan surplus	**11.6**	2.5
Schemes in net liability position		
UK unfunded plan	**(0.7)**	(0.6)
US deferred compensation plan	**(4.8)**	(3.5)
	(5.5)	(4.1)
Net pension plan surplus/(deficit) on the balance sheet	**6.1**	(1.6)

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

$ million	**2019**	2018
Fair value of defined benefit pension plans' assets	**291.1**	254.2
Present value of defined benefit pension plans' obligations	**(279.5)**	(251.7)
Net UK funded defined benefit pension plan surplus on the balance sheet	**11.6**	2.5

The key financial assumptions are as follows:

%	**2019**	2018
Inflation - RPI	**3.0**	3.2
Inflation - CPI	**2.2**	2.1
Rate of increase in pensionable salaries	**2.2**	2.1
Rate of increase for pensions in payment		
Pre-2001 service	**3.6**	3.7
2001 to 5 April 2005 service	**2.9**	3.1
Post-5 April 2005 service	**2.0**	2.1
Rate of increase in deferred pensions	**2.2**	2.1
Rate used to discount plan liabilities	**2.1**	2.8

An operating charge of $0.7 million (2018: $0.6 million) and finance income of $0.1 million (2018: nil) have been recognised in the income statement.

9 Defined benefit pension plans *continued*

The Group also operates a deferred compensation plan for employees in the United States. The plan has elements of a defined benefit pension retirement obligation and therefore is required to be valued in accordance with IAS 19 'Employee Benefits'. At 31 December 2019, the deferred compensation deficit amounted to $4.8 million (31 December 2018: $3.5 million). A re-measurement loss of $0.4 million (31 December 2018: $0.5 million gain) was recognised directly in the statement of comprehensive income.

10 Reconciliation of profit before tax to cash generated from operations

$ million	**2019**	2018
Profit before tax	**89.6**	61.2
Adjustments for:		
Finance income	**(2.8)**	(1.4)
Finance costs	**1.8**	0.1
Intangible asset amortisation	**2.1**	4.3
Depreciation of property, plant and equipment	**14.7**	16.5
Depreciation of right-of-use assets	**7.5**	-
Loss on the disposal of property, plant and equipment	**0.2**	-
Gain on divestment	**-**	(2.4)
Share-based payment	**3.9**	2.8
Changes in working capital:		
Deferred income released	**(3.0)**	(2.5)
Increase in receivables	**(4.4)**	(11.5)
Decrease/(increase) in inventories	**7.0**	(1.7)
Increase/(decrease) in payables	**18.7**	(4.7)
(Decrease)/increase in provisions	**(5.4)**	7.6
Defined benefit pension plan employer contributions net of administration expenses paid by the plan	**(5.9)**	(6.7)
Defined benefit pension plan re-measurement (GMP equalisation)	**-**	4.0
Deferred compensation plan	**0.9**	0.3
Cash flow from operations	**124.9**	65.9

11 Contract balances

The following table provides information about receivables and contract liabilities from contracts with customers. The Group does not have any contract assets.

$ million	**2019**	2018	2017
Trade receivables	**128.7**	123.4	113.8
Contract liabilities			
Payments received on account	**2.3**	1.0	3.8
Deferred income	**66.8**	69.6	72.7
	69.1	70.6	76.5
Revenue recognised in the period from amounts included in contract liabilities at the beginning of the period	**56.2**	65.5	62.1

12 Divestments

There were no divestments in 2018 or 2019.

In 2018, a $2.0 million loan was repaid to the Group from subsidiaries divested of in 2017. The loan had previously been impaired. The Group also incurred $0.1 million of expenses relating to the divestment. In addition, a provision for $0.5 million relating to a disposal in 2012, which was classified as a discontinued operation, was released.

13 Business combinations

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 is 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 will enable Spirent to streamline its supply chain process and improve gross margin on this 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 have been expensed to other items within the income statement.

14 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 stated at fair value 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.

15 Employee Share Ownership Trust

During the year, 4.0 million shares were purchased and placed into the Employee Share Ownership Trust at a cost of $8.6 million, and 3.0 million shares were transferred from the Employee Share Ownership Trust to satisfy options exercised under the Spirent employee share plans (2018: 1.5 million shares purchased and placed at a net cost of $2.5 million, and 1.5 million shares transferred).

Appendix 1

Impact of IFRS 16

The Group adopted IFRS 16 'Leases' on 1 January 2019 using the modified retrospective transition method. This approach does not require restated comparative figures and therefore the comparative information is reported under IAS 17. Instead, the cumulative effect of applying IFRS 16 is applied to the opening balance of retained earnings at 1 January 2019. This appendix presents the impact of the adoption of IFRS 16 on the Group's financial statements.

The cumulative effect of the adoption of IFRS 16 has resulted in a decrease of net assets of $3.4 million as at 1 January 2019. This reflects the difference between right-of-use assets and lease liabilities, as right-of-use assets depreciate quicker than lease liabilities are settled.

The following balances have been added to the Group's balance sheet at 1 January 2019:

- right-of-use assets of $30.9 million;
- lease liabilities of $36.7 million; and
- deferred tax assets of $1.0 million.

Of the above balances:

- $1.5 million of the right-of-use assets have been reclassified from property, plant and equipment at 1 January 2019, offset by $0.6 million reclassified from provisions at 1 January 2019; and
- $2.3 million of the lease liabilities relates to lease incentives that have been derecognised from trade and other payables at 1 January 2019.

Therefore, the net decrease in net assets and adjustment to retained earnings is $3.4 million. The net decrease in retained earnings reflects the additional expense that would have be charged to the income statement under IFRS 16 before 1 January 2019.

In terms of the income statement impact in 2019, the operating lease expense per IAS 17, amounting to $9.3 million, was removed and replaced by a smaller depreciation charge of $7.5 million. Finance costs, being interest on the lease liabilities, of $1.7 million were also incurred resulting in an immaterial impact overall to the Group's profit before tax and earnings.

The accounting policy in respect of leases is disclosed in the Group's 2019 Annual Report.

Impact on financial statements

On transition to IFRS 16, the following adjustments were made to the Group's balance sheet:

$ million	Notes	**At 1 January 2019**
Right-of use assets' cost	A	**65.2**
Right-of-use assets' accumulated depreciation	B	**(35.2)**
Right-of-use assets' impairment	C	**(0.6)**
Lease reinstatement reclassification from property, plant and equipment		
– Right-of-use assets' cost	D	**2.7**
– Right-of-use assets' accumulated depreciation	D	**(1.2)**
Total right-of-use assets recognised, at net book value		**30.9**
Lease liabilities	E	**(36.7)**
Lease reinstatement provisions reclassified to right-of-use assets	C	**0.6**
Property, plant and equipment reclassified to right-of-use assets	D	**(1.5)**
Lease incentives reclassified from trade and other payables	F	**2.3**
Deferred tax assets recognised	G	**1.0**
Total decrease to retained earnings, at 1 January 2019		**(3.4)**

Notes

A. Right-of-use assets' cost recognised at 1 January 2019 (excluding lease reinstatement costs in note D). The Group has taken advantage of the practical expedient that permits initial direct costs to be excluded from the measurement of the right-of-use assets at the date of initial application (para. C10 (d)).
B. Right-of-use assets' accumulated depreciation at 1 January 2019 (excluding lease reinstatement costs in note D).
C. Reclassification of onerous lease provision to right-of-use assets. On initial application of IFRS 16, the onerous lease assessment calculated in accordance with IAS 37 is permitted as an alternative to an impairment assessment (para. C10 (b)).
D. Reclassification of lease reinstatement costs from property, plant and equipment to right-of-use assets on 1 January 2019. Under IFRS 16, the right-of-use assets cost includes an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located. Under IAS 17, the lease reinstatement costs were included within property, plant and equipment.
E. Lease liabilities recognised at 1 January 2019. The Group has applied a single discount rate to a portfolio of leases with similar characteristics (para. C10 (a)) and hindsight has been used in determining the lease term if the contract contains options to extend or terminate the lease (para. C10 (e)).
F. On transition to IFRS 16, lease incentives previously included within trade and other payables have been derecognised as they form part of the measurement of the lease liability.
G. Deferred tax impact on transition to IFRS 16.

A reconciliation between the Group's operating lease commitment at 31 December 2018 and the lease liabilities at 1 January 2019 is presented below:

$ million	**At 1 January 2019**
Operating lease commitment at 31 December 2018 as disclosed in the Group's consolidated financial statements	**40.5**
Discounted using the incremental borrowing rate at 1 January 2019	**(4.6)**
Other	**0.8**
Lease liabilities recognised at 1 January 2019	**36.7**

The lease liabilities were discounted at the incremental borrowing rate at 1 January 2019. The weighted average discount rate was 4.9 per cent. The average discount rate differs between regions due to differing base rates.

Appendix 2

Alternative Performance Measures (APMs)

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 year to year.

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 year. Adjusted earnings is reported profit before tax excluding exceptional items, acquisition related costs, amortisation of acquired intangible assets, share-based payment, gain on divestment and tax on adjusting items.

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 EPS in note 6 of Notes to the full year 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 19.

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.