



## News Release

### SPIRENT COMMUNICATIONS PLC

#### PRELIMINARY RESULTS FOR THE YEAR ENDED 31 DECEMBER 2012

**London, UK – 28 February 2013:** Spirent Communications plc (“Spirent”, the “Company” or the “Group”) (LSE: SPT), a leading communications technology company, today announces its preliminary results for the financial year ended 31 December 2012.

On 1 November 2012 the Group disposed of its Systems division; this is reported as a discontinued operation in these results. All numbers provided below are for continuing operations unless otherwise stated.

#### Results summary - Continuing operations

\$ million	2012	2011	Change (%)
<b>Reported</b>			
Revenue	<b>472.4</b>	470.5	-
Operating profit	<b>109.2</b>	113.0	(3)
Profit before tax	<b>110.7</b>	114.3	(3)
Basic earnings per share (cents)	<b>12.46</b>	13.17	(5)
Total dividend per share <sup>1</sup> (cents)	<b>3.22</b>	2.93	10
Free cash flow <sup>2</sup>	<b>84.0</b>	69.3	21
<b>Adjusted</b>			
Operating profit <sup>3</sup>	<b>119.4</b>	116.9	2
Adjusted basic earnings per share <sup>4</sup> (cents)	<b>13.38</b>	12.92	4

#### Notes

1 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 2012 of 1.83 cents per Ordinary Share is equivalent to 1.21 pence per Ordinary Share.

2 Operating cash flow after tax, net interest and net capital expenditure.

3 Adjusted operating profit is before charging exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment.

4 Adjusted basic earnings per share is based on adjusted earnings as set out in note 8 of Notes to the preliminary consolidated financial statements.

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Registered in England Number 470893 | Registered at the above office

## Financial highlights

- Group revenue flat at \$472.4 million (2011: \$470.5 million) impacted by Service Assurance down 29%.
- Book to bill ratio was 97 (2011: 103) reflecting the weaker macro-economic environment, particularly in the second half-year.
- Group adjusted operating margin was maintained at 25% after increased investment in product development.
- Performance Analysis revenue up 4% with strong growth in 4G/LTE wireless, data center and high speed Ethernet, largely offset by a decline of 26% in positioning test.
- Dividend increased by 10%. Final dividend proposed of 1.83 cents per Ordinary Share, giving a full year dividend of 3.22 cents per Ordinary Share.
- Strong free cash flow of \$84.0 million (2011: \$69.3 million); cash closed at \$248.6 million.

## Operational and strategic highlights

Significant strategic progress was made in 2012, through the introduction of new test solutions and the acquisition of Mu Dynamics, Inc. (“Mu”) and Metrico Wireless, Inc. (“Metrico”) taking Spirent into adjacent growth markets.

- Demand was driven by:
  - Expansion in data center scale for cloud computing and mobile broadband;
  - Migration of Ethernet technologies to higher speeds;
  - Application security needs resulting from mobility and growth in applications;
  - 4G/LTE technology and services such as video and voice over LTE (“VoLTE”);
  - Need for integrated infrastructure test automation to address time to market pressures.
- Acquired Mu for cash of \$39.8 million in April 2012. Mu offers market leading expertise in cyber security. Mu’s software has been integrated within Spirent TestCenter™, resulting in the most comprehensive solution available to test application-aware networks and security.
- Acquired Metrico for cash of \$52.2 million in September 2012. Combining Metrico’s live network with Spirent’s lab-based mobile device test expertise has resulted in an unparalleled end-to-end test portfolio.
- Expanded our wireless test capabilities for the deployment of 4G/LTE networks, devices and services into the mobile device R&D market.
- Further test capabilities developed to serve growth in location based services and global navigation satellite systems beyond GPS.
- New solution developed that is practical, easy to use and cost effective for enterprises to rapidly deploy network services.
- Disposal of the Systems division for a cash consideration of \$63.2 million completed.

## **Outlook**

The difficult economic conditions that characterised market dynamics in the second half of 2012 are unlikely to change markedly during the first half of 2013, although there are some signs that confidence is returning with a few major service providers increasing capital spending plans for the year ahead. The rapid pace of innovation in mobile and data technologies continues.

In 2013 Spirent's revenue will be driven by macro demand in the Group's major regions, on-going industry trends, the full year effect of revenues from acquired businesses, and revenues attributable to new product introductions.

The Group is increasing its organic investment for future growth, in particular focusing on expanding Spirent's position in the 4G/LTE market and entering into new served markets. For 2013 as a whole, we anticipate modest revenue growth. Given the current trading conditions and a lower order book at the start of the year, the performance in the first quarter will be lower compared to the strong period last year. The Board remains confident that the Group is well placed to capitalise on significant medium and longer term opportunities.

### **Bill Burns, Chief Executive Officer, commented:**

“The impact of macro-economic conditions on our served markets, particularly in the second half of the year, led to flat revenues and profit performance in 2012. Despite this, Spirent continued to deliver a financial return that remains one of the best amongst its peers. This was achieved during a year of significant change for Spirent when we transitioned our wireless revenues from legacy technologies to 4G, invested in two important acquisitions, restructured our Service Assurance business and disposed of the Systems division.

We have the industry's broadest and most innovative test solution portfolio. Given our confidence in the medium term outlook, we plan to increase our investment in new test solutions and in enhancing our current capabilities in the areas that matter most to our customers, as they look to drive innovation and bring their industry leading products and services to market faster and with better quality. This, coupled with a relentless focus on executing our strategy, will enable Spirent to best leverage opportunities throughout 2013 and beyond.”

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## Enquiries

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*The Company will host a results presentation today at 9.15am for 9.30am UK time at UBS Limited, 1 Finsbury Avenue, London EC2M 2PP. A simultaneous webcast of the presentation will be available in the Investors section of the Spirent Communications plc website [www.spirent.com](http://www.spirent.com).*

## About Spirent Communications plc

Spirent Communications plc is a global leader in test and measurement inspiring innovation within development labs, communication networks and IT organisations. We enable today's communication ecosystem as well as tomorrow's emerging enterprises to deploy life enriching communications networks, devices, services and applications. Further information about Spirent Communications plc can be found at [www.spirent.com](http://www.spirent.com).

Spirent Communications plc Ordinary Shares are traded on the London Stock Exchange (ticker: SPT). 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 [www.pinksheets.com](http://www.pinksheets.com).

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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.*

## **PRELIMINARY RESULTS FOR THE YEAR ENDED 31 DECEMBER 2012**

### **CHAIRMAN'S STATEMENT**

Spirent made significant strategic progress in 2012 through organic investment to bring new solutions to market, the acquisition of new technologies for testing the security of application-aware networks and the subscriber experience of mobile devices on live networks, in order to expand the markets it serves, and by the divestment of its last non-core business. A restructuring of the Service Assurance division has returned the business to more satisfactory levels of profitability. These achievements were made against a background of economic uncertainty in all regions, which in turn tempered growth.

Revenue for the continuing Group was similar to last year at \$472.4 million (2011: \$470.5 million) and reported profit before tax decreased by 3 per cent to \$110.7 million (2011: \$114.3 million). The strong start to the year was followed by a weak demand environment materialising during the second quarter, which then persisted throughout the remainder of the year. Operational highlights included the growth in new solutions for 4G/LTE wireless development testing, the enhancements to new high speed Ethernet test solutions and the renewal of large long term service assurance maintenance contracts. The one significant area of weakness, other than Service Assurance, was the global navigation satellite system emulation products in the positioning business which experienced a 26 per cent decrease in revenue due to caution in government spending and delays to the commercial rollout of the specifications to a Chinese satellite navigation system. This decrease had a 3 percentage points negative impact on revenue growth for the Performance Analysis division for the year.

Return on sales, based on adjusted operating profit, was maintained at 25 per cent for the continuing Group, which is amongst the best in the test and measurement industry. This was after expanding product development expenditure by \$2.8 million and sales and distribution by \$1.2 million.

Adjusted basic earnings per share grew by 4 per cent to 13.38 cents (2011: 12.92 cents); this is before charging exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment. Basic earnings per share for the continuing Group decreased in 2012 by 5 per cent to 12.46 cents per share (2011: 13.17 cents).

The Group's free cash flow generation from continuing businesses increased to \$84.0 million (2011: \$69.3 million) representing a strong increase year-on-year; this is a cash conversion ratio of 105 per cent of reported earnings before non-cash prior year tax (2011: 84 per cent). Spirent used its

cash resources to fund the acquisitions of Mu Dynamics, Inc. in April for \$39.8 million and Metrico Wireless, Inc. in September for \$52.2 million. Both businesses have been fully integrated into the Performance Analysis division. The divestment of the Systems division in November for a cash consideration of \$63.2 million has enabled the Company to focus on the development of its core business. Of the proceeds, \$27.2 million was applied to the repurchase of Spirent shares in the market for cancellation. The Company has no debt and cash balances were \$248.6 million at 31 December 2012.

The Board continues to focus on a high return on capital employed in the business. The operating return on capital employed (excluding cash balances) in the continuing Group in 2012 was 52 per cent. The target set for return on investment in acquired businesses is in line with or in excess of the cost of capital. Returns remain low to negligible on cash balances, which are retained to allow surety of completion for acquisition negotiations. While the Company expects to continue to invest in acquisitions which are in line with the strategy, it is also committed to making returns through share buybacks. To that end, during 2012 13.4 million shares were repurchased utilising cash of \$30.8 million. The intention is to continue the on market repurchase programme during 2013, envisaged at the time of the divestment of Systems, and to offset the dilutive effect of share-based incentives.

The final dividend recommended is 1.83 cents per share compared with 1.67 cents per share in 2011. This brings the total dividend for 2012 to 3.22 cents per share compared with 2.93 cents for 2011. The increase in total dividend per share is 10 per cent and reflects the strong operating margin and cash generation of the Group. In sterling terms this represents 2.10 pence per share, an increase in the distribution to our shareholders of 15 per cent.

## **CHIEF EXECUTIVE OFFICER'S REVIEW**

The fundamental drivers of Spirent's business remain positive, despite the macro-economic uncertainty in many parts of the world during 2012. Investment in the telecom and IT industries is being made on a large scale to meet the demand of consumers and enterprises for anytime, anywhere access to data, applications and services with the highest quality of experience. We executed on our strategy in 2012 to increase the breadth of our test solutions portfolio, organically and through acquisition, to address growing and emerging opportunities, laying the groundwork for profitable growth in 2013 and beyond.

Mobility - anywhere, anytime, with any device - was a major driver of demand for our solutions, as mobile broadband growth results in ever-increasing volumes of data traffic. This led service providers to focus on fixed and mobile network convergence and on the rollout of 4G/LTE networks, along with the services and devices that take advantage of this technology. Spending on cloud services grew rapidly, driving data centers to ever-increasing scale. The migration to high speed Ethernet in data centers and core networks accelerated, while awareness of the critical importance of network and application security grew as a result of multiple high profile attacks during 2012.

The impact of macro-economic conditions on our served markets, particularly in the second half of the year, led to flat revenues and profit performance in 2012. In Performance Analysis, we saw a fall in demand for our positioning solutions on the back of caution in government spending and the delay in the rollout of the commercial specifications for the Chinese BeiDou-2 (formerly Compass) satellite navigation system. In addition, some of our large customers significantly reduced their spending as a result of the decline in demand in their end markets due to Eurozone and Middle East conditions, slowing growth in China and a reduction in government spending, or due to their loss of market share, with some customers exiting certain market segments entirely. We experienced challenges in our Service Assurance division as service providers sharply reduced investment in assuring their legacy wireline networks. Despite these headwinds, Spirent delivered a financial performance that remains one of the best amongst its peers.

We again expanded our global reach in 2012 to further strengthen our close cooperation with our customers including network equipment manufacturers, mobile device manufacturers, service providers, enterprise, technology providers and governments.

Our pace of innovation leads our industry, enabling us to deliver on our strategy of bringing the right solutions to the global market at the right time. To increase focus on innovation in our faster

growing core communications test and measurement market, we disposed of the Systems division in November for \$63.2 million.

Our strategic objectives continue to be furthered through the hard work, dedication and enthusiasm of our employees, and it is key to Spirent's success that we develop and nurture our people, recognising their critical contribution.

Spirent's solutions span all important technologies and serve all major customer segments across the telecommunications and IT industries. We increased our development spend on areas that matter most to our customers, including the evolution of wireless networks and services to 4G/LTE, high speed Ethernet and next-generation data centers, as well as network and application security and the development of a new approach to testing IT networks by enterprise customers. We strengthened our solutions portfolio by acquiring and integrating two strategically important businesses during the year: Mu Dynamics and Metrico Wireless. Both acquisitions aligned well with our strategy of delivering profitable growth through expanding our capabilities in growing and emerging technology markets.

Mu added market leading expertise in cyber security, usability and application emulation to our solutions portfolio. Combining Mu's software-based applications and security testing capabilities with Spirent's market leading performance test platforms has enabled us to rapidly create best-in-class security test solutions with higher performance and greater scale than any other provider.

In acquiring Metrico, Spirent has responded to the needs of carriers and device vendors to minimise time to market, improve subscriber quality of experience and reduce device return rates, while also contending with new and emerging technologies including 4G data, VoLTE and the cloud. Bringing together Metrico's field-based, subscriber-level focus with Spirent's device performance test strength in the lab has resulted in an unparalleled end-to-end test portfolio. The combination enables our customers to increase subscriber satisfaction and loyalty while reducing time to market, as well as their operational costs.

We have the industry's broadest and most innovative test solution portfolio. Given our confidence in the medium term outlook, we plan to increase our investment in new test solutions and in enhancing our current capabilities in the areas that matter most to our customers, as they look to drive innovation and bring their industry leading products and services to market faster and with better quality. This, coupled with a relentless focus on executing our strategy, will enable Spirent to best leverage opportunities throughout 2013 and beyond.



## **Outlook**

The difficult economic conditions that characterised market dynamics in the second half of 2012 are unlikely to change markedly during the first half of 2013, although there are some signs that confidence is returning with a few major service providers increasing capital spending plans for the year ahead. The rapid pace of innovation in mobile and data technologies continues.

In 2013 Spirent's revenue will be driven by macro demand in the Group's major regions, on-going industry trends, the full year effect of revenues from acquired businesses, and revenues attributable to new product introductions.

The Group is increasing its organic investment for future growth, in particular focusing on expanding Spirent's position in the 4G/LTE market and entering into new served markets. For 2013 as a whole, we anticipate modest revenue growth. Given the current trading conditions and a lower order book at the start of the year, the performance in the first quarter will be lower compared to the strong period last year. The Board remains confident that the Group is well placed to capitalise on significant medium and longer term opportunities.

## BUSINESS REVIEW

### Summary financial performance

After a positive start to 2012 in the first quarter of the year we experienced a marked change in sentiment impacting growth rates from the second quarter to the end of the year. Revenue from continuing operations was similar year-on-year at \$472.4 million (2011: \$470.5 million). Spirent's 2012 acquisitions, Mu Dynamics, Inc. ("Mu") and Metrico Wireless, Inc. ("Metrico") generated \$12.7 million of revenue in total since acquisition. Service Assurance revenues were down \$15.7 million year-on-year and our positioning products in Performance Analysis were down by \$13.8 million (26 per cent) compared with 2011. Overall Performance Analysis division revenue was up by 4 per cent. There were some areas of rapid growth: for example, 4G/LTE wireless device test, data center switching and high speed Ethernet test. In addition, during the fourth quarter of 2012 the Service Assurance division delivered a much improved result.

Towards the end of 2012 Spirent commenced a review of its organisational reporting structure which is expected to be completed in the first quarter of 2013. This may result in a change to Spirent's segmental reporting structure in 2013. Once the review is complete any changes will be communicated and restated comparative disclosures provided.

### Performance Analysis

\$ million	2012	2011	Change (%)
Revenue	<b>434.0</b>	416.4	4
Operating profit	<b>116.4</b>	115.1	1
Return on sales (%)	<b>26.8</b>	27.6	

### **Market conditions**

2012 saw our customers invest in 4G/LTE mobile networks, devices and services, in high speed Ethernet and data centers to enable cloud computing and virtualization, and in optimisation of their testing, despite the generally unfavourable macro-economic conditions. We experienced a fall in investments in legacy and mature technologies such as DSL, 1Gb Ethernet and CDMA wireless.

Continuing growth in the scale of data centers requires the rapid evolution of their switching fabrics to higher speeds and higher densities. Spirent's leadership in testing the performance of these fabrics at massive scale was showcased in a public test of QFabric™ from Juniper Networks, the

largest test of its kind ever conducted. Cisco also partnered with Spirent to test the performance of its latest Nexus 3548 ultra-low-latency, high density, high performance switch.

The data center is a key factor in the migration of Ethernet technologies to higher speeds. We saw strong growth in spending on 10Gb and 40Gb Ethernet, as well as on 100Gb Ethernet for service provider networks. Spirent was once again honoured by Frost & Sullivan, receiving the 2012 Market Share Leadership Award for Ethernet Testing, reflecting Spirent's leadership over its nearest competitors in every segment tracked by the leading analyst organisation.

The growth in cloud computing and server virtualization has led to a strong interest in software-defined networking ("SDN") and OpenFlow protocol, with their potential to greatly simplify network design, implementation and operation. Amongst multiple engagements that showcased Spirent's capability in this space, we announced a collaboration with Indiana University to develop an open source OpenFlow conformance test suite.

The convergence of mobile and fixed networks, mobile data explosion and scarcity of available radio spectrum are causing operators to evolve their access networks, employing carrier-grade Wi-Fi offload and small cells. Core networks are becoming ever more intelligent, with powerful networking devices that integrate capabilities such as deep packet inspection, application security, backhaul, timing and virtualization. Spirent has added support for Wi-Fi offloading to its Landslide solution and converged its test solutions on a single high performance, high scale platform which enables testing of these converged network elements with less equipment than was previously possible.

The growth in mobility and applications has resulted in a paramount need for application security. In acquiring Mu Dynamics, Spirent added Studio to its portfolio, the industry's first solution to emulate real application traffic while generating comprehensive security threats. We subsequently integrated Studio with Spirent's market leading performance test platforms, enabling us to offer best-in-class security test solutions with higher performance and greater scale than any other solution provider.

The trends mentioned above have increased time to market pressure on our customers and have led service providers to drive tighter equipment vendor ecosystems, while R&D teams have become more globalised. As a result, we saw a broader adoption of holistic and integrated infrastructure test automation. The Spirent iTest<sup>®</sup> solution, acquired with Fanfare in February 2011, is a leader in addressing this emerging infrastructure test optimization trend, and this segment grew strongly during 2012.

With the acceleration of 4G/LTE network rollouts in 2012, especially in North America and Asia, operators and device manufacturers are refocusing their investments on this fast growing technology.

The penetration of smartphones, tablets and other connected devices continued in 2012, while a new generation of services enabled by IP Multimedia Subsystems (“IMS”), in particular Voice over LTE (“VoLTE”), saw its first commercial rollouts. The acquisition of Metrico Wireless in September added to our portfolio the capability to analyse performance and subscriber quality of experience of mobile devices on live networks.

For infrastructure vendors, key drivers included time-division LTE (“TD-LTE”), with large scale trials in China and early commercial rollouts in Japan and India. Infrastructure development also focused on LTE-Advanced technology, the first deployments of which are expected in 2013. Spirent’s radio frequency channel emulator family continued to be a leader in addressing the unique testing needs of cellular base stations and devices to support TD-LTE and LTE-Advanced.

Subscriber location awareness is a key element in many mobile applications, leading to demand for accurate subscriber location under any conditions, whether indoors or outdoors. The resulting innovation in enabling technologies includes “hybrid” positioning techniques that make use of signals from satellites, Wi-Fi access points, cellular networks and sensors in mobile devices. Spirent retains its global leadership in testing these cutting edge location technologies. In September 2012, a Spirent solution was used in the industry’s first independent benchmark study of the location performance of leading chipset platforms and smartphones.

Investment in GNSS test slowed as the government sector saw a sharp decline in spending. The test market for the Chinese BeiDou-2 satellite system failed to develop as expected in 2012, with release of detailed technical specifications for the system being delayed until late December.

## **Revenue**

Revenue in the Performance Analysis division grew by 4 per cent in 2012 to \$434.0 million (2011: \$416.4 million). Although 10/40/100Gb Ethernet sales experienced strong growth, this was offset by a fall in our legacy business. The Infrastructure Test Optimization segment, built on assets acquired with Fanfare in 2011, experienced growth on the back of tighter ecosystems between service providers and equipment manufacturers to support accelerated innovation and time to market.

Our portfolio of LTE mobile device test solutions experienced very strong growth. We continued to address the needs of the North American operator ecosystem of top-tier device suppliers, achieved the business objectives for our initiative to build our presence in device R&D labs, and strengthened our leadership in location based testing. Orders for CDMA technology test declined in line with expectations. UMTS test sales also declined, as our customers reallocated resources to higher growth

4G/LTE opportunities. Our physical layer radio frequency solutions had a record year, on the back of market and technology drivers that included over-the-air testing, TD-LTE and LTE-Advanced.

Sales of positioning products declined significantly due to sharply reduced government spending, investment caution amongst many commercial customers, and delays in the release of detailed technical specifications for the Chinese BeiDou-2 satellite system.

### **Profitability**

Operating profit grew 1 per cent to \$116.4 million from \$115.1 million and operating margin was slightly lower at 26.8 per cent compared with 27.6 per cent in 2011 due to the higher investment in product development which increased from \$74.4 million to \$79.1 million in 2012.

### **Product development**

We extended the ability of our flagship Spirent TestCenter family to address evolving data center test needs, with a focus on high speed Ethernet, SDN and application testing. Studio, acquired with Mu in April, was integrated into Spirent TestCenter to take advantage of its performance, scale and high speed Ethernet abilities, resulting in the development of the market leading solution for assessment of application-aware networks and security. We expanded the Spirent TestCenter portfolio to include a cost effective, portable solution that gives our customers the flexibility to test across a broader spectrum of the product lifecycle, expanding our served available market. In addition, we have developed a new testing platform for the enterprise market, utilising our core technologies, that enables IT professionals to validate the performance of applications and networks.

Wireless is one of Spirent's key focus areas. In addition to its integration with Mu's Studio TestCloud, we enhanced the ability of our Landslide solution to test mobile infrastructure's readiness for 4G/LTE services such as VoLTE, video streaming and multi-player mobile gaming. Landslide also gained the capability to test Wi-Fi offload gateways and saw major performance enhancements, maintaining its leadership in testing mobile networks at massive scale, enabling service providers to address the challenge of explosive mobile data growth.

The acquisition of Fanfare and its iTest family of products in 2011 has enabled Spirent to address the shift in customer budgets towards optimising testing in their existing labs and building out new highly automated test environments. In 2012, we released a comprehensive lab management solution that enables network operators and network equipment vendors to improve their lab equipment utilisation, productivity and test cycle time.

Spirent enhanced its wireless test solutions that focus on our customers' 4G/LTE testing needs. We extended the test coverage of our solution family that validates the performance of LTE devices into new areas, including call reliability. We addressed a wider range of device R&D applications, including a comprehensive capability to test VoLTE and other IMS-enabled services. Our physical layer products were enhanced to address testing of TD-LTE technology in devices and base stations. We also released a new solution to test the performance of devices utilising hybrid location technologies, maintaining Spirent's leadership in the location based services test segment.

The Metrico Wireless acquisition in September brought with it leadership in services and tools that enable carriers, device vendors and technology providers to analyse the performance and subscriber quality of experience of mobile devices on live networks. Integration of Metrico's subscriber experience measurement tools with Spirent's lab-based device test solutions positions Spirent strongly to bring unprecedented realism to lab-based testing and to harmonise methodologies across live and lab testing, together with a true end-to-end test capability.

Our positioning solutions expanded into new areas including multi-radio (Wi-Fi, Bluetooth, NFC) production test, simulation of sensors in mobile devices, and the first shipment of a solution for China's Beidou-2 satellite system testing.

### **Service Assurance**

\$ million	2012	2011	Change (%)
Revenue	<b>38.4</b>	54.1	(29)
Operating profit	<b>5.5</b>	7.0	(21)
Operating profit before exceptional items	<b>8.4</b>	7.0	20
Return on sales before exceptional items (%)	<b>21.9</b>	12.9	

### **Market conditions**

2012 saw continuing caution around service provider investment, especially on wireline networks. The focus of service providers' capital expenditure has shifted rapidly from TDM to high speed Ethernet. Intense competition among service providers has helped drive the need for enterprise Ethernet-based service assurance solutions, although buying decisions were frequently delayed and the size of the deals were reduced as rollouts were scaled back. Investment in mobile networks continued, driven by the multiple 4G/LTE network rollouts underway in North America. We saw top-tier US service providers invest in service assurance solution upgrades to support their wireless and wireline Ethernet networks.

In 2013, Spirent expects to benefit from service provider investments that will remain focused on 4G/LTE mobile network growth, higher bandwidth Ethernet enterprise business services, as well as the drive to cloud computing offerings and the data centers to enable them. These investments will be aimed at improving efficiencies through test automation and service level network monitoring by the operations, administration and maintenance organisations within service providers.

### **Revenue**

We saw a steep decline in revenue for our legacy TDM solutions, especially in the first half, which caused us to implement cost saving measures in the second quarter to re-establish the division's profitability. Revenue was down by \$15.7 million to \$38.4 million from \$54.1 million in 2011.

The second half of the year saw expansion of our STC Live solutions in top-tier North American service providers. We closed multi-year service contracts, which are essential to our service provider customers and will contribute to our future revenues.

### **Profitability**

Adjusted operating profit was up 20 per cent year-on-year to \$8.4 million from \$7.0 million in 2011. Cost savings were implemented in the second quarter of 2012, at a cost of \$1.5 million which improved the profitability of the division. In addition, an inventory provision of \$1.4 million has been incurred in relation to excess legacy products. Including these costs, which have been classified as exceptional, reported operating profit was \$5.5 million.

### **Product development**

Our development focus remains on Ethernet service assurance for next-generation networks. For Spirent TestCenter Live Ethernet service assurance, we are expanding our flexible platform capabilities, which include our combined 1Gb and 10Gb Ethernet probes along with network troubleshooting capabilities. We put a new development focus on mobile test and diagnostics, as well as performance monitoring solutions for 4G/LTE expansion and data center network rollouts.

## **Group financial performance**

On 1 November 2012 the Group disposed of the Systems division. Systems is reported as a discontinued operation in these results. All numbers provided below are for continuing operations unless otherwise stated.

The following table shows the key performance indicators monitored by the Board in order to measure performance:

	2012	2011	Change (%)
<b>Continuing operations</b>			
Book to bill ratio <sup>1</sup>	<b>97</b>	103	
Revenue (\$ million)	<b>472.4</b>	470.5	-
Gross profit margin (%)	<b>71.3</b>	69.6	
Operating profit <sup>2</sup> (\$ million)	<b>119.4</b>	116.9	2
Return on sales <sup>2</sup> (%)	<b>25.3</b>	24.8	
Adjusted basic earnings per share <sup>3</sup> (cents)	<b>13.38</b>	12.92	4
Free cash flow <sup>4</sup> (\$ million)	<b>84.0</b>	69.3	21

### Notes

1 Ratio of orders booked to revenue billed.

2 Before exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment.

3 Adjusted basic earnings per share is based on adjusted earnings as set out in note 8 of Notes to the preliminary consolidated financial statements.

4 Operating cash flow after tax, net interest and net capital expenditure.

## **Revenue**

Group revenue was similar to the prior year at \$472.4 million (2011: \$470.5 million). Service Assurance revenues were down \$15.7 million, and those for positioning products in Performance Analysis by \$13.8 million (26 per cent) on 2011. Revenue for the Performance Analysis division as a whole grew 4 per cent, despite the drop in positioning products, and saw some good areas of growth particularly in 4G/LTE mobile device, data center switching and high speed Ethernet test. Positioning products were impacted by lower US Government spend and delays to the release of the technical specifications for a satellite navigation system from China.

Service Assurance reported significantly lower revenues for the first three quarters of 2012; however, the fourth quarter yielded better results including revenue on several Ethernet software and services contracts and winning the renewal of large long term maintenance contracts with major customers.

By geographic region, revenue in the United States was flat compared with 2011. The US remains the largest market accounting for 51 per cent of revenue (2011: 51 per cent). Europe represents 14 per cent (2011: 15 per cent) and was down, as had been expected, by 7 per cent



compared with 2011. Asia Pacific has been a very positive market for Spirent in the last few years, and it continued to expand in 2012, by 9 per cent, which was a lower rate of growth than that for the prior year. The key contributing factor being the slowdown in China where revenue declined by 1 per cent. Asia Pacific accounts for 32 per cent of continuing Group revenue in 2012 (2011: 29 per cent). The Rest of the World represents the remaining 3 per cent (2011: 5 per cent) of revenue.

\$ million	2012	%	2011	%
United States	<b>239.2</b>	<b>51</b>	238.8	51
Asia Pacific, Rest of World	<b>166.0</b>	<b>35</b>	159.1	34
Europe	<b>67.2</b>	<b>14</b>	72.6	15
	<b>472.4</b>	<b>100</b>	470.5	100

The book to bill ratio, which is a measure of the visibility of our future revenues, was 97 for the year for the Group compared with 103 for 2011, with the strong start to the year being followed by weaker demand in the second half-year.

### Operating profit

Reported operating profit for continuing operations was \$109.2 million compared with \$113.0 million in 2011. Operating profit before exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment (“adjusted operating profit”) which is the measure of profit used by the Group to evaluate performance, increased by 2 per cent to \$119.4 million compared with \$116.9 million in 2011.

A reconciliation is set out below:

\$ million	2012	2011
<b>Adjusted operating profit</b>	<b>119.4</b>	116.9
Exceptional - inventory provision	<b>(1.4)</b>	-
Exceptional - reorganisation costs	<b>(1.5)</b>	-
Acquisition related costs	<b>(1.2)</b>	(1.2)
Acquired intangible asset amortisation	<b>(4.5)</b>	(1.6)
Share-based payment	<b>(1.6)</b>	(1.1)
<b>Reported operating profit</b>	<b>109.2</b>	113.0

Return on sales, based on adjusted operating profit was maintained at 25 per cent.

### **Cost of sales and operating expenses**

Gross margin increased to 71.3 per cent (2011: 69.6 per cent) due to a better overall product mix with a higher software and services content. An excess inventory provision was charged in relation to Service Assurance of \$1.4 million in the period as a result of the significantly reduced levels of demand for our legacy products in this division. This provision has been reported as an exceptional item in the period. Excluding this provision gross margin was 71.6 per cent.

Focus has been maintained on growing the business organically as well as through acquisition. Investment in product development rose by 3 per cent to \$86.1 million in 2012, 18 per cent of revenue, from \$83.3 million and 18 per cent of revenue in 2011. The majority of this, \$79.1 million (2011: \$74.4 million), was incurred within the Performance Analysis division. The higher pace of innovation in product development engineering is expected to continue into 2013, enabling further enhancement of Spirent's capabilities and to address many of the new market opportunities that exist.

Other operating expenses were higher at \$141.4 million in 2012 compared with \$131.2 million in 2011, 30 per cent of sales (2011: 28 per cent). In Service Assurance, in response to the rapid fall in legacy business experienced at the start of 2012, steps were taken to address the cost base, which resulted in savings of approximately \$5.0 million per annum at a one-off cost of \$1.5 million. Other operating expenses also include \$1.6 million for share-based payment, up from \$1.1 million for 2011, due to a modest increase in the number of new awards granted during the year. Acquired intangible asset amortisation was \$4.5 million (2011: \$1.6 million), of which \$3.2 million was due to the 2012 acquisitions of Mu and Metrico. Within operating expenses is a charge of \$1.2 million of acquisition related costs for Mu and Metrico (2011: \$1.2 million for the Fanfare Group, Inc.). Excluding these costs, operating costs were \$132.6 million compared with \$127.3 million in 2011, an increase of 4 per cent, which reflects the overheads of the acquired businesses.

### **Corporate costs**

Corporate costs are those expenses which cannot be attributed to the Group's operating segments and comprise the costs of the Board and other corporate activities. These costs were \$5.4 million for the year (2011: \$5.2 million).

The revised Accounting Standard IAS 19 "Employee Benefits" will be mandatory in 2013. The effect for Spirent will be an increase in corporate costs and a reduction in interest income. In 2013 the costs of administering the defined benefit pension plans will be charged to corporate operating expenses, these are currently deducted from the interest income in the pension plans. The comparative numbers will be restated accordingly. On restatement this will result in an increase in corporate costs

of \$1.1 million for 2012 compared to the reported number. It is estimated that the administration costs for the pension plans will be \$1.1 million in 2013.

### **Currency impact**

The effect of fluctuating exchange rates is relatively minimal as the Group's revenue and profits are denominated predominantly in US dollars or US dollar-linked currencies.

### **Finance income and costs**

Finance income for 2012 was \$1.5 million compared with \$1.7 million in 2011. In 2012 this comprises \$0.7 million (2011: \$0.7 million) in respect of defined benefit pension plan interest and income earned on surplus funds of \$0.8 million (2011: \$1.0 million). Surplus funds are held principally in the United Kingdom and United States and earn market rates of interest which remain negligible.

No finance costs were incurred in 2012 (2011: \$0.4 million).

In 2013 the changes to IAS 19 "Employee Benefits" becomes mandatory. In addition to the increase in corporate costs discussed above, the expected rate of return on pension plan assets is now required to be the same as the discount rate used to discount plan liabilities. Comparative numbers will be restated for 2012 giving an interest cost on the pension plans of \$0.5 million compared to interest income reported in 2012 of \$0.7 million. It is estimated that the net interest expense for the pension plans for 2013 will be approximately \$1.0 million.

### **Profit before tax**

Reported profit before tax for continuing operations was \$110.7 million compared with \$114.3 million for 2011. Adjusted profit before tax was up 2 per cent at \$120.9 million (2011: \$118.2 million).

### **Tax**

For the Group taxable profits principally arise in the United States. The tax charge for the continuing Group in 2012 was \$29.0 million (2011: \$26.4 million), representing a current year effective tax rate of 27.8 per cent of pre-tax profit in both 2012 and 2011, excluding a prior year tax credit of \$1.8 million (2011: \$5.4 million). At 31 December 2012 deferred tax assets amounting to \$28.4 million have been recognised on the balance sheet (31 December 2011: \$29.4 million). At 31

December 2012 there are deferred tax assets amounting to a tax value of \$16.3 million (31 December 2011: \$22.0 million) which remain unrecognised in respect of unutilised non-trading loan relationship losses (\$14.7 million) and temporary differences (\$1.6 million).

For 2013 it is expected that the effective tax rate will be in the region of 28 per cent.

### Discontinued operations

The Systems division has been classified as a discontinued operation. The division was sold to Curtiss-Wright Corporation for a cash consideration of \$63.2 million with the sale completing on 1 November 2012. The operating result for Systems after tax was \$2.6 million for the period up to disposal (2011: \$6.7 million), and the net profit on disposal was \$44.5 million.

The net proceeds from the sale are in the process of being returned to Spirent's shareholders by way of on market share buybacks.

### Earnings per share

Adjusted basic earnings per share for continuing operations rose to 13.38 cents from 12.92 cents for 2011, an increase of 4 per cent. There were 655.7 million weighted average Ordinary Shares in issue (2011: 667.3 million). Basic earnings per share for the continuing Group was 12.46 cents for 2012 compared with 13.17 cents for 2011.

A reconciliation of adjusted profit is provided below for continuing operations:

\$ million	2012	2011
<b>Profit for the period attributable to owners of parent Company</b>	<b>81.7</b>	87.9
Exceptional items	<b>2.9</b>	-
Acquisition related costs	<b>1.2</b>	1.2
Acquired intangible asset amortisation	<b>4.5</b>	1.6
Share-based payment	<b>1.6</b>	1.1
Tax effect on the above items	<b>(2.4)</b>	(0.2)
Prior year tax credit	<b>(1.8)</b>	(5.4)
<b>Adjusted profit for the period attributable to owners of Parent Company</b>	<b>87.7</b>	86.2
<b>Adjusted basic earnings per share</b>	<b>13.38</b>	12.92

## Business combinations

Spirent made two acquisitions during 2012.

On 23 April 2012 the Group acquired 100 per cent of the share capital of Mu Dynamics, Inc. (“Mu”) for a total consideration of \$39.8 million in cash. Mu is included within the Performance Analysis division. At acquisition the fair value of the assets and liabilities acquired were determined in accordance with accounting standards and this gave rise to \$13.9 million of intangible assets, which are being amortised over five years, and goodwill of \$24.7 million. Revenue from Mu was \$6.3 million in the period from acquisition and it made a small loss of \$0.5 million in the period from the 23 April 2012 closing date. Mu is on track to generate a positive return in 2013, in line with plan.

Metrico Wireless, Inc. (“Metrico”) was acquired on 13 September 2012 for \$52.2 million. Metrico is included within the Performance Analysis division. At acquisition the fair value of the assets and liabilities acquired were determined in accordance with accounting standards and this gave rise to \$20.5 million of intangible assets, which are being amortised over two and a half to seven years, and goodwill of \$30.9 million. Revenue from Metrico was \$6.4 million in the period from acquisition and it contributed \$0.5 million of profit in the period from the 13 September 2012 closing date. Metrico’s results are in line with plan.

## Financing and cash flow

Cash and cash equivalents increased to \$248.6 million at 31 December 2012 compared with \$236.5 million at 31 December 2011. Spirent continues to be debt free. The majority is held as cash on demand or in short term bank deposits and 80 per cent of the balance was denominated in US dollars. Currency translation has increased cash and cash equivalents by \$2.2 million in 2012.

Continuing operating activities generated \$120.3 million of cash in the year compared with \$113.0 million in 2011. Free cash flow is set out below for the continuing Group:

\$ million	2012	2011
Cash flow from operations	<b>120.3</b>	113.0
Tax paid	<b>(23.1)</b>	(21.8)
Cash inflow from operating activities	<b>97.2</b>	91.2
Net interest received	<b>0.6</b>	0.9
Net capital expenditure	<b>(13.8)</b>	(22.8)
Free cash flow	<b>84.0</b>	69.3

Cash conversion was good with free cash flow for continuing operations of \$84.0 million for 2012, which represents 105 per cent (2011: 84 per cent) of reported earnings before non-cash prior year tax.

Cash inflows include the \$63.2 million received from the divestment of Systems, expenses of \$3.3 million were paid on the transaction.

Cash outflow on the acquisitions of Mu and Metrico was \$92.0 million with \$1.2 million of expenses incurred. In 2012 a final dividend for 2011 and an interim dividend for 2012 totalling \$20.3 million (2011: \$17.5 million) were paid. Share repurchases have resulted in a cash outflow of \$31.6 million in the period (2011: \$33.4 million) of which \$0.8 million relates to share repurchases made at the end of 2011 but settled in 2012.

### **Defined benefit pension plans**

The Group operates two funded defined benefit pension plans which are in the United Kingdom. Both of these schemes were closed some time ago to new entrants and the main plan now has less than ten active members.

The accounting valuation of these plans at the end of 2012 was a net deficit of \$24.8 million compared with a net deficit of \$11.8 million at 31 December 2011 and was based on the latest triennial actuarial valuation at 1 April 2009. The deficit of \$24.8 million is all in the main plan (31 December 2011: \$12.5 million). At 31 December 2011 there was a surplus of \$0.7 million in a smaller plan which had reduced to zero at 31 December 2012. The increase in the deficit in the main plan is a result of a rise in the liabilities due to changes in the underlying assumptions, principally the discount rate which is based on high quality corporate bonds.

The next triennial actuarial valuation at 1 April 2012 is in the process of being finalised. Such a valuation involves a complete review of all assumptions including longevity and funding. Once complete it is likely that there will be increases to future Company contributions, although these are unlikely to be material.

The Group has also reported a liability of \$0.8 million (31 December 2011: \$0.6 million) in respect of United Kingdom unfunded plan liabilities.

### **Capital structure**

During 2012 the Company repurchased 13.4 million shares at a cost of \$30.8 million (2011: 17.6 million at a cost of \$34.2 million). All shares repurchased during 2012 were cancelled. In 2011 13.2 million were cancelled and 4.4 million were placed in trust.

Shares were repurchased at an average share price of 143 pence per share in 2012. The Board intends to continue to repurchase shares to manage the dilution attributable to the Group's share incentive schemes and it is also envisaged that the return of the remainder of the proceeds on the divestment of Systems, \$32.7 million, will be made through on market share buy backs.

### **Dividend**

Spirent's policy is to maintain a sustainable progressive dividend with high dividend cover.

The Board are therefore recommending the payment of a final dividend for 2012 of 1.83 cents (1.21 pence) per Ordinary Share which, with the interim dividend of 1.39 cents (0.89 pence) per Ordinary Share paid in September 2012, brings the full year dividend to 3.22 cents (2.10 pence) per Ordinary Share. The dividend is covered 4.2 times by adjusted earnings. This is an increase of 10 per cent over the full year dividend for 2011 of 2.93 cents and reflects the strong cash generation of the Group.

Subject to approval by the shareholders at the Annual General Meeting, the final dividend will be paid on 3 May 2013 to Ordinary shareholders on the register at 8 March 2013. Payment to ADR holders will be made on 10 May 2013.

### **Principal risks and uncertainties**

Principal risks and uncertainties affecting the Spirent Communications Group will be detailed within the Annual Report for the year ended 31 December 2012, a copy of which will be made available on the Company's website at [www.spirent.com](http://www.spirent.com).

**Consolidated income statement**

\$ million	Notes	Year to 31 December	
		2012	2011 <sup>1</sup>
<b><u>Continuing operations</u></b>			
<b>Revenue</b>	3, 4	<b>472.4</b>	470.5
Cost of sales		<b>(135.7)</b>	(143.0)
<b>Gross profit</b>		<b>336.7</b>	327.5
Product development	3	<b>(86.1)</b>	(83.3)
Selling and distribution		<b>(91.7)</b>	(90.5)
Administration		<b>(49.7)</b>	(40.7)
<b>Operating profit</b>	3	<b>109.2</b>	113.0
Finance income		<b>1.5</b>	1.7
Finance costs		<b>-</b>	(0.4)
<b>Profit before tax</b>	3	<b>110.7</b>	114.3
Tax	6	<b>(29.0)</b>	(26.4)
<b>Profit for the year after tax for continuing operations</b>		<b>81.7</b>	87.9
<b>Discontinued operations</b>	7	<b>47.1</b>	6.7
<b>Profit for the year attributable to owners of parent Company</b>		<b>128.8</b>	94.6
<b>Earnings per share (cents)</b>	8		
<b><u>Continuing operations</u></b>			
Basic		<b>12.46</b>	13.17
Diluted		<b>12.41</b>	13.07
<b><u>Discontinued operations</u></b>			
Basic		<b>7.18</b>	1.01
Diluted		<b>7.16</b>	0.99
<b><u>Total Group</u></b>			
Basic		<b>19.64</b>	14.18
Diluted		<b>19.57</b>	14.06

Note

1 2011 has been restated to reflect the presentation of Systems as a discontinued operation.



**Consolidated statement of comprehensive income**

\$ million	Year to 31 December	
	2012	2011
<b>Profit for the year attributable to owners of parent Company</b>	<b>128.8</b>	94.6
<b>Other comprehensive income</b>		
Exchange differences on retranslation of foreign operations	3.2	0.3
Exchange differences recycled on disposal	1.2	-
Actuarial losses on defined benefit pension plans	(14.0)	(25.5)
Movement in irrecoverable element of defined benefit pension plan surplus	-	2.2
Deferred tax credit on defined benefit pension plans	2.5	4.0
<b>Other comprehensive income</b>	<b>(7.1)</b>	(19.0)
<b>Total comprehensive income for the year attributable to owners of parent Company</b>	<b>121.7</b>	75.6

**Consolidated balance sheet**

\$ million	At 31 December	
	2012	2011
<b><u>Assets</u></b>		
<b>Non-current assets</b>		
Intangible assets	207.4	123.2
Property, plant and equipment	34.1	35.5
Trade and other receivables	4.9	3.2
Cash on deposit	0.4	0.7
Defined benefit pension plan surplus	-	0.7
Deferred tax	28.4	29.4
	<b>275.2</b>	192.7
<b>Current assets</b>		
Inventories	34.0	43.6
Trade and other receivables	95.6	106.1
Cash and cash equivalents	248.6	236.5
	<b>378.2</b>	386.2
<b>Total assets</b>	<b>653.4</b>	578.9
<b><u>Liabilities</u></b>		
<b>Current liabilities</b>		
Trade and other payables	(107.3)	(119.3)
Current tax	(8.5)	(9.5)
Provisions and other liabilities	(4.4)	(3.3)
	<b>(120.2)</b>	(132.1)
<b>Non-current liabilities</b>		
Trade and other payables	(11.4)	(10.3)
Defined benefit pension plan deficit	(25.6)	(13.1)
Provisions and other liabilities	(0.6)	(1.2)
	<b>(37.6)</b>	(24.6)
<b>Total liabilities</b>	<b>(157.8)</b>	(156.7)
<b>Net assets</b>	<b>495.6</b>	422.2
<b><u>Capital and reserves</u></b>		
Share capital	35.3	34.3
Share premium account	32.9	31.3
Capital redemption reserve	19.4	17.7
Other reserves	(1.6)	2.7
Translation reserve	24.0	19.6
Retained earnings	385.6	316.6
<b>Total equity attributable to owners of parent Company</b>	<b>495.6</b>	422.2

**Consolidated cash flow statement**

\$ million	Notes	Year to 31 December	
		2012	2011
<b>Cash flows from operating activities</b>			
Cash flow from operations	10	<b>128.2</b>	120.5
Tax paid		<b>(23.1)</b>	(21.8)
<b>Net cash inflow from operating activities</b>		<b>105.1</b>	98.7
<b>Cash flows from investing activities</b>			
Interest received		<b>0.9</b>	0.9
Transfer from long term deposit		<b>0.3</b>	0.4
Purchase of intangible assets		-	(3.7)
Purchase of property, plant and equipment		<b>(16.4)</b>	(20.8)
Proceeds from the sale of property, plant and equipment		<b>2.1</b>	1.0
Acquisition of subsidiaries and businesses	11	<b>(92.0)</b>	(14.5)
Net proceeds from the disposal of operations	12	<b>59.9</b>	-
<b>Net cash used in investing activities</b>		<b>(45.2)</b>	(36.7)
<b>Cash flows from financing activities</b>			
Interest paid		<b>(0.3)</b>	-
Dividend paid		<b>(20.3)</b>	(17.5)
Proceeds from the issue of share capital and employee share ownership trust		<b>2.2</b>	0.4
Share repurchase		<b>(31.6)</b>	(33.4)
<b>Net cash used in financing activities</b>		<b>(50.0)</b>	(50.5)
Net increase in cash and cash equivalents		<b>9.9</b>	11.5
Cash and cash equivalents at the beginning of the year		<b>236.5</b>	223.9
Effect of foreign exchange rate changes		<b>2.2</b>	1.1
<b>Cash and cash equivalents at the end of the year</b>		<b>248.6</b>	236.5

**Consolidated statement of changes in equity**

\$ million	Share capital	Share premium account	Capital redemption reserve	Other reserves	Translation reserve	Retained earnings	Total equity
<b>At 1 January 2011</b>	35.3	31.4	17.3	1.6	19.3	302.2	407.1
Profit for the year	-	-	-	-	-	94.6	94.6
Other comprehensive income	-	-	-	-	0.3	(19.3)	(19.0)
Total comprehensive income	-	-	-	-	0.3	75.3	75.6
Share-based payment	-	-	-	-	-	1.1	1.1
Deferred tax on share incentives	-	-	-	-	-	(2.5)	(2.5)
New shares issued	0.1	0.3	-	-	-	-	0.4
Share cancellation	(0.7)	-	0.7	-	-	-	-
Share repurchase	-	-	-	-	-	(34.2)	(34.2)
Share buyback obligation	-	-	-	-	-	(7.8)	(7.8)
Equity dividends	-	-	-	-	-	(17.5)	(17.5)
Exchange adjustment	(0.4)	(0.4)	(0.3)	1.1	-	-	-
<b>At 1 January 2012</b>	<b>34.3</b>	<b>31.3</b>	<b>17.7</b>	<b>2.7</b>	<b>19.6</b>	<b>316.6</b>	<b>422.2</b>
Profit for the year	-	-	-	-	-	128.8	128.8
Other comprehensive income	-	-	-	-	4.4	(11.5)	(7.1)
Total comprehensive income	-	-	-	-	4.4	117.3	121.7
Share-based payment	-	-	-	-	-	1.6	1.6
Deferred tax on share incentives	-	-	-	-	-	(1.0)	(1.0)
Employee share ownership trust	-	-	-	-	-	2.2	2.2
Share cancellation	(0.7)	-	0.7	-	-	-	-
Share repurchase	-	-	-	-	-	(30.8)	(30.8)
Equity dividends	-	-	-	-	-	(20.3)	(20.3)
Exchange adjustment	1.7	1.6	1.0	(4.3)	-	-	-
<b>At 31 December 2012</b>	<b>35.3</b>	<b>32.9</b>	<b>19.4</b>	<b>(1.6)</b>	<b>24.0</b>	<b>385.6</b>	<b>495.6</b>

## **Notes to the preliminary 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 2012.

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 to 31 December 2012 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 to 31 December 2011 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 preliminary announcement was approved by the Board of Directors on 28 February 2013.

The financial information for the year to 31 December 2012 has been extracted from the statutory accounts on which an unqualified audit report, which did not contain a statement under Section 498 of the Companies Act 2006, has been issued. These accounts are yet to be delivered to the Registrar of Companies.

### **2 Accounting policies**

The accounting policies adopted are consistent with those applied in the consolidated financial statements for the year ended 31 December 2011.

#### **Adoption of new and current standards**

The following new standards, amendments to standards and interpretations are mandatory for the first time in the current financial year and have been adopted by the Group with no significant impact on its consolidated results or financial position.

#### **International Accounting Standards ("IAS/IFRS")**

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IAS 12	Amendments to IAS 12 - Deferred Tax Recovery of Underlying Assets
IFRS 1	Amendments to IFRS 1 - Severe Hyperinflation and Removal of Fixed Dates for First-time Adopters
IFRS 7	Amendments to IFRS 7 Disclosures - Transfers of Financial Assets

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#### **Going concern**

At 31 December 2012 the Group had cash balances of \$248.6 million and no debt.

Having reviewed the current and projected financial position of the Group, making reasonable assumptions about future trading performance, the directors 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 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 continuing reportable operating segments are Performance Analysis and Service Assurance. Its Systems segment was sold during 2012 and is disclosed as a discontinued operation in these financial statements. The Group evaluates segment operating profit before exceptional items, acquisition related costs, acquired intangible asset amortisation and share-based payment. Finance income and finance costs are not allocated to the reportable segments. Corporate is not an operating segment and costs are separately reported and not allocated to the reportable segments.

Segment information is provided below for continuing operations, discontinued operations are dealt with in note 7.

\$ million				2012
	Performance Analysis	Service Assurance	Corporate	Total
<b>Revenue</b>				
External revenue	434.0	38.4	-	472.4
There were no inter-segment sales				
<b>Profit before tax</b>				
Total reportable segment profit/(loss) before exceptional items	116.4	8.4	(5.4)	119.4
Exceptional items <i>note 5</i>	-	(2.9)	-	(2.9)
Total reportable segment profit/(loss)	116.4	5.5	(5.4)	116.5
Unallocated amounts				
Acquisition related costs				(1.2)
Acquired intangible asset amortisation				(4.5)
Share-based payment				(1.6)
<b>Operating profit</b>				109.2
Finance income				1.5
<b>Profit before tax</b>				110.7
<b>Other information</b>				
Product development	79.1	7.0	-	86.1
Expenditure on intangibles	90.0	-	-	90.0
Expenditure on property, plant and equipment	15.7	0.1	0.1	15.9
Intangible asset amortisation – other	1.6	-	-	1.6
Depreciation	13.4	1.1	0.1	14.6

### 3 Operating segments continued

\$ million				2011
	Performance Analysis	Service Assurance	Corporate	Total
<b>Revenue</b>				
External revenue	416.4	54.1	-	470.5
There were no inter-segment sales				
<b>Profit before tax</b>				
Total reportable segment profit/(loss)	115.1	7.0	(5.2)	116.9
Unallocated amounts				
Acquisition related costs				(1.2)
Acquired intangible asset amortisation				(1.6)
Share-based payment				(1.1)
<b>Operating profit</b>				113.0
Finance income				1.7
Finance costs				(0.4)
<b>Profit before tax</b>				114.3
<b>Other information</b>				
Product development	74.4	8.9	-	83.3
Expenditure on intangibles	14.5	-	-	14.5
Expenditure on property, plant and equipment	19.2	0.9	-	20.1
Intangible asset amortisation – other	1.3	-	-	1.3
Depreciation	11.2	1.3	0.2	12.7

### 4 Geographical information

\$ million	2012	2011
<b>Revenue by market</b>		
<b><u>Continuing operations</u></b>		
United States	<b>239.2</b>	238.8
Asia Pacific, Rest of World	<b>166.0</b>	159.1
Europe	<b>67.2</b>	72.6
	<b>472.4</b>	470.5

Europe includes United Kingdom revenue of \$13.4 million (2011: \$13.4 million).

Revenues are attributed to countries based on customer location.

## 5 Exceptional items

\$ million	2012	2011
Reorganisation expenses	1.5	-
Excess inventory provision	1.4	-
	<b>2.9</b>	-

The exceptional items were incurred in the Service Assurance division in response to the rapid fall in demand for legacy products.

## 6 Tax

\$ million	2012	2011
<b>Current income tax</b>		
UK tax	0.5	-
Foreign tax	23.5	23.8
Amounts overprovided in previous years – foreign tax credit	(1.8)	(5.4)
Total current income tax charge	<b>22.2</b>	18.4
<b>Deferred tax</b>		
Recognition of deferred tax assets	(1.4)	(2.2)
Reversal of temporary differences	9.9	12.5
Total deferred tax charge	<b>8.5</b>	10.3
<b>Tax charge in the income statement</b>	<b>30.7</b>	28.7

Attributable to:

\$ million	2012	2011
Continuing operations	29.0	26.4
Discontinued operations	1.7	2.3
	<b>30.7</b>	28.7

The Chancellor, in the 2012 Budget on 21 March 2012, announced that the main corporation tax rate would be reduced to 23 per cent from 1 April 2013 and that there would be a further reduction of 1 per cent with effect from 1 April 2014. The Finance Act 2012 received Royal Assent on 17 July 2012 with the rate reduction from 24 per cent to 23 per cent from 1 April 2013 being substantively enacted from 3 July 2012.

The deferred tax assets and liabilities at the balance sheet date are calculated at the substantively enacted rate of 23 per cent. Whilst detailed calculations have not been prepared at this stage, it is estimated that the impact of the remaining annual corporation tax rate reduction would not be material to the financial statements.



## 7 Discontinued operations

The assets and liabilities of the Systems division were sold to Curtiss-Wright Corporation on 1 November 2012 for a cash consideration of \$63.2 million.

\$ million	2012	2011
<b>Revenue</b>	<b>43.9</b>	57.7
Cost of sales	(27.6)	(36.3)
<b>Gross profit</b>	<b>16.3</b>	21.4
Expenses	(12.0)	(12.4)
<b>Operating profit</b>	<b>4.3</b>	9.0
Profit on sale of operations <i>note 12</i>	44.5	-
<b>Profit before tax</b>	<b>48.8</b>	9.0
Tax <i>note 6</i>	(1.7)	(2.3)
<b>Profit for the year after tax for discontinued operations</b>	<b>47.1</b>	6.7

The net cash flows after tax for the discontinued operations were as follows:

\$ million	2012	2011
Operating	7.9	7.5
Investing	(0.5)	(0.7)
<b>Net cash inflow</b>	<b>7.4</b>	6.8

Revenue by market for discontinued operations was as follows:

\$ million	2012	2011
<b>Revenue by market</b>		
United States	17.3	20.6
Asia Pacific, Rest of World	15.6	23.1
Europe	11.0	14.0
	<b>43.9</b>	57.7

Europe includes United Kingdom revenue of \$1.5 million (2011: \$1.6 million).

Revenues are attributed to countries based on customer location.

## 8 Earnings per share

### Basic

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

	2012			2011		
	Continuing operations	Discontinued operations	Total	Continuing operations	Discontinued operations	Total
Profit for the year attributable to owners of parent Company (\$ million)	81.7	47.1	128.8	87.9	6.7	94.6
Weighted average number of Ordinary Shares in issue (number million)	655.7	655.7	655.7	667.3	667.3	667.3
Basic earnings per share (cents)	12.46	7.18	19.64	13.17	1.01	14.18

### Diluted

Diluted earnings per share is calculated by dividing the profit for the year attributable to owners of 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.

	2012			2011		
	Continuing operations	Discontinued operations	Total	Continuing operations	Discontinued operations	Total
Profit for the year attributable to owners of parent Company (\$ million)	81.7	47.1	128.8	87.9	6.7	94.6
Weighted average number of Ordinary Shares in issue (number million)	658.1	658.1	658.1	672.7	672.7	672.7
Diluted earnings per share (cents)	12.41	7.16	19.57	13.07	0.99	14.06

## 8 Earnings per share continued

### Adjusted

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

- Exceptional items
- Acquisition related costs
- Acquired intangible asset amortisation
- Share-based payment
- Tax effect on the above items
- Prior year tax

A reconciliation is provided below:

	2012		2011	
	\$ million	EPS cents	\$ million	EPS cents
<b><u>Continuing operations</u></b>				
<b>Profit for the year attributable to owners of parent Company</b>	<b>81.7</b>	<b>12.46</b>	87.9	13.17
Exceptional items	2.9		-	
Acquisition related costs	1.2		1.2	
Acquired intangible asset amortisation	4.5		1.6	
Share-based payment	1.6		1.1	
Tax effect on the above items	(2.4)		(0.2)	
Prior year tax credit	(1.8)		(5.4)	
<b>Adjusted basic</b>	<b>87.7</b>	<b>13.38</b>	86.2	12.92
<b>Adjusted diluted</b>		<b>13.33</b>		12.81

## 9 Dividends paid and proposed

\$ million	2012	2011
<b>Declared and paid in the year</b>		
Equity dividend on Ordinary Shares		
Final dividend paid for the year ended 31 December 2011 of 1.67 cents per Ordinary Share (31 December 2010: 1.40 cents)	<b>10.9</b>	9.4
Interim dividend 2012 1.39 cents per Ordinary Share (2011: 1.26 cents)	<b>9.4</b>	8.1
	<b>20.3</b>	17.5
<b>Proposed for approval at AGM (not recognised as a liability at 31 December)</b>		
Equity dividend on Ordinary Shares		
Final dividend 2012 1.83 cents per Ordinary Share (2011: 1.67 cents)	<b>11.9</b>	10.9

The directors are proposing a final dividend in respect of the financial year ended 31 December 2012 of 1.83 cents per share (2011: 1.67 cents), which will absorb an estimated \$11.9 million of shareholders' funds (2011: \$10.9 million). It will be paid on 3 May 2013 to Ordinary shareholders who are on the Register of Members at close of business on 8 March 2013. Payment will be made to ADR holders on 10 May 2013. No liability is recorded in the financial statements in respect of this final dividend.

Dividends are determined in US dollars and paid in sterling at the exchange rate prevailing when the dividend is proposed. The exchange rate used for determining the amount of the final dividend to be paid was \$1.51:£1.

## 10 Reconciliation of profit to cash generated from operations

\$ million	2012	2011
<b>Profit for the year</b>	<b>128.8</b>	94.6
Adjustments for:		
Tax	<b>30.7</b>	28.7
Profit on the sale of operations	<b>(44.5)</b>	-
Finance income	<b>(1.5)</b>	(1.7)
Finance costs	-	0.4
Intangible asset amortisation	<b>6.1</b>	2.9
Depreciation of property, plant and equipment	<b>15.2</b>	13.2
Loss on the disposal of property, plant and equipment	<b>0.1</b>	0.1
Share-based payment	<b>1.6</b>	1.1
Changes in working capital:		
Deferred income (released)/received	<b>(3.4)</b>	1.6
Decrease/(increase) in receivables	<b>7.0</b>	(7.5)
Decrease/(increase) in inventories	<b>1.6</b>	(6.2)
Decrease in payables	<b>(11.4)</b>	(0.9)
Increase/(decrease) in provisions	<b>0.4</b>	(3.2)
Defined benefit pension plan	<b>(2.5)</b>	(2.6)
<b>Cash flow from operations</b>	<b>128.2</b>	120.5

\$ million	2012	2011
Cash flow from operations comprises:		
Continuing operating activities	<b>120.3</b>	113.0
Discontinued operating activities	<b>7.9</b>	7.5
<b>Cash flow from operations</b>	<b>128.2</b>	120.5

## 11 Business combinations

### Mu Dynamics, Inc.

On 23 April 2012 Spirent acquired 100 per cent of the share capital of Mu Dynamics, Inc. (“Mu”) for a cash consideration of \$39.8 million. Mu is included within the Performance Analysis division.

Mu is a security testing pioneer, offering innovative solutions that enable faster, higher quality deployments of cloud applications and application-aware networks. Mu brings additional market leading expertise in cyber security, usability and application emulation to the Spirent solutions portfolio. Combining Mu’s software based applications and security testing capabilities with Spirent’s market leading performance test platforms will enable the rapid development of best-in-class security test solutions with higher performance and greater scale than any other provider.

From the date of acquisition to 31 December 2012, Mu contributed \$6.3 million of revenue and a \$0.5 million loss before tax to the results of the Group before charging \$0.8 million of acquisition related costs and \$1.9 million of acquired intangible asset amortisation. If the combination had occurred at the beginning of the financial year additional revenue of \$3.6 million and a loss before tax of \$1.2 million would have been included in the Group result.

The goodwill arising of \$24.7 million consists largely of the synergies and economies of scale expected from the combination of the entities together with intangible assets not qualifying for separate recognition such as workforce in place.

## 11 Business combinations continued

None of the goodwill recognised is expected to be deductible for income tax purposes.

The intangible assets acquired represent computer software, customer relationships and brands and these have been assigned a life of five years.

### **Metrico Wireless, Inc.**

On 13 September 2012 Spirent acquired 100 per cent of the share capital of Metrico Wireless, Inc. ("Metrico") for a cash consideration of \$52.2 million. Metrico is included within the Performance Analysis division.

The acquisition brings together Spirent's strength in the lab with Metrico's focus on subscriber-level device testing in the field, resulting in a unique end-to-end test portfolio. This offering enables Spirent to address the needs of service providers and device manufacturers who must contend with new and emerging technologies including 4G data, voice over LTE and the cloud. It enables service providers and their suppliers to minimise time to market, improve subscriber satisfaction and loyalty and reduce device return rates.

From the date of acquisition to 31 December 2012, Metrico contributed \$6.4 million of revenue and \$0.5 million of profit before tax to the results of the Group before charging \$0.4 million of acquisition related costs and \$1.3 million of acquired intangible asset amortisation. If the combination had occurred at the beginning of the financial year additional revenue of \$18.7 million and a profit before tax of \$4.8 million would have been included in the Group result.

The goodwill arising of \$30.9 million consists largely of the synergies and economies of scale expected from the combination of the entities together with intangible assets not qualifying for separate recognition such as workforce in place.

The goodwill recognised is expected to be deductible for income tax purposes.

The intangible assets acquired represent computer software, customer relationships, database and brands and these have been assigned lives of between 2.5 and 7 years.

Acquisition related costs in relation to both acquisitions were \$1.2 million in total and these have been expensed and are included within administration costs.

The following table summarises the consideration paid for Mu and Metrico and the assets and liabilities acquired at the acquisition date.

### **2011 acquisitions**

In 2011 the Group acquired 100 per cent of the share capital of the Fanfare Group, Inc.

\$ million			2012	2011
	Mu Dynamics	Metrico Wireless	Total	Total
<b>Net assets acquired</b>				
Intangible fixed assets	13.9	20.5	34.4	6.6
Tangible fixed assets	-	0.5	0.5	-
Deferred tax asset	9.3	0.9	10.2	8.1
Inventories	0.1	-	0.1	-
Trade and other receivables	1.3	3.3	4.6	0.5
Trade and other payables	(4.6)	(3.9)	(8.5)	(4.1)
Deferred tax liability	(4.9)	-	(4.9)	(0.8)
<b>Total identifiable assets</b>	<b>15.1</b>	<b>21.3</b>	<b>36.4</b>	<b>10.3</b>
Goodwill	24.7	30.9	55.6	4.2
<b>Total consideration</b>	<b>39.8</b>	<b>52.2</b>	<b>92.0</b>	<b>14.5</b>
Satisfied by:				
Cash	39.8	52.2	92.0	14.5

## 12 Disposals

### Systems division

On 1 November 2012 the Group completed the disposal of the assets and liabilities of its Systems division to Curtiss-Wright Corporation.

The assets and liabilities sold, the proceeds and the resulting profit on disposal are shown below:

\$ million	Systems
<b>Cash consideration</b>	<b>63.2</b>
Less net assets sold:	
Tangible fixed assets	1.2
Inventories	8.5
Trade and other receivables	7.9
Trade and other payables	(4.7)
<b>Net assets sold</b>	<b>12.9</b>
Other items:	
Disposal costs	(3.3)
Curtailement loss	(1.3)
Exchange differences recycled on disposal	(1.2)
<b>Profit on the sale of operations</b>	<b>44.5</b>
Cash flows in respect of the disposal of operations are as follows:	
Cash consideration	63.2
Cash disposal costs	(3.3)
<b>Net proceeds from the disposal of operations</b>	<b>59.9</b>

## Glossary

2G (Second Generation)	Second generation remains the most common type of wireless cellular communication in use globally. Although its primary focus has been voice service and short message service (“SMS”), it has also been enhanced to allow low rate data communication.
3G (Third Generation)	Third generation of mobile communications that promises data rates of hundreds of kilobits per second to tens of megabits per second.
4G (Fourth Generation)	Fourth generation of mobile communications that promises data rates of tens to hundreds of megabits per second. Future 4G technologies promise data rates in excess of one gigabit per second.
Application Security	The use of software, hardware and procedural methods to prevent security flaws in applications and protect them from external threats.
Backhaul	The portion of a network that comprises the intermediate links between the core network, or backbone, and the sub-networks at the “edge” of the entire hierarchical network.
BeiDou-2 (formerly Compass)	China’s second generation global satellite navigation system, which is under construction but eventually planned to consist of 35 satellites. Service was launched in China during 2011, with plans to provide service globally by 2020.
Bluetooth	A wireless technology used to exchange data between devices over short distances, generally less than 10 metres (33 feet), using a low power, low cost transceiver in the devices.
Broadband	Generic term for bit rates greater than approximately 1.5 to 2 megabits per second.
CDMA (Code Division Multiple Access)	A digital cellular technology standard which allows numerous signals to occupy a single transmission channel, thus increasing network capacity; used in 2G and 3G radio communications.
Cellular Networks	Wireless communications networks consisting essentially of two parts: the Radio Access Network (“RAN”), which controls transmission and reception of radio signals, and the Core Network, which provides switching, transport and enhanced services for traffic emanating from and directed to the cellular network’s RAN.
Chipset Platforms	A device (a chip or part of a chip) that comprises a baseband processor to manage the radio functions in a mobile device, which may include Wi-Fi and Bluetooth. Some chipset platforms may also integrate an application processor.
Cloud Computing	The delivery of computing as a service rather than a product, whereby shared resources, software, and information are provided to computers and other devices as a metered service over a network (typically the internet).
Content Delivery	The delivery of media content such as audio, video, software and video games over online delivery mediums, such as broadcasting or the internet.
Converged Network	A single network able to carry voice, video and data. Usually based on Internet Protocol (“IP”).
Core Networks	A combination of high capacity switches and transmission facilities which form the backbone of a carrier network. End users gain access to the core of the network from the Edge Network.
Data Center	A centralised location where computing resources critical to an organisation are maintained in a highly controlled environment.
Deep Packet Inspection	A term used to describe the capabilities of a firewall or an intrusion detection system to look within the application payload of a packet or traffic stream and make decisions on the significance of that data based on the content of that data.
DSL (Digital Line Subscriber)	Technology that uses existing telephone/copper lines to transport high bandwidth data such as multimedia and video to service subscribers.

Ethernet	A family of networking technologies originally developed for local area networks, which migrated to metro area networks and eventually became the dominant standard in wireline networks worldwide.
Galileo	A global navigation satellite system being built by the European Union and European Space Agency that will offer users anywhere in the world “metre-class” geographic positioning when it becomes operational between 2014 and 2019.
Gateway	An internetworking system capable of joining together two networks that use different base protocols.
GbE (Gigabit Ethernet)	A transmission technology based on the Ethernet frame format and protocol used in local area networks that provides a data rate of 1 billion bits per second (one gigabit) and which is used as the backbone in many enterprise networks.
GLONASS (Global Navigation Satellite System)	A global navigation satellite system operated by the Russian Federation. Deployment began in 1976 and, although the system fell into disrepair in the 1990s, full global service was restored in 2011.
GNSS (Global Navigation Satellite Systems)	The standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. GNSS allows users’ receivers to determine their location to within a few metres by employing a triangulation technique that uses information from multiple satellites.
GPS (Global Positioning System)	A global navigation satellite system operated by the United States government for determining a user’s location and height at any point on the earth’s surface. A receiver uses minute differences in measured time signals from clocks on satellites to calculate these positions and altitudes.
IMS (Internet Protocol Multimedia Subsystems)	A standardised next-generation architecture for telecoms operators who want to provide mobile and fixed multimedia services.
Intrusion Detection/Prevention	A technology that gathers and analyses information across gateways, servers and desktops to identify possible security breaches that can occur from within or outside an organisation.
IP (Internet Protocol)	A network protocol used on the internet and other networks devices to facilitate and control the flow of data. Each computer (known as a host) has at least one IP address that uniquely identifies it from all other computers.
Infrastructure Test Optimization	The practices required to ensure that infrastructures meet a defined quality of service and quality of experience that are necessary to meet strategic business objectives.
Load Balancer	In server farms, a load balancer accepts IP packets and then distributes them among identical web servers, enabling web servers to be added or taken out of service as loads fluctuate.
Location Based Services	The delivery of location specific information, mapping, business and public data over a wireless network. These services require the ability to locate a user’s mobile device by means of direct satellite or cellular assisted satellite signals.
LTE (Long Term Evolution)	An advanced wireless data communications technology standard (sometimes called “4G”) which is an evolution of 3G UMTS standards. In addition to a new wireless interface specification, LTE uses a simplified flat IP-based network architecture.
LTE-Advanced	An evolution of LTE technology, specified in 3GPP Release 10 and later specifications, regarded by some as the first true 4G technology.
Mobile Packet Core	An integrated IP-based mobile transport network with the ability to support 2G, 3G and LTE coexistence.
Multi-System Operator	A company that owns more than one cable system, often in different locations. Most commonly used to refer only to companies that own a large number of cable systems.



NFC (Near Field Communication)	A standard for smartphones and similar devices which allows them to establish radio communication with each other by touching them together or bringing them into close proximity, usually no more than a few centimetres. Applications include contactless transactions (such as payments) and data exchange.
OpenFlow	An open standard network protocol from the Open Network Foundation (“ONF”). OpenFlow enables software-defined networking for programmable networks.
OTA (Over-the-Air)	Any kind of event, transfer, or transaction that takes place wirelessly using the cellular network, as opposed to using a cable or other local connection. Testing of mobile device performance is commonly carried out using OTA techniques that take into account antenna design and implementation.
Physical Layer	In the Open Systems Interconnection (“OSI”) communications model, the physical layer supports the electrical or mechanical interface to the physical medium.
RF (Radio Frequency)	A technology used for wireless broadcasting and/or communications that uses radio waves within the range over which they may be transmitted, from about 3 kilohertz to about 300,000 megahertz.
SDN (Software Defined Networking)	An approach to networking in which control is decoupled from hardware and given to a software application called a controller.
Small Cell	A generic term for microcells, picocells and femtocells. Small cells provide network coverage in dead zones within a macrocell (the coverage area of a traditional cellular base station) and extra network capacity by offloading mobile data traffic from macrocells.
Switch	A mechanical, electrical or electronic device which opens or closes circuits, completes or breaks an electrical path, or selects paths or circuits.
Switching Fabric	The component at the heart of a data communications switch that allows any input port to send data to any output port.
TD-LTE (Time Division LTE)	LTE standards accommodate cellular network and subscriber transmissions in different frequency bands (Frequency Division Duplex), as well as in the same frequency band (Time Division Duplex, often referred to as TD-LTE). TD-LTE is expected to be widely deployed in major Asian markets such as China, India and Japan, as well as parts of North America and Europe.
TDM (Time Division Multiplexing)	A digital transmission method that combines signals from multiple sources on a common path increasing capacity.
Test Automation	The ability to control all elements of a test system from a single point in order to execute test cases automatically.
Timing	Clock synchronization between the different elements in a communications network.
UMTS (Universal Mobile Telecommunications System)	The most common 3G wireless technology globally, which uses WCDMA on its underlying air interface and offers support for data transfer rates from hundreds of kilobits per second to tens of megabits per second.
Virtualization	Technologies designed to provide a layer of abstraction from the physical characteristics of computing resources to simplify the way in which other systems, applications, or end users interact with those resources.
VoLTE (Voice over LTE)	A standards-based scheme adopted by the GSMA, the cellular industry’s association, to provide voice service over data-only LTE networks. VoLTE’s use of an IP Media Subsystem enables voice to be offered as part of a rich communications solution, integrated with services such as messaging, live video sharing and file transfer.
WCDMA (Wideband CDMA)	An International Telecommunication Union standard derived from CDMA which is used globally in 3G mobile communications.
Wi-Fi	A mechanism that enables devices such as personal computers, video game consoles, smartphones or digital audio players to exchange data wirelessly over a computer network and connect to network resources, such as the internet. Coverage ranges from a few rooms to several square miles, depending on the number of access points used.