ARRIS International plc

Registered number: 09551763

Annual Report and Financial Statements for the year ended 31 December 2018

Contents

	Page
Strategic Report	
Principal Activities	1
Overview of the Group Strategy and Business Model	2
Key Performance Indicators ("KPIs")	12
Business Review	12
Environmental Matters and Corporate Social Responsibility	37
Principal Risks and Uncertainties	40
Governance	
Corporate Governance	57
The Board of Directors	57
Executive Officers of the Company	58
Directors' Report	62
Directors' Remuneration Report	65
Statement of Directors' Responsibilities	78
Financial Statements — ARRIS International plc — consolidated Group	
Independent Auditor's Report	79
Consolidated Income Statement	89
Consolidated Statement of Comprehensive Income	90
Consolidated Balance Sheet	91
Consolidated Statement of Changes in Equity	93
Consolidated Statement of Cash Flow	95
Notes to the Consolidated Financial Statements	97
Financial Statements — ARRIS International plc — Company	
Company Balance Sheet	148
Company Statement of Changes in Equity	149
Notes to the Financial Statements	150

Strategic Report

The directors present the Strategic Report for the year ended 31 December 2018.

ARRIS International plc is registered in the U.K. and publicly listed on the NASDAQ stock exchange. ARRIS International plc filed its Form 10-K for the fiscal year ended 31 December 2018 to the United States Securities and Exchange Commission ("SEC") on 1 March 2019. This Annual Report and Financial Statements is produced to comply with the U.K. Companies Act 2006 requirements.

As used in this Annual Report, unless the context requires otherwise, "we", "our", "us", "the Company", and "ARRIS" refer to ARRIS International plc (and its predecessors) and our consolidated subsidiaries.

The Company's Registered address is ARRIS International plc, Victoria Road, Saltaire, West Yorkshire, U.K., BD18 3LF.

Principal Activities

Overview

ARRIS, headquartered in Suwanee, Georgia, is a global leader in entertainment, communications, and networking technology. Our mission is to "redefine connectivity" in a rapidly evolving global communications industry. Our innovative offerings combine hardware, software, and services to enable advanced video experiences and constant connectivity featuring high bandwidth, speeds and reliability. Our products and services are utilised by the world's leading service providers, commercial enterprises, and the hundreds of millions of people they serve. For more information, visit www.arris.com.

We operate in three business segments: Customer Premises Equipment ("CPE"), Network & Cloud ("N&C") and Enterprise Networks ("Enterprise"). We enable service providers, including cable, telecom, digital broadcast satellite operators and media programmers, to deliver media, voice, and IP data services to their subscribers. We are a leader in set-tops, digital video and Internet Protocol Television ("IPTV") distribution systems, broadband access infrastructure platforms, and broadband data and voice CPE, which we also sell directly to consumers through retail channels. Through our enterprise distribution channels, we provide wireless and wired products and services for connectivity across varied networking environments to customers across a spectrum of verticals—including hospitality, education, smart cities, government, venues, service providers and more. Our core solutions are complemented by a broad array of services, including technical support, repair and refurbishment, and system design and integration.

Proposed Transaction with CommScope

On 8 November 2018, ARRIS and CommScope Holding Company, Inc. ("CommScope") entered into a Bid Conduct Agreement (the "Acquisition Agreement") whereby CommScope agreed to acquire ARRIS in an all-cash transaction for $31.75 per share or a total purchase price of approximately $7.4 billion, including repayment of debt (the "Acquisition"). In addition, The Carlyle Group, a global alternative asset manager, plans to participate in the acquisition and reestablishes an ownership position in CommScope through a $1 billion minority equity investment as part of CommScope's financing of the transaction. The combined company is expected to drive profitable growth in new markets, shape the future of wired and wireless communications, and position the new company to benefit from key industry trends, including network convergence, fibre and mobility everywhere, 5G, Internet of Things and rapidly changing network and technology architectures.

The consummation of the Acquisition is subject to various closing conditions, including, among other things, (i) the receipt of certain approvals of our shareholders, (ii) the sanction of the Scheme by the High Court of Justice of England and Wales, (iii) the receipt of certain required regulatory approvals or lapse of certain review periods with respect thereto, including those in the U.S. and European Union, Chile, Mexico, Russia and South Africa, (iv) the absence of a Company Material Adverse Effect (as defined in the Acquisition Agreement), (v) the accuracy of representations and warranties (subject, in certain cases, to certain materiality or Company Material Adverse Effect qualifiers, as applicable) and (vi) the absence of legal restraints prohibiting or restraining the Acquisition. Our shareholders approved the Acquisition on 1 February 2019 and regulatory approvals have been received, or the review period has lapsed, in the European Union, United States, Russia and South Africa. The parties expect to complete the Acquisition in the first half of 2019.

Acquisitions

On 1 December 2017, we completed a stock and asset purchase acquisition of the Ruckus Wireless® and ICX® Switch business (collectively "Ruckus" or "Ruckus Networks") for $762.2 million cash (net of estimated adjustment for working capital and non-cash settlement of pre-existing payables and receivables). In addition, approximately $61.5 million in cash was transferred related to the cash settlement of stock-based awards held by transferring employees. The purchase agreement provided for customary final working capital adjustments and potential cash payments or receipts that were completed 2018.

On 4 January 2016, we completed the acquisition of Pace. As part of the transaction, both ARRIS Group and Pace became wholly-owned subsidiaries of ARRIS International plc, our new holding company incorporated under the laws of England and Wales. While our jurisdiction of organisation was changed, our corporate headquarters remain in the United States.

Except for historical financial information, which relates only to ARRIS Group, or as context otherwise requires, our description of the Company and the industry and markets we operate in described in this Annual Report reflects the combined operations of ARRIS, Pace and Ruckus Networks. Following the completion of the Ruckus Networks acquisition, we began to operate in three business segments — Customer Premises Equipment, Network & Cloud and Enterprise Networks. The former Pace operations are included in the CPE and N&C segments, and the Ruckus Networks operations are primarily included in the Enterprise segment.

Industry Overview

Entertainment and communications delivery are evolving rapidly because of a convergence of trends including the rapid growth of bandwidth consumption and consumer and enterprise migration from wired to wireless connections. These and other trends are driving a set of industry dynamics that include increased competition among service providers, industry consolidation and significant investment in creating advances in communications and networking technology.

Video distribution over the broadband IP network is transforming how content is managed and consumed. IP facilitates new forms of video such as Over-the-Top TV ("OTT") and interactive television. As a result, service providers are compelled to continually invest in and upgrade their network and expand their video, voice, data, and mobile services. This trend has accelerated as service providers have raced to deliver residential gigabit broadband speeds to fully support new multiscreen video services and the rapid growth of Internet of Things ("IoT") devices.

Providing these advanced services to consumers is a highly competitive business. The competitive environment is driving service providers to enhance and expand their offerings by adding more high-definition ("HD") channels, and now Ultra High Definition ("UHD") TV content, increasing data speeds and expanding wireless services to provide converged media experiences that bridge conventional TV and Internet services. This competition is the catalyst for ongoing video and broadband network upgrades as well as technology investment cycles in CPE, such as set-tops, gateways and modems.

Service providers continue to invest in new capabilities to differentiate and gain market share. These investments have resulted in enhanced user interfaces, higher broadband speeds, additional programming, integrated home networking and monitoring services with higher reliability. These cycles, combined with associated consumer trends and innovation in entertainment and communications delivery, continue to drive industry growth.

Service providers and enterprises are investing in higher capacity and more fully featured indoor and outdoor Wi-Fi platforms and services to solve a range of network capacity, coverage and reliability challenges associated with increasing wireless traffic demands created by the growth in the number of users equipped with more powerful smart wireless devices using increasingly data-rich applications and services.

Overview of the Group Strategy and Business Model

Operating Segments

We operate in three business segments, (1) Customer Premises Equipment, (2) Network & Cloud and (3) Enterprise Networks. Corporate and other expenses not included in the measure of segment contribution are reported in an "All Other" category. See Note 11 *Segment Information* of Notes to the Consolidated Financial Statements for additional information.

Our Strategy

We are at the centre of a new era of wired and wireless entertainment and communications that unites our vision to provide technological leadership to address the evolving needs of our service provider and enterprise customers to transform the way that hundreds of millions of people around the world connect to the Internet and watch video content. We believe ARRIS has multiple global opportunities that leverage our strong market position to grow our business. Our long-term business strategy is to redefine connectivity by directly addressing these global industry trends in the following ways:

• Providing a balanced portfolio of entertainment and communications solutions that are connected, personalised and mobile

• Collaborating with the world's leading service and content providers and maintaining deep relationships

• Establishing leading positions in large global service provider and enterprise markets

• Exploiting the disruptive force of software virtualisation, augmented with state-of-the-art hardware platforms

• Leveraging both organic and inorganic investments to expand our business

• Enhancing the ARRIS brand while growing the well-respected Ruckus brand as the industry moves to small cell technology for delivery of mobile content.

• Leading the transition to cellular shared spectrum technologies such as 3.5GHz CBRS LTE small cell solutions to address the exponential growth in mobile bandwidth demand.

Specific aspects of our strategy include:

- *Leveraging ARRIS's scale to drive profitable worldwide growth.* Our comprehensive portfolio and global scale enable ARRIS to serve the world's leading service providers and capitalise on their continuous investments in technology and service innovation.

- *Enabling our service provider customers to provide the necessary broadband capacity to support increased consumer demand for faster Internet connections and the transition to IP Video.* Consumer demand for faster Internet speeds with more capacity continues to grow at an escalating rate, primarily driven by ever increasing consumption of video. ARRIS provides the technology to enable our customers to manage this exponential bandwidth growth cost effectively. We invest in DOCSIS, DSL and Next Generation PON (FTTH) to ensure our products are at the forefront in enabling service providers to deliver the highest amount of bandwidth to their subscribers across any physical connection.

- *Capitalising on the evolution towards network convergence and all IP platforms to drive business growth.* Service providers face a unique challenge in preparing for the future: delivering today's new services on legacy equipment, while transitioning to an all-IP model to anticipate the demand for tomorrow's advanced services. ARRIS collaborates with its global customers to transform their entire delivery chain from content creation to consumption. Our optical portfolio enables service providers to improve their networks by bringing fibre closer to subscribers for drastically increased network speeds. Our broad video portfolio offers a variety of pathways for delivering tomorrow's services through a combination of network-based video transcoding, packaging, storage and compression technologies required to deliver new IP video formats; cloud-based platforms to deliver robust and personalised user experiences; and home gateways that are the new hub for delivering IP-based entertainment to connected devices inside and outside the home.

- *Solving a range of Enterprise network capacity, coverage and reliability challenges associated with increasing wireless traffic demands.* Enterprises, venues and organisations across a range of verticals will upgrade their networks to provide improved services and faster, more seamless connectivity. The combined ARRIS and recently acquired Ruckus Networks products create a diverse and reliable portfolio of technology to address the increasingly complex landscape faced by service providers, managed service partners and enterprises. We focus on specific industries and verticals that include hospitality, education, government, public venues and smart cities with wired and wireless solutions for Internet access, Internet of Things connectivity and analytics, and lower cost private cellular networks.

- *Enabling differentiated and personalised multiscreen experiences through a holistic approach to content delivery.* The growth of connected consumer devices has created an opportunity for service providers to deliver new, more personalised content experiences to consumers across multiple screens. These experiences require control over content distribution as well as seamless integration into multiple touchpoints in the consumer experience. Consumers utilise more wireless devices than ever before, with subscribers using private and public Wi-Fi networks to access the highest Internet speeds with the best content. ARRIS brings unparalleled experience to making residential and enterprise Wi-Fi faster with less conflict as the number of devices continues to grow. ARRIS is transforming the entertainment experience through a holistic approach to content delivery, leveraging our expertise in the cloud, network, and home, to help providers anticipate demand for more personalised, relevant, and mobile experiences.

- *Investing in our product and service portfolios through development, partnership and acquisition.* ARRIS's growth strategy is focused on investing efficiently in the right opportunities to effectively expand our business. By leveraging our global scale and innovation around the world, we regularly seek both organic investment and acquisition opportunities that position ARRIS for future growth.

- ***Expanding our international business and exploring adjacent market opportunities.*** ARRIS continuously seeks and analyses investments in opportunities that allow us to capitalise on the growth of video, broadband and Enterprise services in global markets. Some examples include the growth of 4K digital video and high performance Wi-Fi in Canada, Latin America, Europe, the Middle East and Africa and Asia as well as the demand for increased data speeds that are driving infrastructure investment. We also are pursuing opportunities that arise in new and adjacent markets, including wireless, optical, retail, professional services and enterprise.

Our Principal Products

Our innovations combine hardware, software, and services across the cloud, network, enterprise and home to power TV and Internet for hundreds of millions of people around the globe. A summary of our products in each of our three business segments, Customer Premises Equipment, Network & Cloud and Enterprise Networks is described below:

Customer Premises Equipment

Broadband CPE

DSL and Cable Modem

A device located at the subscriber's home that connects to the cable or telco network to receive and transmit digital information between subscriber-owned Ethernet devices (e.g., desktop PC or router) and the service provider's headend or central office, providing Internet connectivity for data and/or voice services.

Broadband Gateway

A device located at the subscriber's home that connects to the cable or telco network to receive and transmit data between subscriber-owned Ethernet or wireless devices (e.g., laptop, tablet, smartphone, and IoT devices), IP video devices and the service provider's headend or central office, providing Internet connectivity. Gateway products add wireless connectivity or other wired connectivity to connect devices together throughout a customer's home as well as other features such as security.

Video CPE

Set-Top

A device installed at the subscriber's television set that connects to the service provider network to decode secure digital video signals and render them as video on the television set.

Video Gateway

A device that serves as the primary video connection between the service provider network and the subscriber's home. This gateway will enable the delivery of broadcast, streamed and stored video throughout the subscriber's home to televisions and other connected devices.

Network & Cloud

Networks

CMTS/CCAP/PON

The Cable Modem Termination System ("CMTS") is installed at a cable operator's headend or hub facility and communicates with cable modems to control the flow of data, including through allocating shared bandwidth and prioritising and routing traffic. The Converged Cable Access Platform ("CCAP") combines the functionality of a CMTS and an Edge QAM to enable voice, video and data in a converged IP network. The CCAP functionality may be deployed either entirely in a centralised facility or as a Distributed Access Architecture ("DAA") where some functions are located centrally, and others are deployed at the edges of the network.

A Passive optical network ("PON") is a form of fibre-optic telecommunications access technology that implements a point-to-multipoint architecture, in which passive fibre optic splitters are used to enable a single optical fibre to serve multiple end-points, without requiring individual fibres between the hub and customer. A PON consists of an optical line terminal ("OLT") at the service provider's central office (hub) and several optical network units ("ONUs") or optical network terminals ("ONTs"), near end users.

Video Systems

Service Provider and Programmer Equipment that processes and packages video content for delivery over the service provider network to be received by a set-top or gateway. These systems support functions such as encoding, compression, transcoding, storage, policy management, security and encryption, and signal modulation for HFC, DSL and/or fibre networks.

Ad Insertion Technologies supporting linear and on demand ad placement and substitution in MPEG and IP delivery environments.

Access Technologies

Outside plant equipment typically installed in the ground or aerial that supports the transmission of signals between service providers' headend and subscribers' premises, as well as equipment used to initiate the distribution of content-carrying signals. Includes optical transmission equipment, Fibre Nodes and RF Amplifiers products.

Software and Services

Software

Software products that enable providers to securely deliver content and advertising services across multiscreen devices on and off their networks.

Network management products that collect information from the broadband network and apply analytics to diagnose faults and improve performance.

Customer experience management solutions enabling service providers to efficiently manage and dispatch field technicians. Network surveillance and issue correlation software and services.

Global Services

Professional services focused around major practices in hyper scale data centres, Public and MDU Wi-Fi, IP Video, service experience, network transformation, software engineering and hosting to support and assist operators in the deployment of high speed gigabit data services, greater levels of mobility and all IP video and data distribution architectures.

Technical Services providing technical support services worldwide for all ARRIS products, including our retail customers.

Enterprise Networks

Campus Network Switches

The ICX Switch Family is a portfolio of scalable fixed form-factor wired Ethernet switches for next-generation enterprise and campus IP networks.

Wi-Fi Access Points

Wi-Fi Access Points include a wide array of indoor, outdoor and special-purpose Wi-Fi Access Points that deliver wireless connections as well as accessories such as antennas. Indoor and outdoor wireless access points include patented technologies and are optimised for different budget, performance requirement or deployment scenarios, including high client density, Wi-Fi-unfriendly building materials or rising employee or customer bandwidth expectations.

Smart Wireless Services and Software

SmartCell Insight is a big data Wi-Fi analytics and reporting platform that helps enterprises and service providers enhance, optimise and scale the performance of their wireless networks and services.

ZonePlanner is Ruckus-specific Wi-Fi planning and modeling software that integrates unique antenna patterns generated from our patented intelligent array integrated into every Smart Wi-Fi access point.

Smart Positioning Technology is a cloud-based Smart Wi-Fi location-based services platform leveraging unique user positioning technology that gives both service providers and enterprises the ability to deliver a wide-range of value-added services that can help them increase profitability and customer appeal while enhancing customers' mobile experiences.

Cloudpath Wi-Fi device on-boarding bridges the gap between enterprise-grade security and personal devices to create a Set-It-And-Forget-It Wi-Fi device on-boarding experience that allows "bring your own device" and IT-owned devices to be on-boarded in a scalable, secure, and user-friendly manner.

Mobile Apps for controllers, cloud Wi-Fi, location, and performance testing.

System Management and Control

Ruckus Cloud Wi-Fi is a wireless local area network (WLAN) management-as-a-service offer powered by the Ruckus public cloud platform. Ruckus Cloud Wi-Fi enables distributed organisations with limited IT resources to set up, monitor and manage a high-performance multi-site WLAN of any size.

Unleashed are controller-less Smart Wi-Fi access points custom-designed to help small business owners use Wi-Fi networks to grow their business, deliver an excellent customer experience and manage costs while supporting a variety of mobile devices with minimal information technology ("IT") staff. Unleashed access points are similar to comparable standard Ruckus ZoneFlex access points but have built-in controller capabilities similar to Ruckus' ZoneDirector controller software, including user access controls, guest networking functions, advanced Wi-Fi security and traffic management.

SmartZone is a unique line of carrier-grade wireless access and management products that include specialised hardware products such as SmartZone ("SZ") controllers, as well as software solutions such as vSZ and virtual SmartZone Data Plane.

ZoneDirector is our family of Smart Wi-Fi controllers that streamline the configuration and management of Ruckus Smart Wi-Fi access points. ZoneDirectors can be deployed onsite or remotely and include different models to serve small, medium and large-scale end customers requiring from six to 1,000 access points.

Sales and Marketing

Our sales, sales engineering and technical services teams serve our global customers through offices in the U.S. and in many of our global markets. We also work with value added resellers ("VARs"), sales representatives, distributors and channel partners that extend our sales presence into enterprise and operator markets where we do not have established sales offices. We also maintain an inside sales group that is responsible for regular communication with the customer to ensure prompt order entry, accurate delivery, and effective sales administration.

Our sales engineering team assists customers in system design and specification. Our technical services team provides professional services to help network operators and enterprises design and keep their networks operating at peak performance. We provide 24x7 technical support, directly and through channel partners, as well as training, both at our facilities and at our customers' sites.

We achieve superior customer service through advanced customer relationship management programmes combined with information systems that allow us to provide personalised and timely customer support on a range of subjects and to continually refine operations management.

Our marketing organisation promotes both the ARRIS and Ruckus brands and our solutions to key stakeholders including customers, consumers, partners, prospects and employees throughout the world. It is complemented by a product management team, which works with our engineering teams to develop and market new products and product enhancements. These teams are responsible for overall business profitability, commercial teams, inventory management, delivery requirements, and market demand analysis, as well as product positioning, communications and advertising.

Customers

While ARRIS is executing on a strategy to diversify its customer base, such as the recent the acquisition of Ruckus, most of our sales today are to cable, telco and satellite multi-channel video and broadband service providers. As the global telecommunications industry continues trending toward consolidation, our sales to the largest service providers remain crucial to our success. Our sales are substantially dependent upon a system operator's selection of ARRIS's network equipment, demand for increased broadband services by subscribers, and general capital expenditure levels by system operators.

With the acquisition of Ruckus, we anticipate there will be a trend to a greater proportion of our sales being to end customers in hospitality, venues, education, government and smart cities through our channel partners.

Our two largest customers (including their affiliates, as applicable) are Charter and Comcast. No other customer accounted for 10% or more of our sales in 2018. From time to time, the affiliates included in our revenues from these customers have changed because of mergers and acquisitions. Therefore, the revenue for our customers for prior periods has been adjusted to include, on a comparable basis for all periods presented, the affiliates currently understood to be under common control. Our sales to these customers for the last three years were (in thousands, except percentages):

	Years ended 31 December,		
	2018	2017	2016
Charter and affiliates	$ 928,403	$ 985,237	$ 1,064,408(1)
% of sales	13.8%	14.9%	15.6%
Comcast and affiliates	$ 1,114,238	$ 1,479,415	$ 1,637,519(1)
% of sales	16.5%	22.4%	24.0%

(1) Revenues were reduced by $30.2 million in 2016, because of warrants held by Charter and Comcast that are intended to incent additional purchases from them. (see Note 18 *Warrants* of Notes to the Consolidated Financial Statements for additional information).

ARRIS utilises standard terms of sale that apply to all customer purchases, except those larger customers with whom we have executed general purchase agreements ("GPAs"). These GPAs do not generally obligate the customer to a specific volume of business. The vast majority of our sales, whether to customers with GPAs or otherwise, result from periodic purchase orders. We have multiple agreements with our largest customers, including Charter and Comcast, based upon their needs or because of prior acquisitions. We maintain these agreements in the normal course of our business.

International Operations

Our international revenue is generated primarily from Asia-Pacific, EMEA and the Americas. The Asia-Pacific market includes Australia, China, Hong Kong, India, Japan, Korea, Malaysia, New Zealand, Singapore, and Taiwan. The EMEA market includes Austria, Belgium, Denmark, France, Germany, Hungary, Ireland, Israel, Italy, Netherlands, Norway, Poland, Portugal, Romania, Russia, Spain, South Africa, Sweden, Switzerland, Turkey, United Kingdom and United Arab Emirates. The Americas market includes Argentina, Bahamas, Brazil, Canada, Chile, Colombia, Costa Rica, Ecuador, Honduras, Jamaica, Mexico, Panama, Peru and Puerto Rico. Revenues from international customers were approximately 41.1%, 34.2%, and 28.1% of total revenues for 2018, 2017 and 2016, respectively.

We continue to strategically invest in worldwide marketing and sales efforts. We currently maintain international sales offices in Argentina, Australia, Brazil, Canada, Chile, China, Colombia, France, Hong Kong, India, Ireland, Israel, Japan, Korea, Malaysia, Mexico, Netherlands, Poland, Portugal, Russia, Singapore, Spain, South Africa, Taiwan, United Kingdom and United Arab Emirates as well as work-from-home sales representatives in other counties.

For more information on risk attendant to our foreign operations, See page 40, "Principal Risks and Uncertainties".

Research and Development

We operate in an industry that is subject to rapid changes in technology, and our success is largely contingent upon anticipating such changes. Accordingly, we invest significantly in research and development. This commitment to innovation resulted in the development of many next-generation solutions such as CCAP, Fibre Deep, DOCSIS3.1, HD-DVR, WholeHome DVR/media server, in-home and metro Wi-Fi, IoT, CBRS and 4K/UHD. We continue to innovate in anticipation of both our customers' needs and developing industry trends, including:

- Solving the complexity of delivering content to the growing number of connected devices through scalable networking and connectivity solutions that enable efficient OTT and other advanced entertainment services streaming.
- Anticipating demand for more personalised and mobile experiences with end-to-end multiscreen solutions to monetise tomorrow's content experiences.
- Realising the potential of today's entertainment and communication technologies, monetising future services like UHD, IoT, Gigabit Wi-Fi and CBRS, and transitioning to all-IP networks through powerful transcoding, bandwidth optimisation, and video compression technologies.
- Employing state-of-the-art computing and packet processing technologies to solve the last-mile bottleneck, providing ever higher residential and enterprise speeds and bandwidth.
- Enabling complex functions to be performed in the "cloud" to simplify and streamline the in-home network and service providers' network operations.

We have significant engineering resources and employees in the U.S. dedicated to research and development through labouratories in Beaverton, Oregon; Horsham, Pennsylvania; Lisle, Illinois; Lowell, Massachusetts; Santa Clara, California; San Diego, California; San Jose, California; Sunnyvale, California; Suwanee, Georgia; and Wallingford, Connecticut, as well as internationally in Bangalore, India; Cork, Ireland; Linkoping, Sweden; Mississauga, Canada; Netanya, Israel; Paris, France; Saltaire, U.K.; Shenzhen, China; Singapore, Singapore and Taipei, Taiwan.

Research and development expenses in 2018, 2017 and 2016 were approximately $644.0 million, $539.1 million and $584.9 million, respectively. Research and development expenses as a percent of sales in 2018, 2017 and 2016 were approximately 9.5%, 8.1% and 8.6%, respectively. These costs include an allocation of common costs associated with information technology and facilities.

Intellectual Property

We have an active patenting programme for protecting our innovations. During 2018, we continued to enhance our patent portfolio. We were awarded 343 patents and filed 380 patent applications. As of 31 January 2019, our intellectual property portfolio consisted of approximately 5,009 issued patents (both U.S. and foreign), including patents acquired in connection with the Ruckus Networks acquisition, and we continue to pursue patent protection on new inventions (currently approximately 1,280 U.S. and foreign patent applications pending).

In our effort to pursue new patents, we have created a process whereby employees may submit ideas of inventions for review by patent committees. The review process evaluates each submission based on criteria that includes: novelty, potential commercial value of the invention, and detectability of infringement. Patent applications are filed on these inventions that meet the criteria.

Although patents generally have a 20-year legal life, the relevant technologies to which the patents apply often have much shorter lives. As such, the economic useful life of the patents is often the same as that of the associated developed technology.

Our patents and patent applications generally are in the areas of telecommunications hardware, software and related technologies. For technology that is not owned by us, we have a programme for obtaining appropriate licences to ensure that we have the necessary licence coverage for our products. In addition, we have formed strategic relationships with leading technology companies to provide us with early access to technology that we believe will help keep us at the forefront of our industry.

We also have a programme for protecting and developing trademarks. As of 31 January 2019, ARRIS had 769 registered or pending trademark registrations, including trademarks acquired with Ruckus Networks. Our trademark programme includes procedures for the use of current trademarks and for the development of new trademarks. This programme is designed to ensure that our employees properly use our registered trademarks and any new trademarks that are expected to develop strong brand loyalty and name recognition. The design of our trademark programme is intended to protect our trademarks from dilution or cancellation.

From time to time there are significant disputes with respect to the ownership of the technology used in our industry and accusations of patent infringements. See Note 24 *Commitments and Contingencies* of Notes to the Consolidated Financial Statements for additional information.

Product Sourcing and Distribution

We maintain a balance of both internal manufacturing capabilities and external partners that provide our customers a competitive combination of quality, cost and flexibility. We currently operate manufacturing facilities in Tijuana, Mexico and Manaus, Brazil. We also use contract manufacturers located in Brazil, China, Malaysia, Mexico, South Africa, Thailand and the United States.

We provide our contract manufacturers with rolling, non-binding forecasts, and we typically have a minimum of 60 days advanced orders placed with them for production. Purchase orders for delivery within 60 days generally are not cancelable. Purchase orders with delivery dates 60+ days in the future generally may be cancelled with penalties in accordance with each vendor's terms. Each contract manufacturer provides a minimum 15-month warranty.

In December 2018, we sold our manufacturing facility in Hsin Tien, Taiwan to one of our contract manufacturers and moved the production to one of their other locations. The Taiwan facility manufactured a significant portion of our CPE video set-tops and gateways.

We manufacture a limited amount of CPE video set-tops in Manaus, Brazil to serve the local market. The factory is 59,202 square feet, and, as of 31 December 2018, the facility employed approximately 130 people.

We also leverage contract manufacturing partners for other products including CMTS, amplifiers, certain power supplies, accessories, optical modules, digital return modules, circuit boards, repair services, and video infrastructure equipment.

Current outsourcing arrangements include the manufacture of set-tops, modems, DTAs and IP set-tops. We manufacture a portion of our Network & Cloud products in our manufacturing facility in Tijuana, Mexico. The factory is 128,124 square feet, and, as of 31 December 2018, the facility employed approximately 1,000 people. We outsource the production of Enterprise products to contract manufacturers.

In order to address the recently enacted U.S./China import tariffs on Broadband CPE equipment, we are in the process of shifting production to non-China locations. The re-location of manufacturing is expected to be completed in the first half of 2019.

We distribute a substantial number of products that are not produced by us to provide our customers with a comprehensive portfolio offering. Domestically, we distribute hardware and installation products through regional warehouses in California, North Carolina, and Washington. Internationally, we distribute through regional warehouses in Australia, Canada, Japan, Hong Kong and Netherlands, and through drop shipments from our contract manufacturers located throughout the world.

We obtain key components from numerous third-party suppliers. Our supply agreements include technology licensing and component purchase contracts. Several of our competitors have similar supply agreements for these components. In addition, we licence software for operating network and security systems or sub-systems and a variety of routing protocols from different suppliers.

We primarily sell our Enterprise Networks products indirectly through a large network of value-added resellers and distributors, which we collectively refer to as channel partners. Our channel partners provide lead generation, pre-sales support, product fulfilment and, in certain circumstances, post-sales customer service and support. In some instances, service providers may also act as a channel partner for sales of our solutions to enterprises. In certain circumstances, we do sell Enterprise Networks products directly to end-customers, but it is a relatively small part of the overall business.

Backlog

Our backlog consists of unfilled customer orders (believed to be firm and long-term contracts) that have not been completed. With respect to long-term contracts, we include in our backlog only amounts representing orders currently released for production or, in specific instances, the amount we expect to be released in the succeeding 12 months. The amount contained in backlog for any contract or order may not be the total amount of the contract or order. The amount of our backlog at any given time does not reflect expected revenues for any fiscal period.

Our backlog at 31 December 2018 was approximately $966.2 million, at 31 December 2017 was approximately $1,121.4 million, and at 31 December 2016 was approximately $1,106.3 million. We believe that all the backlog existing at 31 December 2018 will be shipped in 2019.

Anticipated orders from customers may fail to materialise and delivery schedules may be deferred or cancelled for any number of reasons, including reductions in capital spending by network operators, shipping disruptions, customer financial difficulties, annual capital spending budget cycles, and construction delays.

Competition

The markets in which we participate are dynamic and highly competitive, requiring companies to react quickly to capitalise on opportunity. We retain skilled and experienced personnel and deploy substantial resources to meet the changing demands of the industry and to capitalise on change. We compete with international, national and regional manufacturers, distributors and wholesalers, including companies that are larger than we are. Our major competitors include:

- ADB Global;
- Aerohive;
- Asus;
- ATX;
- Belkin;
- BKTel;
- Casa Systems, Inc.;
- Ciena;
- Cisco Systems, Inc.;
- Emcore Corporation;
- Ericsson;
- Extreme Networks;
- Finisar;
- Guavus (A Thales Company);
- H3C;
- Harmonic, Inc.;
- Hewlett Packard Enterprises;
- Hitron Technologies Americas Inc.;
- Huawei;
- Humax Co.;
- Imagine Communications
- Infinera;
- InnoTrans;
- Kathrein;
- Lindsay Broadband;
- Netgear;
- Netgem;
- Nokia
- Pacific Broadband Networks;
- PCT International;
- Sagemcom;
- Samsung;
- SeaChange International, Inc.;
- SMC Networks;
- Technetix;
- Technicolor S.A.;
- Teleste;
- TiVo Inc.;
- TOA Technologies (Oracle);
- Ubee Interactive, Inc.;
- Ubiquiti;
- Vecima Networks, Inc.;
- Veramatrix; and
- ZTE

We distinguish our products based on reliability and performance, differentiated features, flexibility, breadth, customer service, and availability of business solutions, while pricing our solutions competitively with those of other competitors.

Consumer demand for more bandwidth is a fundamental driver behind the continued growth in CMTS and CCAP Edge Routing capacity deployed by service providers worldwide. The CMTS/CCAP supplier space is highly competitive with strong historical players such as Cisco and newer products, particularly focused on the trend towards DAA, from manufacturers such as Casa, Harmonic, Nokia, Teleste and Vecima.

ARRIS is a worldwide leader in CMTS and CCAP. Our portfolio of IP network solutions continues to provide the scale and efficiency to power service providers' transition to next-generation networks and services. Showcase solutions like our E6000® Converged Edge Router are driving this global momentum and are responsible for providing service to millions of subscribers through the world's leading service providers.

ARRIS is a worldwide leader in CPE equipment. Our primary competitors are Technicolor S.A., Sagemcom, Humax, and Huawei. We compete in video set-tops/gateways, DOCSIS, DSL, and FTTH solutions. This positions ARRIS to capitalise on several key industry opportunities: 1) the set-top's evolution into the gateway for all communications, media, and other connected services; 2) the shift to gigabit Wi-Fi and its growing role as a principal conduit for the connected home; 3) the refresh cycle of today's broadly deployed base of set-tops and broadband gateways; and 4) the evolution and hybridisation of network standards and models, from xDSL to G.Fast, D3.1 to xPON, new IP video services, and more. ARRIS is also introducing products to address the emerging Fixed Wireless Access ("FWA") approach to using high bandwidth fixed radio communications as a lower cost or higher capacity alternative to twisted pair, coax, or fibre physical connections between the edge of the network and the home or business.

Our multi-screen content management and protection products compete with many vendors offering on-demand video and digital advertising insertion hardware and software, including Adobe, Cisco, Ericsson, Irdeto, SeaChange, TiVo, Verimatrix, and others. Our operations management systems compete with vendors offering network management, mobile workforce management, network configuration management, and network capacity management systems such as Oracle (formerly TOA Technologies), Click Software, Guavus and others, some of which may currently have greater sales in these areas than ARRIS. In some instances, our customers internally develop their own software for these functions. However, we believe that we offer a more integrated solution that gives us a competitive advantage in supporting the requirements of both today's distribution networks and the emerging all-digital, packet-based networks.

We also compete with companies such as Cisco, Harmonic, Huawei, Nokia, Teleste, Technetix, Vecima and ZTE for network distribution and access equipment. In recent periods, competition in this market has increased from aftermarket suppliers, whose primary focus is on the refurbishment of OEM equipment, resulting in additional competition for new sales opportunities. In addition, because of the convergence of the cable and telecommunications sectors and rapid technological development, new competitors may enter this market.

Our enterprise and service provider Wi-Fi and campus switching products compete with companies including Aerohive, Cisco, Ericsson, H3C, Hewlett Packard Enterprise, Huawei, Nokia and Ubiquiti, some of which have greater sales in these areas than ARRIS.

Lastly, some of our competitors are larger companies with greater financial resources and product breadth than us. This may enable them to bundle products or be able to market and price products more aggressively than we can.

Key Performance Indicators

	2018	2017
GAAP revenues	$6.743 billion	$6.614 billion
Adjusted Non-GAAP revenues	$6.756 billion	$6.616 billion
GAAP net income per diluted share	$0.62	$0.49
Adjusted net income per diluted share	$2.89	$2.71
Cash, cash equivalents and marketable security investments at 31 December	$735 million	$511 million
Cash generated from operating activities	$649.0 million	$534.0 million
Order backlog	$0.966 billion	$1.121 billion

GAAP revenues

Full year 2018 revenues were $6.743 billion, up $0.129 billion, or 2%, as compared to the full year 2017 revenues of $6.614 billion.

Adjusted Non-GAAP revenues

Full year 2018 Adjusted Non-GAAP revenues were $6.756 billion, up $0.140 billion, or 2%, as compared to the full year 2017 revenues of $6.616 billion.

See "Non-GAAP Measures" on page 24.

GAAP net income per diluted share

Full year 2018 GAAP net income was $0.62 per diluted share for 2018, as compared to 2017 GAAP net income of $0.49 per diluted share.

Adjusted net income per diluted share

Adjusted net income was $2.89 per diluted share for 2018 as compared to 2017 adjusted net income of $2.71 per diluted share. A reconciliation of adjusted net income per diluted share to GAAP net income per diluted share is presented on page 24.

Cash, cash equivalents and marketable security investments

The Company ended the year with $735.5 million of cash resources, compared to $511.4 million at the end of 2017.

Cash generated from operating activities

The Company generated $649.0 million cash from operating activities in 2018, as compared to $533.8 million generated during the full year 2017.

Order backlog

At 31 December 2018, the Company had $0.966 billion of order backlog as compared to $1.121 billion at 31 December 2017.

Business Review

Business and Financial Highlights

Business Highlights

- On 8 November 2018, we announced that we have entered into a definitive agreement for CommScope to purchase ARRIS for a cash price of $31.75, a premium of 27% over the volume weighted average closing price of ARRIS's common stock for the 30 trading days ending 23 October 2018 [1], subject to shareholder approval and certain closing conditions, including necessary regulatory approvals.

- We have made significant progress in the integration of the Ruckus business operations, which were acquired in December 2017.
- International revenues reflected growth in all regions as operators invested in broadband and video capabilities compared to 2017.
- During 2018, we used $353.1 million of cash to repurchase 13.9 million of our ordinary shares at an average price of $25.38 per share.

(1) The day prior to market rumours regarding a potential transaction leaking to the media.

Financial Highlights

- Sales in 2018 were $6,742.6 million as compared to $6,614.4 million in 2017, resulting from our Ruckus acquisition, partially offset by decline in CPE.
- Gross margin percentage was 28.5% in 2018, compared to 25.2% in 2017. The increase in the margin reflects changes in product mix, in particular the inclusion of Enterprise Networks for the full year, which is helping offset memory and other product cost increases in our CPE products.
- Total operating expenses (excluding amortisation of intangible assets, impairment of goodwill and intangible assets, integration, acquisition, restructuring and other costs, net) were $1,311.1 million in 2018, as compared to $1,014.5 million in the same period last year. The increase primarily reflects the incremental expense associated with our acquisition of Ruckus Networks. In addition, we increased our investment in sales and marketing and in research and development for the Enterprise segment to help grow sales and market share. During 2018, we implemented restructuring activities that has affected 1,084 employees, including the closure of our factory in Taiwan, which has and will lower operating expense.
- We ended 2018 with $735.5 million of cash, cash equivalents, and marketable security investments, which compares to $511.4 million at the end of 2017. We generated $649.0 million of cash from operating activities in 2018 and $533.8 million during 2017.
- Under our credit facility, we ended 2018 with long-term debt of $2,073.9 million, at face value, the current portion of which is $87.5 million. We made mandatory payments of $87.5 million during 2018.

Industry Conditions

Consolidation of Customers Has Occurred and May Continue — The broadcast and broadband communication systems industry historically has experienced, and continues to experience, the consolidation of many industry participants. For example, Comcast acquired Sky, Vodafone merged its mobile operations in India with Idea Cellular, LGI sold certain of its properties to T-Mobile, Wave Broadband consolidated with RCN under common ownership, Atlantic Broadband/Cogeco purchased MetroCast, Cable One bought NewWave Communications, T-Mobile US acquired TV service provider Layer3, and Cablevision SA (Argentina) merged with Telecom Argentina SA. We believe we are favourably positioned to capitalise on this consolidation through a broader portfolio, global scale, and leadership in many of the platforms and components that these providers depend on to deliver services. The impact of this customer M&A activity is difficult to estimate but may include:

- a near-term delay in capital expenditures by the impacted customers until acquisitions are integrated. Once the acquisition is integrated, we believe there is the potential for increased capital expenditure as acquiring operators work to standardise the purchased network to the acquirer's existing systems and, in many cases, upgrade the acquired networks;
- pressures from the resulting customers for lower prices or better terms, reflecting the increase in the total volume of products purchased or the elimination of a price differential between the acquiring customer and the company acquired; and
- potential volatility in demand depending upon which technology, products and vendors each customer chooses to use post integration, including reductions in purchases from us to diversify their supplier base.

In addition to consolidation of service providers on a global basis, many of the firms that ARRIS purchases equipment and services from have consolidated as well and the trend is expected to continue. The specific impact of the above trend is difficult to predict and quantify, but in general we believe:

- Vendor consolidation gives suppliers greater scale for R&D, sales and marketing, and manufacturing. This increased scale increases risk of supplier inflexibility as well as being locked to a particular supplier with potentially high switching costs.
- At the same time, supplier consolidation provides benefits of reduced costs through innovation, efficiency of working with fewer suppliers and higher levels of service and support. These benefits facilitate higher level of service throughout the entire ecosystem for our customers.

Capital Expenditures of Telecom Customers Have Been and May Continue to be Lower — Many of our telecom customers, including AT&T and Verizon, have participated in FCC sponsored spectrum auctions in the interest of expanding their network capacity to meet increasing customer demand. As a result, capital expenditures at our existing and potential telecom customers are expected to be lower as a result of the costs associated with participating in the auction. Comcast's acquisition of Sky may shift capital away from projects that generate ARRIS sales and the pending T-Mobile acquisition of Sprint appears to have delayed some capital projects for both companies. The purchase of DirecTV by AT&T has altered the historic AT&T product strategy for video deployments, decreasing our sales. Verizon completed the sale of certain properties to Frontier, which, coupled with a decrease in net subscriber additions, has impacted the demand for our products. Nevertheless, as described below, we still believe that the need for network expansion to meet subscriber demand presents potential opportunities for increased sales of our products to these customers.

The markets for both Service Provider and Enterprise Wi-Fi are growing but are also highly competitive — We believe the markets for our Wi-Fi solutions are growing rapidly and our intention is to continue to invest for long-term growth to maintain our competitiveness. We expect to continue to invest heavily in research and development to expand the capabilities of our solutions with respect to services providers and enterprises. We will invest in migrating to cloud-based managed Wi-Fi services as a way for organisations to further leverage investments in Wi-Fi infrastructure. Managed Wi-Fi services, such as the ability to use Wi-Fi to gather detailed user analytics, demographics and user location information, allow companies to better understand network traffic and user interactions. We also plan to continue to make significant investments in our field sales and marketing activities, both by increasing our service provider focused direct sales force and by expanding our network of channel partners.

Foreign Exchange Fluctuations Have and May Continue to Impact Demand — The majority of our international sales are denominated in U.S. dollars. During periods where the U.S. dollar strengthens, it may impact these customers' ability to purchase products, which could have a material impact on our sales in the affected countries. These customers may delay or reduce future purchases from us, and we may experience pricing pressures in order to maintain or increase our market share with these international customers, and we may face longer payment cycles.

Growth of Connected Device Ecosystem — Consumers' growing appetite for connected devices creates an unprecedented opportunity to deliver consistent and engaging services over the Internet of Things. Service providers have an incumbent advantage in offering new forms of entertainment and communications, but still face many challenges in delivering new services across this complex system of devices. ARRIS is in position to drive this opportunity for providers as a result of our expertise in full-cycle service delivery — from the network to the cloud and the home. We provide the portfolio and professional services to navigate this new combination of device interfaces, communications protocols, device management standards, and security considerations.

Wireline Broadband Service Providers may Evolve into partial or predominantly Wireless Network Operators — As consumer and business demand for ubiquitous connectivity for their devices continues to increase, wireline operators may shift or increase investment into wireless technologies such as Wi-Fi, LTE Small Cell, or the emerging Citizen's Band Radio Service ("CBRS") Shared Spectrum. ARRIS is positioned to participate in Service Provider's residential wireless investments with our portfolio of Wi-Fi enabled cable modems and DSL modems. With the recently completed Ruckus Networks acquisition, we now also have a portfolio of Access Points, Controllers, Cloud Management, and Data Analytics to participate in opportunities in both the enterprise market and Service Provider public access (e.g. hot spots).

Network Optimisation and Scaling Infrastructure to Keep Up with Increasing Consumer Bandwidth Demand — As service providers prepare to deliver more advanced services to subscribers — such as 4K TV, IoT, gigabit Wi-Fi — they are investing increasingly in their networks to anticipate the reciprocal need for more bandwidth. Providers are looking to ARRIS for its leadership in technologies like DOCSIS, CCAP, and DAA to scale to these multi-gigabit services and ARRIS continues to invest in R&D to keep its customers' networks ahead of market demand for these services.

Competition Increasing between Cable Operators, Telecom Companies, and New Entrants — The lines between telecom and cable providers has blurred as each has embraced the triple play. Moreover, OTT market participants and individual programming networks have entered the market with competing products placing higher bandwidth demands on the network. This competition emphasises the enabling technologies behind each approach — including DOCSIS, fibre, G.Fast, and others — and the increasing investment in the network infrastructure and CPE required to deliver these services. ARRIS's leadership across these solutions positions us to capitalise on the growing competition between all three stakeholders.

Service Providers are Demanding Advanced Network Technologies and Software Solutions — The increase in volume and complexity of the signals transmitted over broadband networks as a result of the migration to an all-digital, all-IP, on demand network is causing service providers to deploy new technologies. Service providers also are demanding sophisticated network and service management software applications that minimise operating expenditures needed to support the complexity of two-way broadband communications systems. As a result, service providers are focusing on technologies and products that are flexible, cost-effective, compliant with open industry standards, and scalable to meet subscriber growth and effectively deliver reliable, enhanced services. As part of this evolution, some operators (for example Comcast with its Reference Design Kit ("RDK") efforts) are choosing to design portions of the set-tops firmware internally. As a result, we anticipate that over time operators will migrate to an all IP network and look to enable new platforms and technologies intended to accelerate the deployment of new services. As this occurs, which we believe will be over a multi-year period, we anticipate a decline in demand for our traditional set-tops and an increase in demand for new IP set-tops.

Results of Operations

Overview

As highlighted above, we have faced, and in the future, will face significant changes in our industry and business. These changes have impacted our results of operations and are expected to do so in the future. As a result, we have implemented strategies both in anticipation and in reaction to the impact of these dynamics.

Below is a table that shows our key operating data as a percentage of sales. Following the table is a detailed description of the major factors impacting the year-over-year changes of the key lines of our results of operations (as a percentage of sales).

	Years Ended 31 December,		
	2018	2017	2016
Net sales	100.0%	100.0%	100.0%
Cost of sales	71.5	74.8	75.0
Gross margin	28.5	25.2	25.0
Operating expenses:			
Selling, general, and administrative expenses	9.9	7.2	6.7
Research and development expenses	9.5	8.1	8.6
Amortisation of intangible assets	5.7	5.7	5.8
Impairment of goodwill and intangible assets	0.1	0.8	-
Integration, acquisition, restructuring and other costs	0.6	1.5	2.3
Operating income	2.7	1.9	1.6
Other expense (income):			
Interest expense	1.4	1.3	1.2
Loss on investments	-	0.2	0.3
Loss (Gain) on foreign currency	-	0.2	(0.2)
Interest income	(0.1)	(0.1)	(0.1)
Other expense, net	0.1	-	0.1
Income before income taxes	1.3	0.3	0.3
Income tax (benefit) expense	(0.3)	(0.7)	0.2
Consolidated net income	1.6%	1.0%	0.1%
Net loss attributable to non-controlling interest	(0.1)	(0.4)	(0.1)
Net income attributable to ARRIS International plc.	1.7%	1.4%	0.2%

Comparison of Operations for the Three Years Ended 31 December 2018

Net Sales

The table below sets forth our net sales for our three business segments (in thousands, except percentages):

	Net Sales			Increase (Decrease) Between Periods			
	For the Years Ended 31 December,			2018 vs. 2017		2017 vs. 2016	
	2018	2017	2016	$	%	$	%
Business Segment:							
CPE	$ 3,923,894	$ 4,475,670	$ 4,747,445	$ (551,776)	(12.3)%	$ (271,775)	(5.7)%
N&C	2,156,577	2,094,113	2,111,708	62,464	3.0%	(17,595)	(0.8)%
Enterprise	675,352	45,749	-	629,603	1,376.2%	45,749	100%
Other	(13,183)	(1,140)	(30,035)	(12,043)	1,056.4%	28,895	96.2%
Total sales	$ 6,742,640	$ 6,614,392	$ 6,829,118	$ 128,248	1.9%	$ (214,726)	(3.1)%

The table below sets forth our domestic and international sales (in thousands, except percentages):

	Net Sales			Increase (Decrease) Between Periods			
	For the Years Ended 31 December,			2018 vs. 2017		2017 vs. 2016	
	2018	2017	2016	$	%	$	%
Domestic – U.S	$ 3,973,247	$ 4,351,843	$ 4,909,698	(378,596)	(8.7)%	$ (557,855)	(11.4)%
International:							
Americas, excluding U.S	1,182,289	1,080,456	982,769	101,833	9.4%	97,687	9.9%
Asia Pacific	431,045	374,772	291,504	56,273	15.0%	83,268	28.6%
EMEA	1,156,059	807,321	645,147	348,738	43.2%	162,174	25.1%
Total international	$ 2,769,393	2,262,549	1,919,420	506,844	22.4%	343,129	17.9%
Total sales	$ 6,742,640	$ 6,614,392	$ 6,829,118	$ 128,248	1.9%	$ (214,726)	(3.1)%

Customer Premises Equipment Net Sales 2018 vs. 2017

During the year ended 31 December 2018, sales in our CPE segment decreased by approximately $551.8 million, or 12.3%, as compared to 2017. The decrease is primarily attributable to video sales due to lower cable and telco demand in the United States. We anticipate the continued overall trend towards more broadband CPE sales and less video CPE sales as operators adopt all IP networks and continue their investment in higher speed internet services and better in-home Wi-Fi capabilities.

Network & Cloud Net Sales 2018 vs. 2017

During the year ended 31 December 2018, sales in the N&C segment increased by approximately $62.5 million, or 3.0%, as compared to 2017. The increase in sales was primarily a result of increased CMTS product sales, partially offset by lower Access Technologies product sales.

Enterprise Networks Net Sales 2018 vs. 2017

During the year ended 31 December 2018, sales in the Enterprise segment was approximately $675.4 million. Revenues were predominantly incremental in 2018, as the acquisition of Ruckus Networks was completed in the fourth quarter of 2017.

Customer Premises Equipment Net Sales 2017 vs. 2016

During the year ended 31 December 2017, sales in our CPE segment decreased by approximately $271.8 million, or 5.7%, as compared to 2016. Video CPE sales declined due to lower volumes and were partially offset by increased Broadband CPE sales due to growth in our DOCSIS portfolio as compared to the same period in 2016.

Network & Cloud Net Sales 2017 vs. 2016

During the year ended 31 December 2017, sales in the N&C segment decreased by approximately $17.6 million, or 0.8%, as compared to 2016. The decrease in sales was primarily a result of lower CMTS hardware sales, which were impacted by the timing of the introduction of our next generation products, as well as lower video product sales. This decrease was partially offset by higher Access Technologies products and software and services sales, as operators continue to build out their networks to accommodate higher bandwidth needs.

Enterprise Networks Net Sales 2017 vs. 2016

During the year ended 31 December 2017, sales in the Enterprise segment was approximately $45.7 million, which reflect sales from the acquisition of Ruckus Networks in December 2017. Sales in the Enterprise Networks segment include revenues from sales to service providers that were previously included in the Network and Cloud segment when we were a reseller of Ruckus products.

Gross Margin

The table below sets forth our gross margin (in thousands, except percentages):

	Gross Margin			Increase (Decrease) Between Periods			
	For the Years Ended 31 December,			2018 vs. 2017		2017 vs. 2016	
	2018	2017	2016	$	%	$	%
Gross margin dollars	$1,918,859	$1,666,239	$1,707,617	252,620	15.2%	(41,378)	(2.4)%
Gross margin	28.5%	25.2%	25.0%		3.3		0.2

During the year ended 31 December 2018, gross margin dollars increased due to the Ruckus Networks acquisition and changes in product mix. The Ruckus Networks acquisition impacted gross margin for 2018, due to a proportionately higher average gross margin than the historic ARRIS business. We also had higher sales of CMTS licences in 2018 which have higher margins than the average consolidated gross margin. This increase is offset by continued pressure on gross margin primarily relating to memory pricing and other component costs, particularly in the CPE segment. We do anticipate some improvement in component pricing in 2019. In addition, we have implemented initiatives to mitigate the effects of higher component costs with price adjustments and actions to lower operating costs. In order to address the recently enacted U.S./China import tariffs on Broadband CPE equipment, we are in the process of shifting production to non-China locations. We have adjusted short-term customer pricing to offset the incremental cost of tariffs until the re-location of manufacturing is completed in the first half of 2019. The gross margin for the year ended 31 December 2018 included $17.0 million of increased costs associated with writing up the historic cost of the Ruckus Networks inventory to fair value at the date of acquisition (subsequently increasing cost of sales). In addition, during the year ended 31 December 2018, the gross margins were impacted by $13.1 million associated with a reduction in sales related to the acquisition accounting impacts of deferred revenue.

During the year ended 31 December 2017, gross margin dollars decreased as compared to the same period in 2016 primarily due to lower sales, a change in product and customer mix, timing of product introductions and memory pricing increases. Pressures on gross margin relating to memory pricing and the competitive landscape for some of our products, particularly in the CPE segment, are expected to continue in the near term and could make it difficult to return to historical gross margin levels. In addition, the gross margins were impacted by $8.5 million in 2017 associated with writing up the historic cost of inventory, related to acquired businesses, to fair value at the date of acquisition thereby increasing cost of goods sold. The Ruckus Networks acquisition also impacted the gross margin for 2017, due to a proportionately higher average gross margin than the historic ARRIS business.

Operating Expenses

The table below provides detail regarding our operating expenses (in thousands, except percentages):

	Operating Expenses			Increase (Decrease) Between Periods			
	For the Years Ended 31 December,			2018 vs. 2017		2017 vs. 2016	
	2018	2017	2016	$	%	$	%
Selling, general & administrative	$ 667,053	$ 475,369	$ 454,190	$ 191,684	40.3%	$ 21,179	4.7%
Research & development	644,038	539,094	584,909	104,944	19.5%	(45,815)	(7.8)%
Amortisation of intangible assets	383,561	375,407	397,464	8,154	2.2%	(22,057)	(5.5)%
Impairment of goodwill and intangible assets	3,400	55,000	2,200	(51,600)	(93.8)%	52,800	2,400.0%
Integration, acquisition, restructuring & other	41,922	98,357	158,137	(56,435)	(57.4)%	(59,780)	(37.8)%
Total	$1,739,974	$1,543,227	$1,596,900	$ 196,747	12.7%	$ (53,673)	(3.4)%

Selling, General, and Administrative, or SG&A, Expenses

Our selling, general and administrative expenses include sales and marketing costs, including personnel expenses for sales and marketing staff expenses, advertising, trade shows, corporate communications, product marketing expenses and other marketing expenses. In addition, general and administrative expenses consist of personnel expenses and other general corporate expenses for corporate executives, finance and accounting, human resources, facilities, information technology, legal and professional fees.

2018 vs. 2017

The year-over-year increase in SG&A expenses primarily reflected the inclusion of incremental expenses associated with our acquisition of Ruckus Networks.

2017 vs. 2016

The year-over-year increase in SG&A expenses reflects the inclusion of expenses associated with the Ruckus Networks acquisition. In addition, we incurred higher legal fees and professional services, which were partially offset by lower expenses due to reductions in force following the Pace combination in 2016.

Research & Development, or R&D, Expenses

Research and development expenses consist primarily of personnel expenses, payments to suppliers for design services, product certification expenditures to qualify our products for sale into specific markets, prototypes, other consulting fees and reasonable allocations of our information technology and corporate facility costs. Research and development expenses are recognised as they are incurred.

2018 vs. 2017

The increase year-over-year in R&D expense reflected the inclusion of incremental expenses associated with the expanded product portfolio with our acquisition of Ruckus Networks which was partially offset by lower costs resulting from workforce reductions.

2017 vs. 2016

The decrease year-over-year in R&D expense reflected the result of reduction in force following the Pace combination and the divestiture of certain product lines that occurred during 2016. The decrease was partially offset by an increase from the inclusion of expenses associated with the Ruckus Networks acquisition.

Amortisation of Intangible Assets

Our intangible amortisation expense relates to finite-lived intangible assets primarily acquired in business combinations. Intangibles amortisation expense was $383.6 million in 2018, as compared with $375.4 and $397.5 million in 2017 and 2016, respectively. The year-over-year increase in 2018 was primarily due to the incremental amortisation expense from acquired intangible assets associated with the Ruckus Networks acquisition. The decrease in amortisation expense in 2017 resulted from certain intangible assets becoming fully amortised, which was partially offset by an increase in amortisation expense from acquired intangibles associated with the Ruckus Network acquisition.

Impairment of Goodwill and Intangible Assets

During 2018, we recorded partial impairment of goodwill of $3.4 million from our Cloud TV reporting unit, of which $1.2 million is attributable to the noncontrolling interest. This impairment was a result of the indirect effect of a change in accounting principle related to the adoption of new accounting standard *Revenue from Contracts with Customers*, resulting in changes in the composition and carrying amount of the net assets of our Cloud TV reporting unit.

During 2017, we recorded partial impairments of goodwill and indefinite-lived tradenames of $51.2 million and $3.8 million, respectively, acquired in our ActiveVideo acquisition and included as part of our Cloud TV reporting unit, of which $19.3 million is attributable to the noncontrolling interest.

During 2016, we wrote-off $2.2 million related to in-process research and development projects acquired in the Pace combination that were subsequently abandoned.

Integration, Acquisition, Restructuring and Other Costs

During 2018, we recorded acquisition related expenses and integration expenses of $14.2 million. The expenses were related to the acquisition of Ruckus Networks and included integration related outside services and other fees. In addition, acquisition costs include banker fees related to the proposed CommScope transaction.

During 2017, we recorded acquisition related expenses and integration expenses of $77.4 million. These expenses are primarily due to the acquisition of Ruckus Networks and include $61.5 million related to the cash settlement of stock-based awards held by transferring employees, as well as banker and other fees.

During 2016, we recorded acquisition related expenses and integration expenses of $53.2 million. These expenses related to the Pace combination and consisted of banker fees, legal fees, integration related outside services and other direct costs of the combination. The Company substantially completed its integration of the Pace business in 2016.

During 2018, 2017 and 2016, we recorded restructuring charges of $41.0 million, $20.9 million and $96.3 million, respectively. The charge in 2018 primarily related to a restructuring plan that affected 1,084 employees across the Company including those employees impacted by the sale of our factory in Taiwan. The charge in 2017 primarily related to employee severance and contractual obligation costs. The restructuring plan affected 195 positions across the Company and its reportable segments. The charges in 2016 primarily related to employee severance and contractual obligation costs. The restructuring plan affected 1,545 positions across the Company and its reportable segments.

During 2018, other costs include a ($13.3) million gain resulting from the sale of our manufacturing facility in Taiwan. Other costs of $8.6 million was recorded during 2016 of which $1.1 million was related to the loss resulting from the divestitures of certain product lines and $7.5 million was related to the loss on disposal of property, plant and equipment.

Direct Contribution

Beginning in 2018, certain costs previously recorded or classified as part of "Corporate and Unallocated Costs", including bonus, equity compensation and certain other direct costs are now reported within each operating segment. Consequently, our segment information for the 2017 and 2016 periods has been restated to reflect such change.

The table below sets forth our direct contribution, which is defined as gross margin less direct operating expenses (in thousands, except percentages):

	Direct Contribution			Increase (Decrease) Between Periods			
	For the Years Ended 31 December,			2018 vs. Restated 2017		Restated 2017 vs. Restated 2016	
	2018	Restated 2017	Restated 2016	$	%	$	%
Segment:							
CPE	$ 270,510	$ 456,562	$ 647,117	$(186,052)	(40.8)%	$ (190,555)	(29.4)%
N&C	848,938	724,598	595,866	124,340	17.2%	128,732	21.6%
Enterprise	64,667	1,388	-	63,279	4,599.0%	1,388	100.0%
Total	$1,184,115	$ 1,182,548	$ 1,242,983	$ 1,567	0.1%	$ (60,435)	(4.9)%

Customer Premises Equipment Direct Contribution 2018 vs. 2017

During 2018, direct contribution in our CPE segment decreased by approximately 40.8% as compared to the same period in 2017. The direct contribution was negatively impacted by lower sales and product mix, as well as lower gross margin. Memory pricing and component costs continued to depress gross margins. We have implemented initiatives to mitigate the effects of these higher component costs with price adjustments and actions to lower operating costs. Our CPE reporting unit has approximately $1.4 billion of goodwill as of 31 December 2018. The estimated fair value of our CPE reporting unit is closely aligned with the ultimate amount of revenue and operating income that it achieves, and while we continue to believe that the CPE reporting unit fair value is in excess of its carrying value, a prolonged or continued erosion in the direct contribution in the CPE segment could result in an impairment of goodwill associated with this business.

Network & Cloud Direct Contribution 2018 vs. 2017

During 2018, direct contribution in our N&C segment increased by approximately 17.2% as compared to the same period in 2017. The increase was primarily attributable to higher sales and the mix of product, including the sale of more CMTS products.

Enterprise Networks Direct Contribution 2018 vs. 2017

During 2018, direct contribution in our Enterprise was approximately $64.7 million. This was primarily a result of the acquisition of Ruckus Networks in December 2017.

Customer Premises Equipment Direct Contribution 2017 vs. 2016

During 2017, direct contribution in our CPE segment decreased by approximately 29.4% as compared to the same period in 2016. The decline in direct contribution resulted from lower sales and product mix, as well as lower gross margin due primarily to memory pricing increases and price competition, which are expected to continue in the near-term. Year over year, memory component pricing increased by approximately $100 million.

Network & Cloud Direct Contribution 2017 vs. 2016

During 2017, direct contribution in our N&C segment increased by approximately 21.6% as compared to the same period in 2016. The increase was primarily attributable to the mix of product, including the sale of more software licences and reductions in operating expenses.

Enterprise Networks Direct Contribution 2017 vs. 2016

During 2017, direct contribution in our Enterprise segment was approximately $1.4 million.

<u>Corporate and Unallocated Costs</u>

There are expenses that are not included in the measure of segment direct contribution and as such are reported as "Corporate and Unallocated Costs" and are included in the reconciliation to income (loss) before income taxes. The "Corporate and Unallocated Costs" category of expenses include corporate sales and marketing (excluding Enterprise segment) and home office general and administrative expenses. Marketing and Sales expenses related to the Enterprise segment are considered a direct operating expense for that segment and are not included in the "Corporate and Unallocated Costs."

The composition of our corporate and unallocated costs that are reflected in the Consolidated Income Statement were as follows (in thousands, except percentages):

	Direct Contribution			Increase (Decrease) Between Periods			
	For the Years Ended 31 December,			2018 vs. Restated 2017		Restated 2017 vs. Restated 2016	
	2018	Restated 2017	Restated 2016	$	%	$	%
Cost of sales	$ 85,838	$ 56,952	$ 136,301	28,886	50.7%	$ (79,349)	(58.2)%
Selling, general & administrative expense	385,273	374,933	348,589	10,340	2.8%	26,344	7.6%
Research & development expenses	105,236	98,887	97,101	6,349	6.4%	1,786	1.8%
Total	$ 576,347	$ 530,772	$ 581,991	45,575	8.6%	$ (51,219)	(8.8)%

During 2018, corporate and unallocated costs increased compared to 2017. Included in the cost of sales in 2018 is $17.0 million associated with the step-up in the underlying net book value of Ruckus Networks inventory acquired in the acquisition to fair market value as of the acquisition date. The increase also reflected the inclusion of incremental expense related to our acquisition of Ruckus Networks.

During 2017, corporate and unallocated costs decreased compared to in 2016. During 2017 and 2016, cost of sales included $8.5 million and $51.4 million, respectively, associated with the turnaround effect of stepping-up the underlying net book value of acquired inventory to fair market value in our acquisitions, as of the acquisition date.

Supplemental Information - Adjusted Direct Contribution and Other Costs (Non-GAAP Measure)

ARRIS reports its financial results in accordance with accounting principles generally accepted in the United States ("GAAP" or referred to herein as "reported"). However, management believes that certain non-GAAP financial measures provide management and other users with additional meaningful financial information that should be considered when assessing our ongoing performance.

In addition to direct contribution, which is our measure of segment profit and loss, executive management has begun using additional measures to evaluate the operating performance of our operating segments. We are using "Adjusted Direct Contribution", which is defined as direct contribution less allocated facility costs, sales and marketing costs, plus stock-based compensation and depreciation. These costs are allocated to each of our operating segments, based upon expense type using various methods such as revenue, headcount, or actual estimated resource usage.

The table below sets forth the reconciliation of operating income (loss) to our adjusted direct contribution, along with other supplemental costs disclosures:

	For the year ended 31 December 2018				
	CPE	N&C	Enterprise	Corporate & Unallocated	Total
Operating income (loss)	$50,766	$732,529	$ (16,111)	$ (588,299)	$ 178,885
Add:					
Amortisation of intangible assets	207,804	99,316	73,176	3,265	383,561
Impairment of goodwill and intangible assets	—	3,400	—	—	3,400
Integration, acquisition, restructuring, and other costs, net	11,940	13,693	7,602	8,687	41,922
Direct contribution	$270,510	$848,938	$ 64,667	$ (576,347)	$ 607,768
Adjustments:					
Allocated costs	(77,993)	(114,036)	(22,917)	214,946	—
Stock compensation expense	21,566	32,485	14,272	16,910	85,233
Depreciation expense	28,701	27,181	10,889	16,915	83,686
Adjusted direct contribution	$242,784	$794,568	$ 66,911	$ (327,576)	$ 776,687

	For the year ended 31 December 2017				
	CPE	N&C	Enterprise	Corporate & Unallocated	Total
Operating income (loss)	$196,185	$552,053	$ (86,677)	$ (538,549)	$ 123,012
Add:					
Amortisation of intangible assets	256,629	105,069	10,449	3,260	375,407
Impairment of goodwill and intangible assets	—	55,000	—	—	55,000
Integration, acquisition, restructuring, and other costs, net	3,748	12,475	77,617	4,517	98,357
Direct contribution	$456,562	$724,597	$ 1,389	$ (530,772)	$ 651,776
Adjustments:					
Allocated costs	(80,661)	(116,817)	(1,472)	198,950	—
Stock compensation expense	23,505	36,196	747	20,212	80,660
Depreciation expense	37,944	29,330	1,258	19,663	88,195
Adjusted direct contribution	$437,350	$673,306	$ 1,922	$ (291,947)	$ 820,631

	For the year ended 31 December 2016				
	CPE	N&C	Enterprise	Corporate & Unallocated	Total
Operating income (loss)	$278,799	$427,384	$ —	$ (595,466)	$ 110,717
Add:					
Amortisation of intangible assets	277,762	117,381	—	2,321	397,464
Impairment of goodwill and intangible assets	—	2,200	—	—	2,200
Integration, acquisition, restructuring, and other costs, net	90,556	48,901	—	11,154	150,611
Direct contribution	$647,117	$595,866	$ —	$ (581,991)	$ 660,992
Adjustments:					
Allocated costs	(88,737)	(120,413)	—	209,150	—
Stock compensation expense	17,133	28,745	—	14,171	60,049

	For the year ended 31 December 2016				
	CPE	N&C	Enterprise	Corporate & Unallocated	Total
Depreciation expense	38,079	31,095	—	21,402	90,576
Adjusted direct contribution	$613,592	$535,293	$ —	$ (337,268)	$ 811,617

Other Expense

The table below provides detail regarding our other expense (in thousands):

	Other Expense (Income) For the Years Ended 31 December,			Increase (Decrease) Between Periods			
				2018 vs. 2017		2017 vs. 2016	
	2018	2017	2016	$	%	$	%
Interest expense	$ 95,086	$ 87,088	$ 79,817	$ 7,998	9.2%	$ 7,271	9.1%
Loss on investments	308	11,066	21,194	(10,758)	(97.2)%	(10,128)	(47.8)%
Loss (Gain) on foreign currency	3,834	9,757	(13,982)	(5,923)	(60.7)%	23,739	(169.8)%
Interest income	(8,341)	(7,975)	(4,395)	(366)	(4.6)%	(3,580)	(81.5)%
Other expense (income), net	5,056	1,873	3,991	3,183	169.9%	(2,118)	(53.1)%
Total other expense	$ 95,943	$ 101,809	$ 86,625	$ (5,866)	(5.8)%	$ 15,184	17.5%

Interest Expense

Interest expense reflects the amortisation of debt issuance costs (deferred finance fees and debt discounts) related to our term loans, and interest expense paid on the notes, term loans and other debt obligations.

Interest expense was $95.1 million in 2018, as compared with $87.1 million and $79.8 million in 2017 and 2016, respectively, reflecting the net impact of LIBOR increases after consideration from our interest rate derivatives.

During 2017, in connection with amending our credit agreement, we expensed approximately $4.5 million of debt issuance costs and wrote off approximately $1.3 million of existing debt issuance costs associated with certain lenders who were not party to the amended term loan facilities, which were included as interest expense in the Consolidated Income Statement for the year ended 31 December 2017.

Upon the closing of the Pace combination in 2016, we incurred an additional $2.3 million of debt issuance costs which were capitalised and amortised over the term of the loan.

Loss on Investments

We hold certain investments in equity securities of private and publicly-traded companies and investments in rabbi trusts associated with our deferred compensation plans, and certain investments in limited liability companies and partnerships that are accounted for using the equity method of accounting. Our equity portion in current earnings of such investments is included in the loss on investments.

During the years ended 31 December 2018, 2017 and 2016, we recorded net losses on investments related to these investments of $0.3 million, $11.1 million and $21.2 million, respectively, including impairment charges. The reduction in losses for the year ended 31 December 2018 as compared to same periods of the prior year reflect the wind-down of development activities for one of our investments, previously accounted for under the equity method.

The Company performed an evaluation of its investments and concluded that indicators of impairment existed for certain investments, and that their fair value had declined. This resulted in other-than-temporary impairment charges of $2.8 million and $12.3 million during the year ended 31 December 2017 and 2016, respectively. There was no other-than-temporary impairment charges resulting from our evaluation in 2018.

Loss (Gain) on Foreign Currency

During the years ended 31 December 2018, 2017 and 2016, we recorded net losses (gains) on foreign currency of $3.8 million, $9.8 million and $(14.0) million, respectively. We have U.S. dollar functional currency entities that bill certain international customers or have liabilities payable in their local currency. Additionally, certain intercompany transactions are denominated in foreign currencies and subject to re-measurement. To mitigate the volatility related to fluctuations in the foreign exchange rates, we have entered into various foreign currency contracts. The (gain) or loss on foreign currency is driven by the fluctuations in the foreign currency exchange rates.

Interest Income

Interest income reflects interest earned on cash, cash equivalents, and short-term and long-term marketable security investments. During the years ended 31 December 2018, 2017 and 2016, we recorded interest income of $8.3 million, $8.0 million and $4.4 million, respectively.

Other Expense (Income), net

Other expense, net for the years ended 31 December 2018, 2017 and 2016 were $5.1 million, $1.9 million and $4.0 million, respectively.

Income Tax Expense

Our annual provision for income taxes and determination of the deferred tax assets and liabilities requires management to assess uncertainties, make judgements regarding outcomes, and utilise estimates. To the extent the final outcome differs from initial assessments and estimates, future adjustments to our tax assets and liabilities will be necessary.

In 2018, we recorded $24.3 million of income tax benefit for U.K., U.S. federal and state taxes and other foreign taxes, which was (29.4)% of our pre-tax income of $82.9 million. The Company's effective income tax rate for 2018 was favourably impacted by $29.2 million related to the generation of research and development credits primarily in the U.S., and $35.5 million of tax benefits from other foreign tax regimes, primarily Luxembourg and Hong Kong.

In 2017, we recorded $44.9 million of income tax benefit for U.K., U.S. federal and state taxes and other foreign taxes, which was (211.9)% of our pre-tax income of $21.2 million. The Company's effective income tax rate for 2017 was favourably impacted by $22.3 million of tax rate changes primarily driven by US Tax Reform, $25.4 million related to the generation of research and development credits primarily in the U.S., and $36.2 million of tax benefits from other foreign tax regimes, primarily Luxembourg and Hong Kong.

On 22 December 2017, the Tax Cuts and Jobs Act of 2017 (the "Act") was signed into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after 31 December 2017, a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of 31 December 2017, a new alternative U.S. tax on certain Base Erosion Anti-Avoidance (BEAT) payments from a U.S. company to any foreign related party, a new U.S. tax on certain off-shore earnings referred to as Global Intangible Low-Taxed Income (GILTI), additional limitations on certain executive compensation and limitations on interest deductions. Refer to Note 19 *Income Taxes* for further discussion.

In 2016, we recorded $15.1 million of income tax expense for U.K., U.S. federal and state taxes and other foreign taxes, which was 62.8% of our pre-tax income of $24.1 million. The Company's effective income tax rate for 2016 was unfavourably impacted by $50.8 million of non-recurring items. The Company recorded $55 million of withholding tax expense in connection with the Pace combination, as well as $2.1 million of tax expense on expiring net operating losses. The Company also recorded $7.0 million of net tax benefit relating to the release of valuation allowances.

Non-GAAP Measures

ARRIS reports its financial results in accordance with accounting principles generally accepted in the United States ("GAAP" or referred to herein as "reported"). However, management believes that certain non-GAAP financial measures provide management and other users with additional meaningful financial information that should be considered when assessing our ongoing performance. Our management regularly uses our supplemental non-GAAP financial measures internally to understand, manage and evaluate our business and make operating decisions. These non-GAAP measures are among the factors management uses in planning for and forecasting future periods. Non-GAAP financial measures should be viewed in addition to, and not as an alternative to, the Company's reported results prepared in accordance with GAAP.

	Year 2018		Year 2017		Year 2016	
	Amount	Per Diluted Share	Amount	Per Diluted Share	Amount	Per Diluted Share
Sales	$6,742,640		$6,614,392		$6,829,118	
Highlighted items:						
Reduction in revenue related to warrants	—		—		30,159	
Acquisition accounting impacts of deferred revenue	13,101		1,120		—	
Adjusted Sales	$6,755,741		$6,615,512		$6,859,277	
Net income attributable to ARRIS International plc	113,740	0.62	92,027	0.49	18,100	0.09
Highlighted Items:						
Impacting gross margin:						
Stock compensation expense	14,299	0.08	13,947	0.07	9,397	0.05
Reduction in revenue related to warrants	—	—	—	—	30,159	0.16
Acquisition accounting impacts of deferred revenue	13,101	0.07	1,120	0.01	—	—
Acquisition accounting impacts of fair valuing inventory	16,971	0.09	8,468	0.04	51,405	0.27
Impacting operating expenses:						
Integration, acquisition, restructuring and other costs	55,267	0.30	98,357	0.52	152,810	0.79
Impairment of goodwill and intangible assets	3,400	0.02	55,000	0.29	—	—
Amortisation of intangible assets	383,560	2.11	375,407	1.98	397,464	2.07
Stock compensation expense	70,934	0.39	66,711	0.35	50,652	0.26
Gain on disposal of property, plant & equipment	(13,346)	(0.07)	—	—	—	—
Non-controlling interest share of Non-GAAP adjustments	(4,922)	(0.03)	(22,352)	(0.12)	(3,145)	(0.02)
Impacting other (income)/expense:						
Impairment of Investments	—	—	929	—	12,297	0.06
Debt amendment fees	—	—	5,851	0.03	(237)	—
Credit facility – ticking fees	—	—	—	—	(9)	—
Foreign exchange contract losses related to Pace acquisition	—	—	—	—	1,610	0.01
Pension settlement charge and curtailment	5,665	0.03	—	—	—	—
Re-measurement of certain deferred tax liabilities	(477)	—	9,360	0.05	(16,356)	(0.09)
Impacting income tax expense:						
Foreign withholding tax	—	—	—	—	54,741	0.28
Income tax benefit	(132,107)	(0.73)	(190,150)	(1.00)	(208,524)	(1.08)
Total highlighted items	412,345	2.27	422,648	2.22	532,264	2.77
Adjusted net income	526,085	2.89	514,675	2.71	550,364	2.86
Weighted average common shares – basic		180,147		187,133		190,701
Weighted average common shares — diluted		182,041		189,616		192,185

Our non-GAAP financial measures reflect adjustments based on the following items, as well as the related income tax effects:

Reduction in Revenue Related to Warrants: We entered into agreements with two customers for the issuance of warrants to purchase up to 14.0 million of ARRIS's ordinary shares. Vesting of the warrants is subject to certain purchase volume commitments, and therefore the accounting guidance requires that we record any change in the fair value of warrants as a reduction in revenue. Until final vesting, changes in the fair value of the warrants will be marked to market and any adjustment recorded in revenue. We have excluded the effect of the implied fair value in calculating our non-GAAP financial measures. We believe it is useful to understand the effects of these items on our total revenues and gross margin.

Acquisition Accounting Impacts Related to Deferred Revenue: In connection with the accounting related to our acquisitions, business combination rules require us to account for the fair values of deferred revenue arrangements for post contract support in our purchase accounting. The non-GAAP adjustment to our sales and cost of sales is intended to include the full amounts of such revenues as if these purchase accounting adjustments had not been applied. We believe the adjustment to these revenues is useful as a measure of the ongoing performance of our business.

Stock-Based Compensation Expense: We have excluded the effect of stock-based compensation expenses in calculating our non-GAAP operating expenses and net income (loss) measures. Although stock-based compensation is a key incentive offered to our employees, we continue to evaluate our business performance excluding stock-based compensation expenses. We record non-cash compensation expense related to grants of restricted stock units. Depending upon the size, timing and the terms of the grants, the non-cash compensation expense may vary significantly but will recur in future periods.

Acquisition Accounting Impacts Related to Inventory Valuation: In connection with the accounting related to our acquisitions, business combinations rules require the acquired inventory be recorded at fair value on the opening balance sheet. This is different from historical cost. Essentially, we are required to write the inventory up to the end customer price less a reasonable margin as a distributor. We have excluded the resulting adjustments in inventory and cost of goods sold as the historic and forward gross margin trends will differ as a result of the adjustments. We believe it is useful to understand the effects of this on cost of goods sold and margin.

Integration, Acquisition, Restructuring and Other Costs: We have excluded the effect of acquisition, integration, and other expenses and the effect of restructuring expenses in calculating our non-GAAP operating expenses and net income measures. We incurred expenses in connection with the ActiveVideo, Motorola Home, Pace and Ruckus Networks acquisitions, which we generally would not otherwise incur in the periods presented as part of our continuing operations. Acquisition and integration expenses consist of transaction costs, costs for transitional employees, other acquired employee related costs, and integration related outside services. Restructuring expenses consist of employee severance, abandoned facilities, product line disposition and other exit costs. We believe it is useful to understand the effects of these items on our total operating expenses.

Impairment of Goodwill and Intangible Assets: We have excluded the effect of the estimated impairment of goodwill and intangible assets in calculating our non-GAAP operating expenses and net income measures. Although an impairment does not directly impact the Company's current cash position, such expense represents the declining value of the business, technology and other intangible assets that were acquired. We exclude these impairments when significant and they are not reflective of ongoing business and operating results.

Amortisation of Intangible Assets: We have excluded the effect of amortisation of intangible assets in calculating our non-GAAP operating expenses and net income (loss) measures. Amortisation of intangible assets is non-cash and is inconsistent in amount and frequency and is significantly affected by the timing and size of our acquisitions. Investors should note that the use of intangible assets contributed to our revenues earned during the periods presented and will contribute to our future period revenues as well. Amortisation of intangible assets will recur in future periods.

Gain on Disposal of Property, Plant & Equipment: We have excluded the effect of a gain on the sale of our manufacturing facility and certain manufacturing fixed assets in Taiwan in calculating our non-GAAP financial measures. We believe it is useful to understand the effect of this item in our other expense (income).

Noncontrolling Interest share of Non-GAAP Adjustments: The joint venture formed for the ActiveVideo acquisition is accounted for by ARRIS under the consolidation method. As a result, the Consolidated Income Statement include the revenues, expenses, and gains and losses of the noncontrolling interest. The amount of net income (loss) related to the noncontrolling interest are reported and presented separately in the Consolidated Income Statement. We have excluded the noncontrolling share of any non- GAAP adjusted measures recorded by the venture, as we believe it is useful to understand the effect of excluding this item when evaluating our ongoing performance.

Impairment (Gain) on Investments: We have excluded the effect of other-than-temporary impairments and certain gains on investments in calculating our non-GAAP financial measures. We believe it is useful to understand the effect of this non-cash item in our other expense (income).

Debt Amendment Fees: In 2017, the Company amended its credit agreement. This debt modification allowed us to improve the terms and conditions of the credit agreement, extend the maturities of certain loan facilities, increase the amount of the revolving credit facility, and add new term loan facility. We have excluded the effect of the associated fees in calculating our non-GAAP financial measures. We believe it is useful to understand the effect of this item in our other expense (income).

Credit Facility — Ticking Fees: In connection with the Pace combination, the cash portion of the consideration was funded through debt financing commitments. A ticking fee was a fee paid to our banks to compensate for the time lag between the commitment allocation on a loan and the actual funding. We have excluded the effect of the ticking fee in calculating our non-GAAP financial measures. We believe it is useful to understand the effect of this item in our other expense (income).

Pension Settlement Charge and Curtailment: We have excluded the effect of the deferred actuarial gains and losses remaining in Accumulated other comprehensive (loss) income related to the termination of our pension benefit plans in calculating our non-GAAP financial measures. We believe it is useful to understand the effect of this non-cash item in our other expense (income).

Foreign Exchange Contract Losses Related to Pace Combination: In the second quarter of 2015, the Company announced its intent to acquire Pace in exchange for stock and cash. We subsequently entered into foreign exchange forward contracts in order to hedge the foreign currency risk associated with the cash consideration of the Pace combination. These foreign exchange forward contracts were not designated as hedges, and accordingly, all changes in the fair value of these instruments are recognised as a loss (gain) on foreign currency in the Consolidated Income Statement. We believe it is useful to understand the effect of this on our other expense (income).

Remeasurement of Deferred Taxes: We record foreign currency remeasurement gains and losses related to deferred tax liabilities in the United Kingdom. The foreign currency remeasurement gains and losses derived from the remeasurement of the deferred income taxes from GBP to U.S. dollar. We have excluded the impact of these gains and losses in the calculation of our non-GAAP measures. We believe it is useful to understand the effects of this item on our total other expense (income).

Foreign Withholding Tax: In connection with the Pace combination, ARRIS U.S. Holdings, Inc. transferred shares of its subsidiary ARRIS Financing II Sarl to ARRIS International. Under U.S. tax law, based on the best available information, we believe the transfer constituted a deemed distribution from ARRIS U.S. Holdings Inc. to ARRIS International that is treated as a dividend for U.S. tax purposes. A deemed dividend of this type is subject to U.S. withholding tax to the extent of the current and accumulated earnings and profits (as computed for tax purposes) ("E&P") of ARRIS U.S. Holdings Inc., which include the E&P of the former ARRIS Group and subsidiaries through 31 December 2016. Accordingly, ARRIS U.S. Holdings Inc. remitted U.S. withholding tax in the amount of $55 million based upon its estimated E&P of $1.1 billion and the U.S. dividend withholding tax rate of 5 percent (as provided in Article 10 (Dividends) of the United Kingdom-United States Tax Treaty). We have excluded the withholding tax in calculating our non-GAAP financial measures.

Income Tax Expense (Benefit): We have excluded the tax effect of the non-GAAP items mentioned above. Additionally, we have excluded the effects of certain tax adjustments related to tax and legal restructuring, state and non-U.S. valuation allowances, benefits for releases of uncertain tax positions due to settlement, change in law or statute of limitations and provision to return differences.

Financial Liquidity and Capital Resources

Overview

One of our key strategies is to ensure we have adequate liquidity and the financial flexibility to support our strategy, including acquisitions. The key metrics we focus on are summarised in the table below:

Liquidity & Capital Resources Data

	Year Ended 31 December,		
	2018	Restated 2017	Restated 2016
	(in thousands, except DSO and Turns)		
Key Working Capital Items			
Cash provided by operating activities	$ 649,002	$ 533,811	$ 363,180
Cash, cash equivalents, and short-term investments	$ 735,471	$ 511,447	$ 1,095,676
Long-term U.S corporate bonds	$ —	$ —	$ 10,998
Accounts Receivable, net	$ 1,225,975	$ 1,218,089	$ 1,359,430
– Days Sales Outstanding	*66*	*63*	*61*
Inventory, net	$ 740,205	$ 825,211	$ 551,541
– Turns	*6.2*	*7.2*	*8.6*
Key Financing Items			
Term loans at face value	$ 2,073,900	$ 2,161,400	$ 2,229,563
Proceeds from issuance of debt	$ —	$ 175,847	$ 800,000
Cash used for debt repayment	$ 87,500	$ 244,009	$ 319,750
Financing lease obligation	$ 60,537	$ 61,321	$ 58,010
Cash used for share repurchases	$ 353,079	$ 196,965	$ 178,035
Key Investing Items			
Cash used for acquisitions, net of cash acquired	$ 1,152	$ 760,802	$ 340,118
Capital Expenditures	$ 63,616	$ 78,072	$ 66,760

In managing our liquidity and capital structure, we remain focused on key goals, and we have and will continue in the future to implement actions to achieve them. They include:

- Liquidity — ensure that we have sufficient cash resources or other short-term liquidity to manage day to day operations.
- Growth — implement a plan to ensure that we have adequate capital resources, or access thereto, to fund internal growth and execute acquisitions.
- Deleverage — reduce our debt obligations.
- Share repurchases — use a portion of cash from operating activities to repurchase our ordinary shares subject to market conditions and other strategic considerations, such as acquisitions.

Accounts Receivable

We use the number of times per year that inventory turns over (based upon sales for the most recent period, or turns) to evaluate inventory management, and days sales outstanding, or DSOs, to evaluate accounts receivable management.

Accounts receivable at the end of 2018 increased as compared to the end of 2017, primarily due to the timing of purchases by customers. DSO increased in 2018 primarily reflecting a larger international mix.

Accounts receivable at the end of 2017 decreased as compared to the end of 2016, primarily due to the timing of purchases by customers in late 2016. DSO increased in 2017, primarily reflecting a larger international mix.

Inventory

Inventory decreased in 2018 as compared to 2017, reflecting the consumption of certain inventory built in late 2017 and timing of customer requirements.

Inventory at the end of 2017 increased as compared to the end of 2016, reflecting timing of shipments to customers and anticipated demand for certain products, inventory acquired in the Ruckus acquisition, and the impact of transitioning component inventories from outsourced assemblers to in-house production.

Debt Repayments and Proceeds

In 2018, we repaid $87.5 million of our term debt which reflects mandatory repayments.

In 2017, we repaid $91.7 million of our term debt. With regards to our Term Loan facilities, we repaid $152.3 million in debt to exiting lenders and recorded proceeds from issuance of debt of $175.8 million.

In 2016, we repaid $79.5 million of our term debt as well as $240.2 million of debt assumed and settled in conjunction with the Pace combination in January 2016. In addition, we received proceeds upon the closing of the Pace combination for our Term Loan A-1 Facility of $800 million.

Financing Lease Obligation

In 2015, we sold our San Diego office complex consisting of land and buildings. We concurrently entered into a leaseback arrangement for two of the buildings (Building 1 and Building 2). Building 1 did not qualify for sale leaseback accounting due to continuing involvement that will exist for the 10-year lease term. Accordingly, the carrying amount of Building 1 continues to be depreciated over the ten-year lease period with the proceeds reflected as a financing obligation.

Share Repurchases

Upon completing the Pace combination, we conducted a court-approved process in accordance with section 641(1)(b) of the UK Companies Act 2006, pursuant to which we reduced our stated share capital and thereby increased our distributable reserves or excess capital out of which we may legally pay dividends or repurchase shares. Distributable reserves are not linked to a U.S. GAAP reported amount.

In 2016, our Board of Directors approved a $300 million share repurchase authorisation replacing all prior programmes. In early 2017, the Board authorised an additional $300 million for share repurchases. In March 2018, the Board authorised an additional $300 million for repurchases and an additional $375 million again in August 2018. Unless terminated earlier by a Board resolution, this new plan will expire when ARRIS has used all authorised funds for repurchase. The remaining authorised amount for share repurchases under this plan was $546.9 million as of 31 December 2018. However, U.K. law also generally prohibits a company from repurchasing its own shares through "off market purchases" without prior approval of shareholders because we are not traded on a recognised investment exchange in the U.K. This shareholder approval lasts for a maximum period of five years. Prior to and in connection with the Pace combination, we obtained approval to purchase our own shares. This authority to repurchase shares terminates in January 2021, unless otherwise reapproved by our shareholders.

During 2018, we repurchased 13.9 million ordinary shares for $353.1 million at an average stock price of $25.38. During 2017, we repurchased 7.5 million ordinary shares for $197.0 million at an average stock price of $26.12. During 2016, we repurchased 7.4 million of our ordinary shares for $178.0 million at an average stock price of $24.09.

Under the terms of the Acquisition Agreement, we have agreed not to purchase additional shares prior to the closing of the Acquisition without the consent of CommScope.

Summary of Current Liquidity Position and Potential for Future Capital Raising

We believe our current liquidity position, where we had approximately $735.5 million of cash, cash equivalents, short-term investments on hand as of 31 December 2018, together with approximately $498.5 million in availability under our Revolving Credit Facility, and the prospects for continued generation of cash from operations, are adequate for our short- and medium-term business needs. Our cash, cash-equivalents and short-term investments as of 31 December 2018 include approximately $405.4 million held by all non-U.S. subsidiaries. Of that amount, $56.6 million was held by non-U.S. subsidiaries legally owned by ARRIS U.S. entities.

The Tax Act imposed a mandatory transition tax on previously accumulated earnings of those non-U.S. subsidiaries and a tax on a portion of their current earnings, therefore significantly reducing tax impacts on future remittances. We have recorded a deferred tax liability of $5.0 million for the additional tax that would be paid when the previously accumulated earnings are remitted.

We expect to be able to generate sufficient cash on a consolidated basis to make all of the principal and interest payments under our senior secured credit facilities. Should our available funds be insufficient to support these initiatives or our operations, it is possible that we will raise capital through private or public, share or debt offerings.

Senior Secured Credit Facilities

For information regarding our credit facilities, see Note 16 *Indebtedness* of Notes to the Consolidated Financial Statements.

Interest rates on borrowings under the senior secured credit facilities are set forth in the table below. As of 31 December 2018, we had $366.6 million, $1,171.9 million and $535.4 million principal amounts outstanding under the Term Loan A, Term Loan A-1 and Term Loan B-3 Facilities, respectively. No borrowings existed under the Revolving Credit Facility and there were letters of credit totaling $1.5 million issued under the Revolving Credit Facility.

	Rate	As of 31 December 2018
Term Loan A	LIBOR + 1.75 %	4.27%
Term Loan A-1	LIBOR + 1.75 %	4.27%
Term Loan B-3	LIBOR + 2.25 %	4.77%
Revolving Credit Facility (1)	LIBOR + 1.75 %	Not Applicable

(1) Includes unused commitment fee of 0.30% and letter of credit fee of 1.75% not reflected in interest rate above.

The Credit Agreement contains usual and customary limitations on indebtedness, liens, restricted payments, acquisitions and asset sales in the form of affirmative, negative and financial covenants, which are customary for financings of this type, including the maintenance of a minimum interest coverage ratio and a maximum leverage ratio. As of 31 December 2018, we complied with all covenants under the Credit Agreement.

Commitments

Following is a summary of our contractual obligations as of 31 December 2018 (in thousands):

	Payments due by period				
Contractual Obligations	Less than 1 Year	1 – 3 Years	3 – 5 Years	More than 5 Years	Total
Credit facilities(1)	$ 87,500	$ 175,000	$ 1,303,187	$ 508,213	$ 2,073,900
Operating leases, net of sublease income(2)	43,486	74,139	54,279	37,991	209,895
Purchase obligations(3)	595,406	—	—	—	595,406
Total contractual obligations(4)	$ 726,392	$ 249,139	$ 1,357,466	$ 546,204	$ 2,879,201

(1) Represents the face value of loans outstanding under our credit facility

(2) Includes leases which are reflected in restructuring accruals on the consolidated balance sheet.

(3) Represents obligations under agreements with non-cancellable terms to purchase goods or services. The agreements are enforceable and legally binding, and specify terms, including quantities to be purchased and the timing of the purchase.

(4) Approximately $119.0 million of net uncertain tax positions have been excluded from the contractual obligation table because we are unable to make reasonably reliable estimates of the period of cash settlement with the respective taxing authorities.

Off-Balance Sheet Arrangements

We do not have any material off-balance sheet arrangements as defined in Item 303(a)(4)(ii) of Regulation S-K.

Cash Flow

Below is a table setting forth the key line items of our Consolidated Statements of Cash Flows (in thousands):

	2018	Restated 2017	Restated 2016
Cash provided by (used in):			
Operating activities	$ 649,002	$ 533,811	$ 363,180
Investing activities	43,571	(747,662)	(524,509)
Financing activities	(442,787)	(277,469)	290,652
Effect of exchange rate changes	(7,520)	(1,256)	(12,097)
Net (decrease) increase in cash and cash equivalents	$ 242,266	$ (492,576)	$ 117,226

In the Consolidated Statements of Cash Flows, changes in operating assets and liabilities are presented excluding the effects of changes in foreign currency exchange rates and the effects of acquisitions. Accordingly, the amounts in the Consolidated Statements of Cash Flows differ from changes in the operating assets and liabilities that are presented in the Consolidated Balance Sheet.

Operating Activities:

Below are the key line items affecting cash from operating activities (in thousands):

	2018	Restated 2017	Restated 2016
Consolidated net income	$107,286	$ 66,124	$ 8,961
Adjustments to reconcile net income to cash provided by operating activities	488,196	567,586	441,592
Net income including adjustments	595,482	633,710	450,553
(Increase) decrease in accounts receivable	(22,138)	175,930	(258,677)
Decrease (increase) in inventory	81,815	(224,582)	282,644
Increase (decrease) in accounts payable and accrued liabilities	24,948	49,988	(178,086)
All other, net	(31,105)	(101,235)	66,746
Cash provided by operating activities	$649,002	$ 533,811	$ 363,180

2018 vs. 2017

Consolidated net income including adjustments, as per the table above, decreased $38.2 million during 2018 as compared to 2017. It should be noted that the net income reflected in 2018 includes: 1) turnaround effect of inventory step-up in fair market value of $17.0 million, and 2) inclusion of the acquisition of Ruckus Networks. These items were either not present or were insignificant in 2017.

Accounts receivable increased by $22.1 million during 2018. The increase was primarily a result of purchasing and payment patterns of our customers.

Inventory decreased by $81.8 million during 2018, reflecting the consumption of certain inventory built in late 2017 and timing of customer requirements. In 2018, there was a $17.0 million reduction related to turnaround effect of inventory markup in acquisition accounting.

Accounts payable and accrued liabilities increased by $24.9 million during 2018, reflecting timing of payments and accrued expenses.

All other accounts, net, include changes in other receivables, income taxes payable (recoverable), and prepaid expenses. The other receivables represent amounts due from our contract manufacturers for material used in the assembly of our finished goods. The change in our income taxes recoverable account is a result of the timing of the actual estimated tax payments during the year as compared to the actual tax liability for the year.

2017 vs. 2016

Consolidated net income including adjustments, as per the table above, increased $183.2 million during 2017 as compared to 2016. It should be noted that net income in 2017 includes 1) $61.5 million of expense related to the cash settlement of stock-based awards held by transferring employees in our Ruckus acquisition and 2) restructuring costs of $20.9 million, and 3) inventory step-up in fair market value of $8.5 million. The net income reflected in 2016 includes: 1) restructuring costs of $96.3 million, 2) withholding tax of $54.7 million and 3) inventory step-up in fair market value of $51.4 million. These 2016 items were either not present or less significant in 2017.

Accounts receivable decreased $175.9 million in 2017. This increase was primarily a result of purchasing pattern and payment patterns of our customers.

Inventory increased by $224.6 million in 2017, reflecting timing of customer requirements and anticipated demand for certain products, inventory acquired in the Ruckus acquisition, and the transition of component inventory from outsourced assemblers to in-house production. In 2017 and 2016, we recognised reductions of $8.5 million and $51.4 million, respectively, related to turnaround effects of inventory markups in acquisition accounting.

Accounts payable and accrued liabilities increased by $50.0 million in 2017. The change reflects an increase in accounts payable due to timing of payments primarily for inventory and was partially offset by reduction in accrued expenses and deferred revenues.

All other accounts, net, include the changes in other receivables, income taxes payable (recoverable), and prepaids. The other receivables represent amounts due from our contract manufacturers for material used in the assembly of our finished goods. The change in our income taxes recoverable account is a result of the timing of the actual estimated tax payments during the year as compared to the actual tax liability for the year. The net change during 2017 was approximately $101.2 million as compared to $66.1 million in 2016.

Investing Activities:

Below are the key line items affecting investing activities (in thousands):

	2018	Restated 2017	Restated 2016
Purchases of investments	$ (64,454)	$ (68,493)	$ (141,543)
Sales of investments	79,473	165,301	25,931
Proceeds from on equity investment.	9,966	826	2,903
Purchases of property, plant and equipment	(63,616)	(78,072)	(66,760)
Proceeds for sale of property, plant and equipment	74,425	—	29
Purchase of intangible assets	(423)	(6,422)	(5,526)
Acquisitions, net of cash acquired	(1,152)	(760,802)	(340,118)
Other, net	9,352	—	575
Cash used in investing activities	$ 43,571	$ (747,662)	$ (524,509)

Purchases and sales of investments — Represents purchases and sales of securities and other investments.

Proceeds from equity investment — Represents dividend proceeds received from return of our equity investments.

Purchases of property, plant and equipment — Represents capital expenditures which are mainly for test equipment, laboratory equipment, and computer and networking equipment and facilities.

Proceeds for sale of property, plant and equipment — Represents a cash proceeds for the sale of our manufacturing facility and equipment in Taiwan.

Purchase of intangible assets — Represent primarily the purchase of patents and technology licences.

Acquisitions, net of cash acquired — Represents cash investments we have made in our various acquisitions. See Note 5 *Business Acquisitions* of Notes to the Consolidated Financial Statements for disclosures related to acquisitions.

Other, net — Represent proceeds from corporate-owned life insurance policy offset by a note receivable on a short-term borrowing facility in 2018, and cash proceeds received from sale of assets in 2016.

Financing Activities:

Below are the key items affecting our financing activities (in thousands):

	2018	2017	2016
Proceeds from issuance of shares, net	$ 20,186	$ 17,469	$ 12,885
Repurchase of shares	(353,079)	(196,965)	(178,035)
Excess tax benefits from stock-based compensation plans	—	—	20,085
Repurchase of shares to satisfy minimum tax withholdings	(23,781)	(26,573)	(17,925)
Proceeds from issuance of debt	—	175,847	800,000
Payment of debt obligations	(87,500)	(244,009)	(319,750)
Payment of financing lease obligation	(870)	(777)	(758)
Payment on accounts receivable financing facility	—	—	(23,546)
Payment for deferred financing fees and debt discount	—	(5,961)	(2,304)
Contribution from non-controlling interest	2,257	3,500	—
Cash provided by (used in) financing activities	$(442,787)	$ 277,469	$ 290,652

Proceeds from issuance of shares, net — Represents cash proceeds related to the vesting of restricted share units, offset with expenses paid related to the issuance of shares.

Repurchase of shares — Represents the cash used to buy back the Company's ordinary shares.

Excess tax benefits from stock-based compensation plans — Represents the cash that otherwise would have been paid for income taxes if increases in the value of equity instruments also had not been deductible in determining taxable income. Prospectively, all excess tax benefits from share-based payments will be reported as operating activities under new accounting standard *Improvements to Employee Share-Based Payment Accounting.*

Repurchase of shares to satisfy employee minimum tax withholdings — Represents the shares withheld and cancelled for cash, to satisfy the employee minimum tax withholding when restricted stock units vest.

Proceeds from issuance of debt — Represents the proceeds from new borrowings for our Term Loan Facilities upon the re-financing of our Credit Agreement in 2017, and "Term Loan A-1 Facility" of $800 million, which was funded upon the closing of the Pace combination in 2016.

Payment of debt obligation — Represents the mandatory payment of the term loans under the senior secured credit facilities, payments to lenders exiting our credit facilities upon re-financing, as well as the repayment of debt assumed and settled in conjunction with the closing of the Pace combination in 2016.

Payment of financing lease obligation — Represents the amortisation related to the portion of the sale of building that did not qualify for sale-leaseback accounting.

Repayment on accounts receivable financing facility — As part of the Pace combination, we obtained an accounts receivable securitisation programme, which was terminated in 2017. This represents the repayment of the secured borrowings.

Payment of deferred financing costs and debt discount — Represents the financing costs in connection with the execution of our senior secured credit facility under the Credit Agreement. The costs have been deferred and will be recognised over the terms of the applicable credit facilities. It also represents amounts paid to lenders in the form of upfront fees, which have been treated as a reduction in the proceeds received by the ARRIS and are considered a component of the discount of the facilities under the Credit Agreement.

Contribution from noncontrolling interest — Represents the equity investment contributions by the noncontrolling interest in a joint venture formed for the ActiveVideo acquisition.

Excess Income Taxes Benefit Related to Equity Compensation

During 2018, no U.S. federal tax benefits were obtained from excess tax deductions arising from equity-based compensation deductions, resulting from a shortfall for the 2018 lapses of restrictions on restricted stock awards. During 2017, approximately $2.6 million of U.S. federal tax benefits were obtained from tax deductions arising from equity-based compensation deductions, all of which resulted from 2017 lapses of restrictions on restricted stock awards. During 2016, approximately $2.5 million of U.S. federal tax benefits were obtained from tax deductions arising from equity-based compensation deductions, all of which resulted from 2016 lapses of restrictions on restricted stock awards.

Interest Rates

As described above, all indebtedness under our senior secured credit facilities bears interest at variable rates based on LIBOR plus an applicable spread. We entered into interest rate swap arrangements to convert a notional amount of $1,075.0 million of our variable rate debt based on one-month LIBOR to a fixed rate. The objective of these swaps is to manage the variability of cash flows in the interest payments related to the portion of the variable rate debt designated as being hedged.

Foreign Currency

A significant portion of our products are manufactured or assembled in Brazil, China and Mexico, and we have research and development centres outside the United States in Canada, China, France, India, Ireland, Israel, Singapore, Sweden, Taiwan and United Kingdom. Our sales into international markets have been and are expected in the future to be an important part of our business. These foreign operations are subject to the usual risks inherent in conducting business abroad, including risks with respect to currency exchange rates, economic and political destabilisation, restrictive actions and taxation by foreign governments, nationalisation, the laws and policies of the United States affecting trade, foreign investment and loans, and foreign tax laws.

We have certain international customers who are billed in their local currency and certain international operations that procure in U.S dollars. We also have certain predictable expenditures for international operations in local currency. Additionally, certain intercompany transactions are denominated in foreign currencies and subject to revaluation. As part of the Pace combination, we paid the former Pace shareholders 132.5 pence per share in cash consideration, which is approximately 434.3 million British pounds, in the aggregate. These contracts were settled upon the close of the Pace combination in January 2016. We use a strategy to economically hedge these transactions and enter into forward or currency option contracts based on a percentage of expected foreign currency revenues and expenses. The percentage can vary, based on the predictability of the exposures denominated in the foreign currency.

Financial Instruments

In the ordinary course of business, we, from time to time, will enter into financing arrangements with customers. These financial arrangements include letters of credit, commitments to extend credit and guarantees of debt. These agreements could include the granting of extended payment terms that result in longer collection periods for accounts receivable and slower cash inflows from operations and/or could result in the deferral of revenue.

We execute letters of credit and bank guarantees in favour of certain landlords, customers and vendors to guarantee performance on contracts. Certain financial instruments require cash collateral, and these amounts are reported in Other Current Assets and Other Assets on the Consolidated Balance Sheet. As of 31 December 2018 and 2017, we had approximately $1.5 million outstanding of restricted cash.

Cash, Cash Equivalents, Short-Term Investments and Long-Term Investments

Our cash and cash equivalents (which are highly-liquid investments with an original maturity of three months or less) are primarily held in demand deposit accounts and money market accounts. We hold short-term investments consisting of debt securities classified as available-for-sale, which are stated at estimated fair value. The debt securities consist primarily of commercial paper, certificates of deposits, short term corporate obligations and U.S. government agency financial instruments.

We hold non-marketable equity investments. See Note 7 *Financial Instruments* of Notes to the Consolidated Financial Statements for disclosures related to our investments.

We have two rabbi trusts that are used as funding vehicles for various deferred compensation plans that were available to certain current and former officers and key executives. We also have deferred retirement salary plans, which were limited to certain current or former officers of a business acquired in 2007. We hold investments to cover the liability.

ARRIS also funds its nonqualified defined benefit plan for certain executives in a rabbi trust.

Capital Expenditures

Capital expenditures are made at a level designed to support the strategic and operating needs of the business. ARRIS's capital expenditures were $63.6 million in 2018 as compared to $78.1 million in 2017 and $66.8 million in 2016. We had no significant commitments for capital expenditures at 31 December 2018.

Deferred Income Tax Assets

Deferred income tax assets represent amounts available to reduce income taxes payable on taxable income in future years. Such assets arise because of temporary differences between the financial reporting and tax bases of assets and liabilities, as well as from net operating loss and tax credit carryforwards. We evaluate the recoverability of these future tax deductions and credits by assessing the adequacy of future expected taxable income from all sources, including reversal of taxable temporary differences, forecasted operating earnings and available tax planning strategies. If we conclude that deferred tax assets are more-likely-than-not to not be realised, then we record a valuation allowance against those assets. We continually review the adequacy of the valuation allowances established against deferred tax assets. As part of that review, we regularly project taxable income based on book income projections by legal entity. Our ability to utilise our U.S. federal, state and foreign deferred tax assets is dependent upon our future taxable income by legal entity.

Net deferred tax assets of $128.6 million (net of valuation allowances of $90.1 million and deferred tax liabilities of $267.7 million) as of 31 December 2018 increased by $82.1 million as compared to the prior year. Significant components of the change in net deferred tax asset balances include: 1) decrease in the intangible deferred tax liability due to current year amortisation; and 2) increase in the research and development credits deferred tax asset resulting from credits generated in the current year.

Defined Benefit Pension Plans

ARRIS sponsors a qualified and a non-qualified non-contributory defined benefit pension plan that cover certain U.S. employees. As of 1 January, 2000, we froze the qualified defined pension plan benefits for its participants.

The U.S. pension plan benefit formulas generally provide for payments to retired employees based upon their length of service and compensation as defined in the plans. Our investment policy is to fund the qualified plan as required by the Employee Retirement Income Security Act of 1974 ("ERISA") and to the extent that such contributions are tax deductible.

No minimum funding contributions are required in 2018 under our U.S. defined benefit. We made contribution of $1.8 million for the year ended 31 December 2018 to fully fund the plan termination. We made voluntary minimum funding contributions to our U.S. pension plan during 2017 and 2016. During 2017, $1.4 million was contributed. During 2016, in an effort to reduce future premiums and administrative fees as well as to increase our funded status in connection with our U.S. pension obligation, we made a voluntary funding contribution of $5.0 million.

In late 2017, we commenced the process of terminating our U.S. defined benefit pension plan. In December 2018, we received approvals and we proceeded with effecting termination. We settled the plan obligations in the fourth quarter of 2018 and the plan's deferred actuarial losses of $9.2 million remaining in Accumulated other comprehensive (loss) income was recognised as expense.

For 2018 and 2017, the plan assets were comprised of approximately 100% of cash equivalents. For 2016, the plan assets were comprised of approximately 30% equity securities, 2% debt securities, and 68% cash equivalents. Liabilities or amounts in excess of these funding levels are accrued and reported in the Consolidated Balance Sheet. We established a rabbi trust to fund the pension obligations of the Executive Chairman under his Supplemental Executive Retirement Plan ("SERP") including the benefit under our non-qualified defined benefit plan. In October 2018, the full SERP obligation was distributed to the Executive Chairman and no further obligation exists. In addition, we have established a rabbi trust for certain executive officers and certain senior management personnel to fund the pension liability to those officers under the non-qualified plan.

The investment strategies of the plans place a high priority on benefit security. The plans invest conservatively so as not to expose assets to depreciation in adverse markets. The plans' strategy also places a high priority on earning a rate of return greater than the annual inflation rate along with maintaining average market results. The plan has targeted asset diversification across different asset classes and markets to take advantage of economic environments and to also act as a risk minimiser by dampening the portfolio's volatility.

The weighted-average actuarial assumptions used to determine the benefit obligations for the three years presented are set forth below:

	2018	2017	2016
Assumed discount rate for plan participants	4.05%	3.45%	3.90%

The weighted-average actuarial assumptions used to determine the net periodic benefit costs are set forth below:

	2018	2017	2016
Assumed discount rate plan participants	3.50%	3.90%	4.15%
Rate of compensation increase	N/A	N/A	N/A
Expected long-term rate of return on plan assets	N/A	5.00%	6.00%

The expected long-term rate of return on assets is derived using the building block approach which includes assumptions for the long-term inflation rate, real return, and equity risk premiums.

No minimum funding contributions are required in 2019 for the U.S. pension plan.

ARRIS also provides a non-contributory defined benefit plan which cover employees in Taiwan. Any other benefit plans outside of the U.S. are not material to ARRIS either individually or in the aggregate.

Key assumptions used in the valuation of the Taiwan Plan are as follows:

	2018	2017	2016
Assumed discount rate for obligations	0.90%	1.10%	1.30%
Assumed discount rate for expense	1.10%	1.30%	1.70%
Rate of compensation increase for indirect labour	4.00%	4.00%	4.00%
Rate of compensation increase for direct labour	2.00%	2.00%	2.00%
Expected long-term rate of return on plan assets(1)	1.30%	1.40%	1.60%

(1) Asset allocation is 100% in money market investments

We made funding contributions of $1.8 million related to our non-U.S. pension plan in 2018. ARRIS estimates it will make funding contributions of $4.2 million in 2019. As a result of restructuring activities in conjunction with the sale of our Taiwan manufacturing facility, we recorded a partial curtailment of the plan and recognised a deferred actuarial gain of $3.5 million as income from Accumulated other comprehensive (loss) income.

Other Benefit Plans

ARRIS has established defined contribution plans pursuant to the Internal Revenue Code Section 401(k) that cover all eligible U.S. employees. We contribute to these plans based upon the dollar amount of each participant's contribution. We made matching contributions to these plans of approximately $22.8 million, $16.5 million, and $16.4 million in 2018, 2017 and 2016, respectively.

We have a deferred compensation plan that does not qualify under Section 401(k) of the Internal Revenue Code and is available to our key executives and certain other employees. Employee compensation deferrals and matching contributions are held in a rabbi trust. The total of net employee deferrals and matching contributions, which is reflected in other long-term liabilities, were $5.4 million and $5.7 million at 31 December 2018 and 2017, respectively. Total expenses included in continuing operations for the matching contributions were approximately $0.1 million and $0.3 million in 2018 and 2017, respectively.

We previously offered a deferred compensation arrangement that allowed certain employees to defer a portion of their earnings and defer the related income taxes. As of 31 December 2004, the plan was frozen and no further contributions are allowed. The deferred earnings are invested in a rabbi trust. The total of net employee deferral and matching contributions, which was reflected in other long-term liabilities, was $2.0 million and $3.1 million at 31 December 2018 and 2017, respectively.

We also have a deferred retirement salary plan, which was limited to certain current or former officers of a business acquired in 2007. The present value of the estimated future retirement benefit payments is being accrued over the estimated service period from the date of signed agreements with the employees. The accrued balance of this plan, the majority of which is included in other long-term liabilities, was $1.9 million and $1.5 million at 31 December 2018 and 2017, respectively. Total expense included in continuing operations for the deferred retirement salary plan were approximately $0.4 million and $0.2 million for 2018 and 2017, respectively.

Forward-Looking Statements

Certain information and statements contained in this Management's Discussion and Analysis of Financial Condition and Results of Operations and other sections of this report, including statements using terms such as "may," "expect," "anticipate," "intend," "estimate," "believe," "plan," "continue," "could be," or similar variations thereof, constitute forward-looking statements with respect to the financial condition, results of operations, and business of ARRIS and the proposed transaction with CommScope, including statements that are based on current expectations, estimates, forecasts, and projections about the markets in which we operate and management's beliefs and assumptions regarding these markets. These and any other statements in this document that are not statements about historical facts also are "forward-looking statements." We caution investors that forward-looking statements made by us are not guarantees of future performance and that a variety of factors could cause our actual results to differ materially from the anticipated results or other expectations expressed in our forward-looking statements. Important factors that could cause results or events to differ from current expectations are described in the risk factors set forth in page 40, "*Principal Risks and Uncertainities*." These factors are not intended to be an all-encompassing list of risks and uncertainties that may affect the operations, performance, development and results of our business, but instead are the risks that we currently perceive as potentially being material. In providing forward-looking statements, we expressly disclaim any obligation to update publicly or otherwise these statements, whether as a result of new information, future events or otherwise except to the extent required by law.

Quantitative and Qualitative Disclosures About Market Risk

We are exposed to various market risks, including interest rates and foreign currency rates. The following discussion of our risk-management activities includes "forward-looking statements" that involve risks and uncertainties. Actual results could differ materially from those projected in the forward-looking statements.

A significant portion of our products are manufactured or assembled in Brazil, China and Mexico, and we have research and development centres outside the United States in Canada, China, France, India, Ireland, Israel, Singapore, Sweden, Taiwan and United Kingdom. Our sales into international markets have been and are expected in the future to be an important part of our business. These foreign operations are subject to the usual risks inherent in conducting business abroad, including risks with respect to currency exchange rates, economic and political destabilisation, restrictive actions and taxation by foreign governments, nationalisation, the laws and policies of the U.S. affecting trade, foreign investment and loans, and foreign tax laws.

We have certain international customers who are billed in their local currency, and we have certain predictable expenditures for international operations in local currency. Additionally, certain intercompany transactions are denominated in foreign currencies and subject to revaluation. Changes in the monetary exchange rates may adversely affect our results of operations and financial condition. To manage the volatility relating to these typical business exposures, we use a hedging strategy and may enter into various derivative transactions, when appropriate. We do not hold or issue derivative instruments for trading or other speculative purposes. The euro is the predominant currency of the customers who are billed in their local currency. Additionally, we face certain other working capital exposures related to both the euro and the British pound, and we are also subject to the revaluation of one of our long-term pension obligations denominated in the New Taiwan dollar. Taking into account the effects of foreign currency fluctuations of the euro, the British pound, the New Taiwan dollar, the Brazilian real, the South African rand, the Australian dollar and the Canadian dollar versus the U.S. dollar, a hypothetical 10% appreciation or depreciation in the value of the U.S. dollar against these foreign currencies from the prevailing market rates would result in a corresponding decrease or increase, respectively, of $18.8 million in the underlying exposures as of 31 December 2018.

All indebtedness under our senior secured credit facilities bears interest at variable rates based on LIBOR plus an applicable spread. We entered into interest rate swap arrangements to convert a notional amount of $1,075.0 million of our variable rate debt based on one-month LIBOR to a fixed rate. This objective of these swaps is to manage the variability of cash flows in the interest payments related to the portion of the variable rate debt designated as being hedged.

Environmental Matters and Corporate Social Responsibility

Regulation and Corporate Responsibility

Our products and operations are subject to numerous U.S. and international regulations and requirements in the areas of labour, environmental compliance, including energy efficiency standards, health and safety, and ethics. We are committed to strong corporate responsibility, and in 2018, we continued our participation as an active member of the Responsible Business Alliance ("RBA"), a non-profit coalition of electronics companies dedicated to supporting the rights and well-being of workers and communities affected by the global electronics supply chain. We continue to work with our suppliers by utilising the RBA process collaboratively to improve working and environmental conditions through industry leading standards and practices to drive continual improvement and mitigate risk. Additional information regarding these policies and programmes is available under the "Investors" tab of our corporate website (www.arris.com).

As signatories to the Voluntary Agreement for Ongoing Improvement to the Energy Efficiency of Set-Top Boxes and Small Network Equipment in the U.S., the SCTE/ISBE's Energy 20/20 initiative, the Voluntary Industry Agreement to Improve the Energy Consumption of Complex Set-Top Boxes in the European Union and the Canadian Pay-TV Set-top Box Energy Efficiency Voluntary Agreement, we continue to be committed to reducing our environmental impact through increasing the energy efficiency of our products while still protecting our need to adapt to rapidly changing technology and the introduction of new features.

Greenhouse Gas Emissions

The table below reports the total Scope 1 and Scope 2 greenhouse gas (GHG) emissions by emission type.

Global GHG Emissions

Emissions from:	Tonnes of CO_2e: Period 1 January 2018 – 31 December 2018	Tonnes of CO_2e: Period 1 January 2017 – 31 December 2017*
Scope 1: Combustion of fuel & operation of facilities	1,034 tCO2e	1,020 tCO2e
Scope 2: Electricity, heat, steam and cooling purchased for own use (Location – Based)	35,292 tCO2e	36,559 tCO2e
Scope 2: Electricity, heat, steam and cooling purchased for own use (Market – Based)	26,076 tCO2e	27,045 tCO2e
Company's chosen intensity measurements		
1. Scope 1 & 2 GHG emissions normalised per $million annual turnover.	5.39 tCO2e/$M annual turn over	5.68 tCO2e/$M annual turn over
2. Scope 1 & 2 GHG emissions normalised per employee	4.85 tCO2/employee	6.07 tCO2/employee

**2018 greenhouse gas data includes the acquired business Ruckus and excludes the divested Taiwan site as per the GHG protocol. The prior year amounts are restated in accordance with the greenhouse gas protocol related to additional and divested sites.*

Methodology

The report above on the Scope 1 and Scope 2 emission sources is required under the Large and Medium Sized Companies and Group (Accounts and Reports) Regulation 2008 (as amended). These sources fall within the consolidated financial statement. ARRIS International, plc ("ARRIS") has used the GHG Protocol Corporate Accounting and Reporting Standard. Emission factors are from U.S. EPA's Emissions & Generation Resource Integrated database and the International Energy Agency (IEA). Assurance with regards to the content of the report was provided by WSP Global Inc. in accordance with the principles set out in AA1000 2008 Accountability Principles of inclusivity, materiality and responsiveness.

Environment

During 2018 ARRIS, through its wholly-owned subsidiaries, maintained ISO 14001 certification for environmental management at two of its sites: Saltaire (U.K.) and Tijuana (Mexico). The Group Environmental Policy has been applied to all ARRIS sites worldwide. ARRIS believes that its Environmental Policy is effective in achieving the goal of reducing the Company's environmental impact while protecting the need to adapt to rapidly changing technologies and the need to introduce new features to existing products.

Supply Chain

ARRIS has continued its work with its suppliers in 2018 through the RBA and continuing our programme to ensure full-scale adoption of the RBA Code of Conduct throughout its supply chain. ARRIS is a full member of the RBA. Using its Supplier Code of Conduct ARRIS encourages suppliers to meet internationally recognised standards and best practices to advance social and environmental responsibility, as well as business ethics. It requires its suppliers to ensure that working conditions throughout its operations are safe, that workers are treated with respect and dignity, and that business operations are environmentally responsible and conducted ethically.

Charitable and Community Support

ARRIS's commitment to supporting numerous charitable and non-profit organisations remains strong through a variety of corporate sponsorships. In 2018, the company contributed over $582,000 (2017: $545,000) to meaningful and important organisations, in addition to corporate sponsorships, the company supports employee-giving through its charitable donations matching gifts to over 56 charity and non-profit organisations. The ARRIS charitable contribution programme is guided by its Charitable Contribution Policy. The policy describes the process by which employees can apply for and receive funds to support charitable contributions. The policy ensures that all ARRIS donations, sponsorships, company volunteer activities, and in-kind services are coordinated and aligned with corporate social responsibility strategy and business goals and are within budget and resource limitations. ARRIS believes the Charitable Contribution Policy is effective in providing support to local communities where the Company and its employees are located.

Employees

As of 31 December 2018, ARRIS had 7,973 employees (31 December 2017: 8,626). ARRIS has no employees represented by unions within the United States. We believe that we have a strong relationship with our employees. Our future success depends, in part, on our ability to attract and retain key personnel. Competition for qualified personnel is intense, and the loss of certain key personnel could have a material adverse effect on us. We have entered into employment contracts with our key executive officers and have confidentiality agreements with substantially all of our employees. We also have long-term incentive programmes that are intended to provide substantial incentives for our key employees to remain with us.

Employee Policies

ARRIS recognises the importance of its employees to its success and future development and is committed to providing an environment that will attract, motivate and reward high-quality employees. The company continues to invest in a range of internal and external initiatives to promote employee development. Employees are kept informed of matters affecting them as employees and factors affecting the performance of the group through regular employee meetings/briefings, and regular written news briefings are distributed electronically. These meetings include employee town hall meetings that all employees are invited to participate in and which include time for employees to submit questions for response from executive management.

Diversity and Inclusion

	Male	Female
Total workforce	73% (5,859)	27% (2,114)
Board of Directors	82% (9)	18% (2)
Senior Management (Executive Officers)	83% (10)	17% (2)

ARRIS welcomes applications for employment from all sectors of the community and promotes equality of opportunity in employment regardless of age, gender, sexual orientation, disability or ethnic origin. It is the company's policy that training, career development, and promotion opportunities should be available to all employees. In the event that an employee becomes disabled, the company makes reasonable adjustments where any aspect of premises or working practices puts such a disabled employee at a substantial disadvantage compared with a non-disabled employee. ARRIS believes that diversity is an essential part of how it does business and operates in multiple countries around the world working with customers and suppliers from a broad range of backgrounds and cultures. The chart above shows the gender split at different levels within ARRIS, as at 31 December 2018. Additional information relating to gender pay gap is available on the Company's website at www.arris.com.

Health and Safety

The ARRIS Health and Safety Policy sets out our commitment to conduct business in a healthy and safe manner. ARRIS is committed to reducing occupational injury and illness risks, and promote employee health and well-being. To drive its policy, the company has set goals and drives continuous improvement through its Health & Safety management system. ARRIS has an established Health and Safety Team. The team is made up of Health and Safety representatives from its sites, a designated Director of Environmental Health and Safety ("EHS"), and other persons with expert knowledge who review Health and Safety concerns. The company meets or exceeds all applicable Health and Safety legal requirements in its operations and works with its stakeholders (employees, contractors, suppliers, customers) to maintain a healthy and safe workplace.

Human Rights

ARRIS is committed to uphold the human rights of employees, and to treat them with dignity and respect as understood by the international community. This applies to all employees including temporary, migrant, student, contract, direct employees, and any other type of employee. ARRIS believes that its Human Rights policy is effective in upholding the human rights of its employees. The ARRIS Human Rights policy is informed by internationally recognised standards including the RBA and ARRIS upholds the United Nations (UN) Declaration of Human Rights and the International Labour Organisation (ILO) Convention both in relation to its employees and its third-party suppliers.

Modern Slavery

We are dedicated to ensuring that human rights are respected at all times. We have implemented a number of business policies to ensure the safety and well-being of our employees, our contractors and our suppliers' employees. We require that our suppliers conduct themselves in a lawful and ethical manner and maintain high standards. Aligning with the requirements of the U.K. Modern Slavery Act 2015, our Supplier Code of Conduct requires that our suppliers not use forced, bonded or involuntary prison labour or child labour when producing products. To enforce the Supplier Code of Conduct, we periodically audit our product supply chain to evaluate and address risks of human trafficking and slavery. Under our supply contracts, we have the right to audit all suppliers for compliance with our Supplier Code of Conduct. We also mandate annual employee training that covers human trafficking. This annual training emphasises our requirement that our suppliers also must comply with the ARRIS Supplier Code of Conduct.

A copy of the ARRIS International, plc (ARRIS) Modern Slavery Act Statement is available on the Company's website at www.arris.com under the caption Company — Investors — Corporate Responsibility.

Anti-bribery & Corruption

ARRIS has a well embedded anti-bribery and corruption policy and associated whistleblowing procedures designed to ensure that colleagues and other parties including contractors and third parties are able to report any instances of poor practice safely through an independent organisation. All reports received via this or any other reporting mechanism are thoroughly investigated and reported to the Audit & Risk Committee, which reviews each case and its outcomes. None of our investigations during the financial year have identified any systemic issues or breaches of our obligations under The Bribery Act 2010.

Principal Risks and Uncertainties

ARRIS has an overall framework for management of risks and internal controls to mitigate the risks. Through this framework, the Board, which has overall accountability and responsibility for the management of risk, on a regular basis identifies, evaluates and manages the principal risks and uncertainties faced by ARRIS, areas which could adversely affect its business, operating results and financial condition.

Our business is dependent on customers' capital spending on broadband communication systems, and reductions by customers in capital spending would adversely affect our business.

Our performance is primarily dependent on customers' capital spending for constructing, rebuilding, maintaining or upgrading broadband communications systems. Capital spending in the broadband communications industry is cyclical and can be curtailed or deferred on short notice. A variety of factors affect capital spending, and, therefore, our sales and profits, including:

- demand for network services;
- consumer demand for video content and PayTV services;
- general economic conditions;
- foreign currency fluctuations;
- competition from other providers of broadband and high-speed services;
- customer specific financial or stock market conditions;
- availability and cost of capital;
- governmental regulations;
- customer acceptance of new services offered; and
- real or perceived trends or uncertainties in these factors.

Several of our customers have accumulated significant levels of debt. These high debt levels, coupled with the volatility in the capital markets, may impact their access to capital in the future or reduce the amounts they spend on purchasing additional equipment from us. Even if the financial health of our customers remains intact, these customers may not purchase new equipment at levels we have seen in the past or expect in the future. We cannot predict the impact, if any, of any softening or downturn in the national or global economy or of specific customer financial challenges on our customers' expansion and maintenance expenditures.

Uncertainties associated with the transaction with CommScope could adversely affect our business, results of operations and financial condition.

On November 8, 2018, we entered into the Acquisition Agreement under which we will be acquired by CommScope. Completion of the Acquisition is subject to various closing conditions, including but not limited to, obtaining necessary approvals and consents from our shareholders and various regulatory agencies, including the High Court of Justice of England and Wales, the European Commission and other antitrust authorities. Our shareholders approved the Acquisition at Court and general shareholder meetings held 1 February 2019 and the European Commission approved the Acquisition in late February 2019. The remaining regulatory agencies from which the parties have sought certain of these clearances have broad discretion in administering the governing regulations. As a condition to their clearance of the Acquisition, agencies may impose requirements, limitations or costs or require divestitures or place restrictions on the conduct of the parties' business. These requirements, limitations, costs, divestitures or restrictions could jeopardise or delay the consummation of the Acquisition or may reduce the anticipated benefits of the Acquisition. There can be no assurance that the parties to the Acquisition Agreement will receive the remaining necessary approvals for the transaction or receive them within the expected timeframe.

The announcement and pendency of the Acquisition, as well as any delays in the expected timeframe, could cause disruption in and create uncertainties, which could have an adverse effect on our business, results of operations and financial condition, regardless of whether the Acquisition is completed. These risks include:

- an adverse effect on our relationships with vendors, customers, and employees;
- a diversion of a significant amount of management time and resources towards the completion of the Acquisition;

- being subject to certain restrictions on the conduct of our business;
- possibly foregoing certain business opportunities that we might otherwise pursue absent the pending Acquisition; and
- difficulties attracting and retaining key employees.

Failure to complete the Acquisition could adversely affect our business and the market price of our ordinary shares.

There is no assurance that the closing of the Acquisition will occur. The Acquisition may be terminated under certain specified circumstances, including, but not limited to, a termination of the Acquisition Agreement by us to enter into an agreement for a "superior proposal" or the occurrence of an "intervening event." If the Acquisition Agreement is terminated by us under certain circumstances, we may be required to pay the buyer a termination fee of $58 million, except that the termination fee shall be $29 million if the Scheme is not sanctioned by the High Court of Justice of England and Wales. Payment of this termination fee may require us to use available cash that would otherwise be used for general purposes or strategic initiatives, which could adversely affect our business, results of operations or financial condition.

The Acquisition Agreement contains provisions that limit our ability to pursue alternatives to the Acquisition.

Under the Acquisition Agreement, we are restricted, subject to certain exceptions, from soliciting, knowingly encouraging, or furnishing information with regard to, any inquiry, proposal or offer for a competing acquisition proposal with any person. We may terminate the Acquisition Agreement and enter into an agreement with respect to a superior proposal only if specified conditions have been satisfied, including a determination by our board of directors (after consultation with our financial advisor and legal counsel) that such proposal would result in a transaction more likely to promote our success for the benefit of our shareholders than the Acquisition, and such a termination would result in us being required to pay the termination fee referenced above. These provisions could discourage a third party that may have an interest in acquiring all or a significant part of our business from considering or proposing that acquisition, even if such third party were prepared to pay consideration with a higher value than the value of the consideration in the Acquisition.

Litigation instituted against us and our directors challenging the proposed Acquisition may prevent the Acquisition from becoming effective within the expected timeframe or at all.

Litigation related to the Acquisition may result in injunctive or other relief prohibiting, delaying or otherwise adversely affecting our ability to complete the Acquisition. Such relief may prevent the Acquisition from becoming effective within the expected timeframe or at all. In addition, defending against such claims may be expensive and divert management's attention and resources, which could adversely affect our business.

Changes to United States tax, tariff and import/export regulations may have a negative effect on global economic conditions, financial markets and our business.

We import a significant amount of our products and components from our contract manufacturers operating in China. The Office of the U.S. Trade Representative (the "USTR") recently enacted tariffs ranging from 10% to 25% on imports into the U.S. of a broad array of Chinese products that includes many of our broadband CPE products. The current 10% tariff on many of these products is scheduled to increase to 25% if no trade agreement with China is reached. The administration has also indicated that it is considering proposing an additional list of products that would be subject to tariffs, which list may include more of our products. While we have adjusted product prices to pass on a significant portion of the current tariff costs to most of our customers, these higher costs could impact our competitiveness and reduce the amount of impacted products that customers in the U.S. will purchase, the timing of those purchases and our cash flow due to the timing of payments for the tariffs and collection from our customers. We are in the process of shifting the manufacturing locations for impacted products to locations that would not be subject to the proposed tariffs. Manufacturing in such locations may increase our product costs and will take time to fully implement for all impacted products.

As evidenced by the USTR proposed tariffs, the current administration, along with Congress, has created significant uncertainty about the future relationship between the United States and other countries with respect to the trade policies, treaties, taxes, government regulations and tariffs that would be applicable. In addition to the potential direct impact to us of proposed tariffs as discussed above, these developments, or the perception that any of them could occur, may have a material adverse effect on global economic conditions and the stability of global financial markets, and may significantly reduce global trade and in particular, trade between the impacted nations and the United States. Any of these factors could depress economic activity and restrict our access to suppliers or customers and have a material adverse effect on our business, financial condition and results of operations.

Our gross margins and operating margins will vary over time, and our aggregate gross margin may decrease from historical levels.

We expect our product gross margins to vary over time, and the aggregate gross margin we have achieved in recent years may continue to decrease and be adversely affected in the future by numerous factors, including customer, product and geographic mix shifts, the introduction of new products, customer acceptance of designed products with a lower cost to us, fluctuations in our licence sales or services we provide, changes in the actions of our competitors, currency fluctuations that impact our costs or the cost of our products and services to our customers, tariffs, increases in material, labour, or inventory carrying costs, and increased costs due to changes in component pricing, such as flash memory and multilayer ceramic capacitors, for our CPE products. We will continue to focus on increasing revenues and operating margins and managing our operating expenses; however, no assurance can be provided that we will be able to achieve all or any of these goals.

The markets on which our business is focused is significantly impacted by technological change.

The broadcast and broadband communication systems industry has gone through dramatic technological change resulting in service providers rapidly migrating their business from telephony and one-way television services to two-way communications networks enabling multiple services, such as residential and business high-speed Internet access, residential and business telephony services, digital television, video on demand and advertising services. New services, such as home security, power monitoring and control, and 4K (UHD) television that are or may be offered by service providers, are also based on, and will be characterised by, rapidly evolving technology. The development of increasing internet speeds has also enabled the availability of high quality, feature length video over the Internet. This over-the-top IP video service enables content providers such as Netflix and Hulu, programmers such as HBO and ESPN and portals like Google and Amazon to provide video services on-demand, by-passing traditional video service providers. As traditional service providers enhance their quality and scalability, many are also introducing similar OTT services over their existing networks, for delivery not only to televisions but to computers, tablets, and telephones to remain competitive. In addition, service providers continue to explore ways to virtualise portions of their networks, reducing dependence on specifically designed equipment, including our products, by utilising software that provide the same functions. We must retain skilled and experienced personnel, as well as deploy substantial resources to meet the changing demands of the industry and must be nimble to be able to capitalise on change.

We compete with international, national and regional manufacturers, distributors and wholesalers including some companies that are larger than we are. In some instances, our customers themselves may be our competition. Some of our customers may develop their own software requiring support within our products and/or may design and develop products of their own which are produced to their own specifications directly by a contract manufacturer.

Our business is dependent on our ability to develop products that enable current and new customers to exploit these rapid technological changes. To the extent that we are unable to adapt our technologies to serve these emerging demands, including obtaining necessary certifications from content providers and programmers to include their over-the-top video applications as part of our product offerings and software to provide virtualised network functions, our business may be adversely affected.

Another trend that could affect us is the emerging interest in Distributed Access Architectures, which disaggregates some of the functions of CCAP and the Access and Transport platforms to enable deployment of these functions in ways that could reduce operator capital expenditures. ARRIS is developing a line of DAA products but operators are not aligned on the specific implementations of DAA and ARRIS could lose market share to competitors. Service providers also have the goal of virtualising CCAP management and control functions as they deploy DAA as well, potentially enabling new competitors to enter the market and reducing their dependence on ARRIS products.

The Wi-Fi and wireless networking markets for both service providers and enterprises is generally characterised by rapidly changing technology, changing end customer needs, evolving industry standards and frequent introductions of new products and services. To succeed, we must effectively anticipate, and adapt in a timely manner to, end customer requirements and continue to develop or acquire new products and features that meet market demands, technology trends and regulatory requirements. Likewise, if our competitors introduce new products and services that compete with ours, we may be required to reposition our product and service offerings or introduce new products and services in response to such competitive pressure. If we fail to develop new products or product enhancements, or our end customers or potential end customers do not perceive our products to have compelling technical advantages, our business could be adversely affected, particularly if our competitors are able to introduce solutions with such increased functionality earlier than we do. Developing our products is expensive, complex and involves uncertainties. Each phase in the development of our products presents serious risks of failure, rework or delay, any one of which could impact the timing and cost-effective development of such product and could jeopardise end customer acceptance of the product. We have experienced in the past and may in the future experience design, manufacturing, marketing and other difficulties that could delay or prevent the development, introduction or marketing of new products and enhancements. In addition, the introduction of new or enhanced products requires that we carefully manage the transition from older products to minimise disruption in customer ordering practices and ensure that new products can be timely delivered to meet our customers' demand. As a result, we may not be successful in modifying our current products or introducing new products in a timely or appropriately responsive manner, or at all. If we fail to address these changes successfully, our business and operating results could be materially harmed.

Consolidations in the broadcast and broadband communication systems industry could have a material adverse effect on our business.

The broadcast and broadband communication systems industry historically has experienced, and continues to experience, the consolidation of many industry participants. For example, Comcast acquired Sky, Vodafone merged its mobile operations in India with Idea Cellular, LGI sold certain of its properties to T-Mobile, Wave Broadband consolidated with RCN under common ownership, Atlantic Broadband/Cogeco purchased MetroCast, Cable One bought NewWave Communications, T-Mobile US acquired TV service provider Layer3, and Cablevision SA (Argentina) merged with Telecom Argentina SA. When consolidations occur, it is possible that the acquirer will not continue using the same suppliers, possibly resulting in an immediate or future elimination of sales opportunities for us. Even if sales are not reduced, consolidations also could result in delays in purchasing decisions by the affected companies prior to completion of the transaction. Further, even if we believe we will receive additional sales from a customer following a transaction as a result of, for example, typical network upgrades that follow combinations or otherwise, no assurance can be provided that such anticipated sales will be realised. In addition, consolidations can also result in increased pressure from customers for lower prices or better terms, reflecting the increase in the total volume of products purchased or the elimination of a price differential between the acquiring customer and the company acquired. Any of these results could have a material adverse effect on our business.

We have significant indebtedness, which could limit our operations and opportunities, make it more difficult for us to pay or refinance our debts and/or may cause us to issue additional equity in the future, which would increase the dilution of our stockholders or reduce earnings.

As of 31 December 2018, we had approximately $2,073.9 million in total indebtedness and $498.5 million available under our revolving line of credit to support our working capital needs. Our debt service obligations with respect to this indebtedness could have an adverse impact on our earnings and cash flows for as long as the indebtedness is outstanding.

This significant indebtedness also could have important consequences to stockholders. For example, it could:

- make it more difficult for us to pay or refinance our debts as they become due during adverse economic and industry conditions because any decrease in revenues could cause us to not have sufficient cash flows from operations to make our scheduled debt payments;

- limit our flexibility to pursue other strategic opportunities or react to changes in our business and the industry in which we operate and, consequently, place us at a competitive disadvantage to competitors with less debt;

- require a substantial portion of our cash flows from operations to be used for debt service payments, thereby reducing the availability of our cash flow to fund working capital, capital expenditures, acquisitions and other general corporate purposes; and

- result in higher interest expense in the event of increases in interest rates since the majority of our debt is subject to variable rates.

Based upon current levels of operations, we expect to be able to generate sufficient cash on a consolidated basis to make all the principal and interest payments on our indebtedness when such payments are due, but there can be no assurance that we will be able to repay or refinance such borrowings and obligations.

We may consider it appropriate to reduce the amount of indebtedness currently outstanding. This may be accomplished in several ways, including issuing additional ordinary shares or securities convertible into ordinary shares, reducing discretionary uses of cash or a combination of these and other measures. Issuances of additional ordinary shares or securities convertible into ordinary shares would have the effect of diluting the ownership percentage that stockholders will hold in the company and may reduce our reported earnings per share.

We face risks relating to currency fluctuations and currency exchange.

On an ongoing basis we are exposed to various changes in foreign currency rates because certain sales are denominated in foreign currencies. Additionally, certain intercompany transactions are denominated in foreign currencies and subject to revaluation. These changes can impact our results of operations, cash flows and financial position. We manage these risks through regular operating and financing activities and periodically use derivative financial instruments such as foreign exchange forward and option contracts. There can be no assurance that our risk management strategies will be effective. In addition, many of our international customers make purchases from us that are denominated in U.S dollars. During periods where the U.S. dollar strengthens, it may impact these customers' ability to purchase products, which could have a material impact on our sales in the affected countries.

We also may encounter difficulties in converting our earnings from international operations to U.S. dollars for use in the United States. These obstacles may include problems moving funds out of the countries in which the funds were earned and difficulties in collecting accounts receivable in foreign countries where the usual accounts receivable payment cycle is longer.

We may have difficulty in forecasting our sales and may experience volatility in revenues and inventory levels.

Because a significant portion of our customers' purchases are discretionary, accurately forecasting our sales is difficult. In addition, our customers have increasingly submitted their purchase orders less evenly over the course of each quarter, and lead times for manufacturing products have increased from where they have historically been. The combination of our dependence on relatively few key customers and the award by those customers of irregular but sizeable orders, together with the size of our operations, make it difficult to forecast sales and can result in revenue volatility, which could further result in maintaining inventory levels that are not optimal for our ultimate needs and could have a negative impact on our business.

The IRS may not agree that we are a foreign corporation for U.S. federal income tax purposes.

Following the Pace combination, we are incorporated under the laws of England and Wales and are a tax resident in the United Kingdom for U.K. tax purposes, the IRS may assert that we should be treated as a U.S. corporation (and, therefore, a U.S. tax resident) for U.S. federal income tax purposes. For U.S. federal income tax purposes, a corporation generally is considered to be a tax resident in the jurisdiction of its organisation or incorporation. Because we are incorporated under the laws of England and Wales, we generally would be classified as a non-U.S. corporation (and, therefore, a non-U.S. tax resident) under these rules. Section 7874 of the Internal Revenue Code of 1986, as amended (the "Code"), however, provides an exception to this general rule under which a foreign incorporated entity may, in certain circumstances, be treated as a U.S. corporation for U.S. federal income tax purposes.

Generally, for us to be treated as a non-U.S. corporation for U.S. federal income tax purposes under Section 7874, the former stockholders of ARRIS Group must own (within the meaning of Section 7874) less than 80% (by both vote and value) of all of the outstanding shares of ARRIS (the "Ownership Test"). Based on the terms of the Pace combination, we believe historic ARRIS stockholders owned less than 80% of all the outstanding shares in ARRIS and, thus, the Ownership Test has been satisfied. However, ownership for purposes of Section 7874 is subject to various adjustments under the Code and the Treasury Regulations promulgated thereunder, and there is limited guidance regarding the Section 7874 provisions, including regarding the application of the Ownership Test. There can be no assurance that the IRS will agree with the position that the Ownership Test was satisfied following the Pace combination and/or would not successfully challenge the status of ARRIS as a non-U.S. corporation for U.S. federal income tax purposes.

If we were to be treated as a U.S. corporation for U.S. federal income tax purposes, we could be subject to substantial additional U.S. taxes. For U.K. tax purposes, we are expected, regardless of any application of Section 7874, to be treated as a U.K. tax resident. Consequently, if we are treated as a U.S. corporation for U.S. federal income tax purposes under Section 7874, we could be liable for both U.S. and U.K. taxes, which could have a material adverse effect on our financial condition and results of operations.

Our status as a foreign corporation for U.S. tax purposes could be affected by a change in law.

Under current law, we expect to be treated as a non-U.S. corporation for U.S. federal income tax purposes. However, changes to Section 7874 or the Treasury Regulations promulgated thereunder, or other changes in law, could adversely affect our status as a non-U.S. corporation for U.S. federal income tax purposes, our effective tax rate and/or future tax planning, and any such changes could have prospective or retroactive application to us and our stockholders. We continue to monitor this situation. Any such future guidance or changes in law could have a material adverse impact on our financial position and results of operations.

Section 7874 of the Code may limit our ability to utilise certain U.S. tax attributes.

Following the acquisition of a U.S. corporation by a non-U.S. corporation, Section 7874 of the Code can limit the ability of the acquired U.S. corporation and its U.S. affiliates to utilise certain U.S. tax attributes (including net operating losses and certain tax credits) to offset, during the ten-year period following the acquisition, their U.S. taxable income, or related income tax liability, resulting from certain (a) transfers to related foreign persons of stock or other properties of the acquired U.S. corporation and its U.S. affiliates and (b) income received or accrued from related foreign persons during such period by reason of a licence of any property by the acquired U.S. corporation and its U.S. affiliates (collectively, "inversion gain"). Based on the limited guidance available and as a result of the Pace transaction, we believe that this limitation under Section 7874 will apply and, as a result, we do not currently expect that the Company or its U.S. affiliates will be able to utilise certain U.S. tax attributes to reduce the amount of any inversion gain and/or to offset applicable U.S. federal income tax liability attributable to any inversion, but may continue to be used to reduce our taxable income from ordinary operations.

Changes to, interpretations of, and rulings related to, U.S., U.K., Hungary and other tax laws could adversely affect ARRIS.

Our business operations are subject to taxation in the U.S., U.K., Hungary and a number of other jurisdictions. Changes in tax laws or tax rulings, or changes in interpretations of existing laws, could materially affect our financial position and results from operations. Recently, the U.S. Congress, the Organisation for Economic Co-operation and Development and other government agencies in jurisdictions where ARRIS and its affiliates do business have had an extended focus on issues related to the taxation of multinational corporations. One example is in the area of "base erosion and profit shifting," including situations where payments are made between affiliates from a jurisdiction with high tax rates to a jurisdiction with lower tax rates. In this regard, on 22 December 2017, the President signed into law the "Tax Cuts and Jobs Act" (the "Act"). The Act significantly reforms the Internal Revenue Code of 1986, as amended. The Act, among other things, includes changes to U.S. federal tax rates, imposes significant additional limitations on the deductibility of interest, imposes limitations on the deductibility of certain payments between affiliates, allows for the immediate expensing of certain capital expenditures, and puts into effect the migration from a worldwide system of taxation to a territorial system and imposes several other changes to tax law on U.S. corporations. As many of the provisions of the Act did not come into effect until 2018 and further clarification of the law is expected, the total impact on our financial position is uncertain and could be materially adverse.

Another example involves "illegal state aid" as determined by the EU Competition Commission, which would require EU member states to recover unlawful aid given to multinational enterprises in the form of favourable transfer pricing treatment. In November of 2017, the European Commission issued a decision letter to the U.K. government asserting that Chapter 9 of the U.K. Controlled Foreign Company legislation provided illegal state aid. If the European Commission ultimately prevails in this dispute, we could owe additional taxes. Based on our current assessment of the issue no additional tax expense has been accrued. The tax laws, and the interpretation thereof, in the United States, the United Kingdom, Luxembourg, Hungary and other countries in which we and our affiliates do business could change on a prospective or retroactive basis and any such changes could adversely affect us and our affiliates. Further, the IRS or other applicable taxing authorities may disagree with positions we have taken in our tax filings, which could result in the requirement to pay additional tax, interest and penalties, which amounts could be significant.

Changes to Income Tax Treaties could adversely affect ARRIS.

On 20 May 2015, the U.S. Treasury released proposed revisions to the U.S. model income tax convention (the "Model"), the baseline text used by the U.S. Treasury to negotiate tax treaties. The proposed revisions address certain aspects of the Model by modifying existing provisions and introducing entirely new provisions. Specifically, the proposed revisions target (1) exempt permanent establishments, (2) special tax regimes, (3) expatriated entities, (4) the anti-treaty shopping measures of the limitation on benefits article, and (5) subsequent changes in treaty partners' tax laws.

With respect to the proposed changes to the Model pertaining to expatriated entities, because the Pace combination is otherwise subject to Section 7874, if applicable treaties were subsequently amended to adopt such proposed changes, payments of interest, dividends, royalties and certain other items of income by ARRIS U.S. Holdings, Inc. (our primary U.S. holding company) or its U.S. affiliates to non-U.S. persons would become subject to full U.S. withholding tax at a 30% rate. This could result in material U.S. taxes being paid by recipients of payments from ARRIS Holdings and its U.S. affiliates. Additionally, revisions to the Model may influence the international community's discussion of approaches to treaty abuse and harmful tax practices with respect to the Organisation for Economic Cooperation and Development's ongoing work regarding base erosion and profit shifting. We are unable to predict the likelihood that the proposed revisions to the Model become a part of the Model or any U.S. income tax treaty. However, any revisions to a U.S. income tax treaty, including the proposed revisions described in this paragraph, could adversely affect ARRIS and its affiliates.

Additionally, a new version of the income tax treaty between U.S. and Hungary was signed on 4 February 2010, which was intended to replace and update the prior U.S. – Hungary income tax treaty from 1979. The new treaty, unlike the old treaty, contains a limitation on benefits article. While the new treaty was submitted to the Senate for ratification on 15 November 2010, it remains unratified and the limitation on benefits article has yet to apply to treaty benefits claimed by U.S. resident taxpayers. If the treaty were to be ratified, then certain interest payments made by ARRIS U.S. Holdings, Inc. could become subject to full U.S. withholding tax at a 30% rate.

Consequences of the U.K.'s delivering notice to leave the European Union could materially adversely affect our business.

In March 2017, the U.K. government delivered formal notice of its intention to withdraw from the European Union. As a result, it now has until 29 March 2019 to negotiate the terms of its exit, unless all the remaining member states of the European Union agree to an extension. Given the lack of precedent, it is unclear how the withdrawal of the U.K. from the European Union will affect the U.K.'s access to the EU Single Market and other important financial and trade relationships and how it will affect us. The withdrawal could, especially if the U.K. and European Union are unable to agree on terms for the withdrawal, among other outcomes, disrupt the free movement of goods, services and people between the U.K. and the European Union, undermine bilateral cooperation in key policy areas and significantly disrupt trade between the U.K. and the European Union. Under current European Union rules, following the withdrawal the U.K. will not be able to negotiate bilateral trade agreements with member states of the European Union. In addition, a withdrawal of the U.K. from the European Union could significantly affect the fiscal, monetary, legal and regulatory landscape within the U.K. and could have a material impact on its economy and the future growth of its various industries, including the broadcast and broadband communication systems industry in which we operate. Although it is not possible to predict fully the effects of the withdrawal of the U.K. from the European Union, the possible exit of the U.K. from the European Union or prolonged periods of uncertainty in relation to it could have a material adverse effect on our business and our results of operations.

Although certain technical problems experienced by users may not be caused by our products, our business and reputation may be harmed if users perceive our products as the cause of a slow or unreliable network connection, or a high-profile network failure.

Our products have been deployed in many different locations and user environments and can provide services and connectivity to many different types of devices operating a variety of applications. The ability of our products to operate effectively can be negatively impacted by many different elements unrelated to our products. For example, a user's experience may suffer from an incorrect setting in a Wi-Fi device. Although certain technical problems experienced by users may not be caused by our products, users often may perceive the underlying cause to be a result of poor performance of the wireless network. This perception, even if incorrect, could harm our business and reputation. Similarly, a high-profile network failure may be caused by improper operation of the network or failure of a network component that we did not supply, but other service providers may perceive that our products were implicated, which, even if incorrect, could harm our business, operating results and financial condition.

If our Enterprise segment products do not interoperate with cellular networks and mobile devices, future sales of our products could be negatively affected.

Our Enterprise segment products are designed to interoperate with a broad array of consumer devices using Wi-Fi technology, as well as interoperate with mobile devices and cellular networks. These networks and devices have varied and complex specifications. As a result, we must attempt to ensure that our products interoperate effectively with these existing and planned networks and devices. To meet these requirements, we must continue to undertake development and testing efforts that require significant capital and employee resources. We may not accomplish these development efforts quickly or cost-effectively, or at all. If our products do not interoperate effectively, orders for our products could be delayed or cancelled, which would harm our revenue, operating results and our reputation, potentially resulting in the loss of existing and potential end customers. The failure of our products to interoperate effectively with cellular networks or mobile devices may result in significant warranty, support and repair costs, divert the attention of our engineering personnel from our product development efforts and cause significant customer relations problems. In addition, our end customers may require our products to comply with new and rapidly evolving security or other certifications and standards. If our products are late in achieving or fail to achieve compliance with these certifications and standards, or our competitors achieve compliance with these certifications and standards, such end customers may not purchase our products, which would harm our business, operating results and financial condition.

The continued industry move to open standards may impact our future results.

Our industry has and will continue to demand products based on open standards. The move toward open standards is expected to increase the number of providers that will offer services to the market. This trend is also expected to increase the number of competitors who are able to supply products to service providers and the enterprise market and drive down the capital costs. These factors may adversely impact both our future revenues and margins. In addition, many of our customers participate in "technology pools" and increasingly request that we donate a portion of our source code used by the customer to these pools, which may impact our ability to recapture the R&D investment made in developing such code.

We believe that we will be increasingly required to work with third party technology providers. As a result, we expect the shift to more open standards may require us to licence software and other components indirectly to third parties via various open source or royalty-free licences. In some circumstances, our use of such open source technology may include technology or protocols developed by standards settings bodies, other industry forums or third-party companies. The terms of the open source licences granted by such parties, or the granting of royalty-free licences, may limit our ability to commercialise products that utilise such technology, which could have a material adverse effect on our results.

Our business is concentrated in a couple key customers. The loss of any of these customers or a significant reduction in sales to any of these customers would have a material adverse effect on our business.

For the year ended 31 December 2018, sales to our two largest customers (including their affiliates, as applicable) accounted for approximately 30% of our total revenue. The loss of any of our large customers, or a significant reduction in the products or services provided to any of them would have a material adverse impact on our business. For many of these customers, we also are one of their largest suppliers. As a result, if from time-to-time customers elect to purchase products from our competitors in order to diversify their supplier base and to dual-source key products or to curtail purchasing due to budgetary or market conditions, such decisions could have material consequences to our business. In addition, because of the magnitude of our sales to these customers, the terms and timing of our sales are heavily negotiated, and even minor changes can have a significant impact upon our business.

Also, many of our service provider or larger enterprise customers have substantial purchasing power and leverage in negotiating contractual arrangements with us. These end customers may require us to develop additional product features, may require penalties for non-performance of certain obligations, such as delivery, outages or response time. The leverage held by these large end customers could result in lower revenues and gross margins. The loss of a single large end customer could materially harm our business and operating results.

Our Enterprise Networks segment sales may be impacted as a result of changes in public funding for the Federal Government and educational institutions.

Customers in the Enterprise Networks segment include agencies of the U.S. Federal Government and both public and private K-12 institutions in the United States. These markets typically operate on limited budgets and depend on the U.S. federal government to provide supplemental funding. For example, the Federal Communications Commission, or FCC, through its E-rate programme (also known as the Schools and Libraries Programme of the Universal Service Fund), provides supplemental funding to school districts to fund upgrades to technical infrastructure, including Wi-Fi infrastructure. The most recently announced order under the E-rate programme provides for a significant increase to the annual E-rate funding cap, to $3.9 billion with inflation adjustments annually, and increases funding availability from a two-year period to five-year period. However, the E-rate programme continues to be subject to uncertainty regarding eligibility criteria and specific timing of actual federal funding as well as subject to further federal programme guidelines and funding appropriation. This uncertainty and potential further changes to the E-rate programme may affect or delay purchasing decisions by our end customers in the education market and will continue to cause fluctuations in our overall revenue forecasts and financial results and create greater uncertainty regarding the level of customer orders in this market during the term of the E-rate programme. Similarly, fluctuations in the annual budgeting process for U.S. Federal Government IT spending may result in deferral or cancellation of projects from which ARRIS expected to derive revenue for the Enterprise Networks segment.

We may face higher costs associated with protecting our intellectual property or obtaining necessary access to the intellectual property of others.

Our future success depends in part upon our proprietary technology, product development, technological expertise and distribution channels, in addition to a number of important patents and licences. We cannot predict whether we can protect our technology or whether competitors will be able to develop similar technology independently, and such technology could be subject to challenge, unlawful copying or other unfair competitive practices. Given the dependence on technology within the market in which we compete, there are frequent claims and related litigation regarding patent and other intellectual property rights. We have received, directly or indirectly, and expect to continue to receive, from third parties, including some of our competitors, notices claiming that we, or our customers using our products, have infringed upon third-party patents or other proprietary rights. We are involved in several proceedings (and other proceedings have been threatened) in which our customers were sued for patent infringement. (See Part II, Item 1, "Legal Proceedings") In these cases our customers have made claims against us and other suppliers for indemnification. We may become involved in similar litigation involving these and other customers in the future. These claims, regardless of their merit, could result in costly litigation, divert the time, attention and resources of our management, delay our product shipments, and, in some cases, require us to enter into royalty or licensing agreements. If a claim of patent infringement against us or our customer is successful and we fail to obtain a licence or develop non-infringing technology, we or our customer may be prohibited from marketing or selling products containing the infringing technology which could materially affect our business and operating results. In addition, the payment of any damages or any necessary licensing fees or indemnification costs associated with a patent infringement claim could be material and could also materially adversely affect our operating results.

We may not realise the anticipated benefits of past or future acquisitions, divestitures, and strategic investments, including the recently completed Ruckus Networks acquisition, and the integration of acquired companies or technologies or divestiture of businesses may negatively impact our business and financial results.

We have acquired or made strategic investments in other companies, products, or technologies, and expect to make additional acquisitions and strategic investments in the future. For example, in 2016, we acquired Pace and sold our whole-home solutions business, and in December 2017, we acquired the Ruckus Networks business. Our ability to realise the anticipated benefits from acquisitions and strategic investments involves numerous risks, including, but not limited to, the following:

- The ability to satisfy closing conditions necessary to complete an acquisition, including receipt of applicable regulatory approvals;
- Difficulties in successfully integrating the acquired businesses and realising any expected synergies, including failure to integrate successfully the sales organisations;
- Unanticipated costs, litigation, and other contingent liabilities;
- Diversion of management's attention from our daily operations and business;
- Adverse effects on existing business relationships with customers and suppliers;
- Risks associated with entering into markets in which we have limited or no prior experience;
- Inability to attract and retain key employees; and
- The impact of acquisition and integration related costs, goodwill or in-process research and development impairment charges, amortisation costs for acquired intangible assets, and acquisition accounting treatment, including the loss of deferred revenue and increases in the fair values of inventory and other acquired assets, on our GAAP operating results and financial condition.

The Ruckus Networks acquisition has resulted in an expansion on our current technologies, and we have established a new business unit to focus on this business. The expansion into new technologies, markets and distributions where we have not previously operated may not be successful and may adversely impact our ability to realise the benefits of the acquisition in the time expected or at all.

We may also divest or reduce our investment in certain businesses or product lines from time to time. Such divestitures involve risks, such as difficulty separating portions of our business, distracting employees, incurring potential loss of revenue, negatively impacting margins, and potentially disrupting customer relationships. We may also incur significant costs associated with exit or disposal activities, related impairment charges, or both.

We have substantial goodwill and amortisable intangible assets.

Our financial statements reflect substantial goodwill and intangible assets, approximately $2.2 billion and $1.4 billion, respectively, as of 31 December 2018, that was recognised in connection with acquisitions, including the Ruckus Networks acquisition.

We annually (and more frequently if changes in circumstances indicate that the asset may be impaired) review the carrying amount of our goodwill to determine whether it has been impaired for accounting purposes. In general, if the fair value of the corresponding reporting unit is less than the carrying amount of the reporting unit, we record an impairment. The determination of fair value is dependent upon a number of factors, including assumptions about future cash flows and growth rates that are based on our current and long-term business plans. With respect to the amortisable intangible assets, we test recoverability when events or changes in circumstances indicate that their carrying amounts may not be recoverable. Examples of such circumstances include, but are not limited to, operating or cash flow losses from the use of such assets or changes in our intended uses of such assets. If we determine that an asset or asset group is not recoverable, then we would record an impairment charge if the carrying amount of the asset or asset group exceeds its fair value. Fair value is based on estimated discounted future cash flows expected to be generated by the asset or asset group. The assumptions underlying cash flow projections would represent management's best estimates at the time of the impairment review.

As the ongoing expected cash flows and carrying amounts of our remaining goodwill and intangible assets are assessed, changes in the economic conditions, changes to our business strategy, changes in operating performance or other indicators of impairment could cause us to realise impairment charges in the future, including as a result of restructuring undertaken in connection with the integration of acquisitions.

As of 1 October 2018 (the date of our annual impairment testing), the fair value of our CPE reporting unit exceeded its carrying amount by 4% and, accordingly, did not result in a goodwill impairment. Over the last twelve months, near-term trends impacting revenue and gross margin, including higher product costs associated with memory and other components have decreased the amount by which the fair value exceeds the carrying amount such that our CPE reporting unit could be at risk of failing the impairment test if future projections are not realised. Further, the proposed tariffs may also have an adverse impact on our business. The estimated fair value of our CPE reporting unit is closely aligned with the ultimate amount of revenue and operating income that it achieves over the projection period. Currently, our projections assume limited revenue growth and some recovery in gross margins over current levels in subsequent years which is dependent on product cost improving and ability to pass on increased costs through price increases. Our CPE reporting unit has approximately $1.4 billion of goodwill as of 31 December 2018.

In addition, we adopted new guidance on revenue recognition as of 1 January, 2018. Based on the retrospective application of this guidance in our Cloud TV reporting unit, goodwill impairment of approximately $3.4 million was recognised in first quarter of 2018 resulting from the indirect effect of the change in accounting principle, effecting changes in the composition and carrying amount of the net assets.

We continue to evaluate the anticipated discounted cash flows from the Cloud TV reporting unit. If current long-term projections for this unit are not realised or materially decrease, we may be required to write off all or a portion of the remaining $26 million of goodwill and $21 million of associated intangible assets.

If we determine an impairment exists, we may be required to write off all or a portion of the goodwill and associated intangible assets related to any impaired business.

Products currently under development may fail to realise anticipated benefits.

Rapidly changing technologies, evolving industry standards, frequent new product introductions and relatively short product life cycles characterise the markets for our products. The technology applications that we currently are developing are subject to technological, supply chain, product development and other related risks that could delay successful delivery. The market in which we operate is subject to a rapid rate of technological change, reflected in increased development and manufacturing complexity and increasingly demanding customer requirements, all of which can result in unforeseen delivery problems. Even if the products in development are successfully brought to market, they may be late, may not be widely used or we may not be able to capitalise successfully on the developed technology. To compete successfully, we must quickly design, develop, manufacture and sell new or enhanced products that provide increasingly higher levels of performance and reliability. However, we may not be able to develop or introduce these products successfully if such products:

- are not cost-effective;
- are not brought to market in a timely manner;
- fail to achieve market acceptance; or
- fail to meet industry certification standards.

Furthermore, our competitors may develop similar or alternative technologies that, if successful, could have a material adverse effect on us. Our strategic alliances are generally based on business relationships that have not been the subject of written agreements expressly providing for the alliance to continue for a significant period of time and the loss of any such strategic relationship could have a material adverse effect on our business and results of operations.

Defects within our products could have a material impact on our results.

Many of our products are complex technology that include both hardware and software components. It is not unusual for software, especially in earlier versions, to contain bugs that can unexpectedly interfere with expected operations. While we employ rigorous testing prior to the shipment of our products, defects, including those resulting from components we purchase, can still occur from time to time. Product defects, including hardware failures, could impact our reputation with our customers which may result in fewer sales. In addition, depending on the number of products affected, the cost of fixing or replacing such products could have a material impact on our operating results. In some cases, we are dependent on a sole supplier for components used in our products. Defects in sole-sourced components subject us to additional risk of being able to quickly address any product issues or failures experienced by our customers as a result of the component defect and could delay our ability to deliver new products until the defective components are corrected or a new supplier is identified and qualified. This could increase our costs in resolving the product issue, result in decreased sales of the impacted product, or damage our reputation with customers, any of which could have the effect of negatively impacting our operating results.

Hardware or software defects could also permit unauthorised users to gain access to our customers' networks and/or a consumer's home network. In addition to potentially damaging our reputation with customers, such defects may also subject us to claims for damages under agreements with our customers and subject us to fines by regulatory authorities.

We offer warranties of various lengths to our customers on many of our products and have established warranty reserves based on, among other things, our historic experience, failure rates and cost to repair. In the event of a significant non-recurring product failure, the amount of the warranty reserve may not be sufficient. From time to time we may also make repairs on defects that occur outside of the provided warranty period. Such costs would not be covered by the established reserves and, depending on the volume of any such repairs, may have a material adverse effect on our results from operations or financial condition.

Our success depends on our ability to attract and retain qualified personnel in all facets of our operations.

Competition for qualified personnel is intense, and we may not be successful in attracting and retaining key personnel, which could impact our ability to maintain and grow our operations. Our future success will depend, to a significant extent, on the ability of our management to operate effectively. In the past, competitors and others have attempted to recruit our employees and their attempts may continue. The loss of services of any key personnel, the inability to attract and retain qualified personnel in the future or delays in hiring required personnel, particularly engineers and other technical professionals, could negatively affect our business.

Our ability to sell our products is highly dependent on the quality of our support and services offerings, and our failure to offer high quality support and services would have a material adverse effect on our sales and results of operations.

Once our products are deployed, our channel partners and end customers depend on our support organisation to resolve any issues relating to our products. A high level of support is important for the successful marketing and sale of our products. In many cases, our channel partners provide support directly to our end-customers. We do not have complete control over the level or quality of support provided by our channel partners. These channel partners may also provide support for other third-party products, which may potentially distract resources from support for our products. If we and our channel partners do not effectively assist our end customers in deploying our products, succeed in helping our end customers quickly resolve post-deployment issues or provide effective ongoing support, it would adversely affect our ability to sell our products to existing end-customers and could harm our reputation with potential end customers. In some cases, we guarantee a certain level of performance to our channel partners and end customers, which could prove to be resource-intensive and expensive for us to fulfil if unforeseen technical problems were to arise.

Many of our service provider and large enterprise end customers have more complex networks and require higher levels of support than our smaller end customers. If our support organisation fails to meet the requirements of our service provider or large enterprise end customers, it may be more difficult to execute on our strategy to increase our sales to large end customers. In addition, given the extent of our international operations, our support organisation faces challenges, including those associated with delivering support, training and documentation in languages other than English. As a result of these factors, our failure to maintain high quality support and services would have a material adverse effect on our business, operating results and financial condition.

We are dependent on a limited number of suppliers, and inability to obtain adequate and timely delivery of supplies could have a material adverse effect on our business.

Many components, subassemblies and modules necessary for the manufacture or integration of our products are obtained from a sole supplier or a limited group of suppliers. Likewise, we have only a limited number of potential suppliers for certain materials and hardware used in our products, and a number of our agreements with suppliers are short-term in nature. Our reliance on sole or limited suppliers, particularly foreign suppliers, and our reliance on subcontractors involves several risks including a potential inability to obtain an adequate supply of required components, subassemblies, modules and other materials and reduced control over pricing, quality and timely delivery of components, subassemblies, modules and other products. Current supply of components in the memory and passives (MLCC) categories could impact our ability to deliver on a timely basis and overall product costs. An inability to obtain adequate deliveries or any other circumstance that would require us to seek alternative sources of supply could affect our ability to ship products on a timely basis which could damage relationships with current and prospective customers and potentially have a material adverse effect on our business. Our ability to ship products could also be impacted by country laws and/or union labour disruptions. Disputes of this nature may have a material impact on our financial results.

Where we rely on third parties to manufacture our products, our ability to supply products to our customers may be disrupted.

We outsource the majority of the manufacturing of our products to third-party manufacturers. Our reliance on these third-party manufacturers reduces our control over the manufacturing process and exposes us to risks, including reduced control over quality assurance, product costs, and product supply and timing. Any manufacturing disruption by these third-party manufacturers could severely impair our ability to fulfil orders. Our reliance on outsourced manufacturers also yields the potential for infringement or misappropriation of our intellectual property. If we are unable to manage our relationships with these third-party manufacturers effectively, or if these third-party manufacturers suffer delays or disruptions for any reason, experience increased manufacturing lead-times, capacity constraints or quality control problems in their manufacturing operations, or fail to meet our future requirements for timely delivery, our ability to ship products to our customers may be severely impaired, and our business and operating results could be seriously harmed.

These manufacturers typically fulfil our supply requirements on the basis of individual orders. We do not have long term contracts with our third-party manufacturers that guarantee capacity, the continuation of particular pricing terms or the extension of credit limits. Accordingly, our third-party manufacturers are not obligated to continue to fulfil our supply requirements, which could result in supply shortages, and the prices we are charged for manufacturing services could be increased on short notice. In addition, as a result of fluctuating global financial market conditions, natural disasters or other causes, it is possible that any of our manufacturers could experience interruptions in production, cease operations or alter our current arrangements. If our manufacturers are unable or unwilling to continue manufacturing our products in required volumes, we will be required to identify one or more acceptable alternative manufacturers. Additionally, with the current U.S. trade tariff environment, we are transitioning manufacturing for many impacted products to non-tariff countries. It is time-consuming and costly and changes in our third-party manufacturers or manufacturing locations may cause significant interruptions in supply if the manufacturers have difficulty manufacturing products to our specification. As a result, our ability to meet our scheduled product deliveries to our customers could be adversely affected, which could cause the loss of sales to existing or potential customers, delayed revenue or an increase in our costs. Any production interruptions for any reason, such as a natural disaster, epidemic, capacity shortages or quality problems, at one of our manufacturers would negatively affect sales of our product lines manufactured by that manufacturer and adversely affect our business and operating results.

We are subject to the economic, political and social instability risks associated with doing business in certain foreign countries.

For the year ended 31 December 2018, approximately 41% of our sales were made outside of the United States. In addition, a significant portion of our products are currently manufactured or assembled in Brazil, China and Mexico. As a result, we are exposed to risk of international operations, including:

- fluctuations in currency exchange rates;
- inflexible employee contracts or labour laws in the event of business downturns;
- compliance with United States and foreign laws concerning trade and employment practices;
- the challenges inherent in consistently maintaining compliance with the Foreign Corrupt Practice Act and similar laws in other jurisdictions;
- the imposition of government controls;
- difficulties in obtaining or complying with export licence requirements;
- labour unrest, including strikes, and difficulties in staffing;
- security concerns;
- economic boycott for doing business in certain countries;
- coordinating communications among and managing international operations;
- currency controls;
- changes in tax and trade laws, including tariffs, that increase our local costs;

• exposure to heightened corruption risks; and

• reduced protection for intellectual property rights.

Political instability and military and terrorist activities may have significant impacts on our customers' spending in these regions and can further enhance many of the risks identified above. Any of these risks could impact our sales, interfere with the operation of our facilities and result in reduced production, increased costs, or both, which could have an adverse effect on our financial results.

We depend on channel partners to sell our products in certain regions and are subject to risks associated with these arrangements.

We utilise distributors, value-added resellers, system integrators, and manufacturers' representatives to sell our products to certain customers and in certain geographic regions to improve our access to these customers and regions and to lower our overall cost of sales and post-sales support. Our sales through channel partners are subject to a number of risks, including:

• ability of our selected channel partners to effectively sell our products to end customers;

• our ability to continue channel partner arrangements into the future since most are for a limited term and subject to mutual agreement to extend;

• a reduction in gross margins realised on sale of our products;

• compliance by our channel partners with our policies and procedures as well as applicable laws; and

• a diminution of contact with end customers which, over time, could adversely impact our ability to develop new products that meet customers' evolving requirements.

We depend on cloud computing infrastructure operated by third-parties and any disruption in these operations could adversely affect our business.

For our service offerings, in particular our Wi-Fi-related cloud services, we rely on third-parties to provide cloud computing infrastructure that offers storage capabilities, data processing and other services. We currently operate our cloud-dependent services using Amazon Web Service ("AWS") or Google Compute Engine ("GCE"). We cannot easily switch our AWS or GCE operations to another cloud provider. Any disruption of or interference with our use of these cloud services would impact our operations and our business could be adversely impacted.

Problems faced by our third-party cloud services, with the telecommunications network providers with whom we or they contract, or with the systems by which our telecommunications providers allocate capacity among their customers, including us, could adversely affect the experience of our end customers. If AWS and GCE are unable to keep up with our needs for capacity, this could have an adverse effect on our business. Any changes in third-party cloud services or any errors, defects, disruptions, or other performance problems with our applications could adversely affect our reputation and may damage our end customers' stored files or result in lengthy interruptions in our services. Interruptions in our services might adversely affect our reputation and operating results, cause us to issue refunds or service credits, subject us to potential liabilities, or result in contract terminations.

We and our end customers may be subject to complex and evolving U.S. and foreign laws and regulations regarding privacy, data protection and other matters and violations of these laws and regulations may result in claims, changes to our business practices, monetary penalties, increased costs of operations, and/or other harms to our business.

There has been an increase in laws in Europe, the U.S. and elsewhere imposing requirements for the handling of personal data, including data of employees, consumers and business contacts as well as privacy-related matters. For example, several U.S. states, including recently California, have adopted legislation requiring companies to protect the security of personal information that they collect from consumers over the Internet, and more states have proposed similar legislation in the future. Foreign data protection, privacy, and other laws and regulations can be more restrictive than those in the U.S. In May 2018 the EU General Data Protection Regulation ("GDPR") went into effect. Similar regulations are now scheduled to go into effect in the second quarter of 2019 in Brazil and India. GDPR is designed to harmonise data privacy laws across Europe, to protect and empower all EU citizen's data privacy and to reshape the way organisations across the region approach data privacy. Compliance with the GDPR and the similarly proposed regulations in other countries has required, and will continue to require, changes to existing products, designs of future products, internal and external software systems, including our web sites, and changes to many company processes and policies. Failure to comply with GDPR or other privacy regulations could cause significant penalties and loss of business.

In addition, some countries are considering legislation requiring local storage and processing of data that, if enacted, could increase the cost and complexity of offering our solutions or maintaining our business operations in those jurisdictions. The introduction of new solutions or expansion of our activities in certain jurisdictions may subject us to additional laws and regulations. Our channel partners and end customers also may be subject to such laws and regulations in the use of our products and services.

These U.S. federal and state and foreign laws and regulations, which often can be enforced by private parties or government entities, are constantly evolving. In addition, the application and interpretation of these laws and regulations are often uncertain, and may be interpreted and applied inconsistently from country to country and inconsistently with our current policies and practices and may be contradictory with each other. For example, a government entity in one jurisdiction may demand the transfer of information forbidden from transfer by a government entity in another jurisdiction. If our actions were determined to be in violation of any of these disparate laws and regulations, in addition to the possibility of fines, we could be ordered to change our data practices, which could have an adverse effect on our business and results of operations and financial condition. There is also a risk that we, directly or as the result of a third-party service provider we use, could be found to have failed to comply with the laws or regulations applicable in a jurisdiction regarding the collection, consent, handling, transfer, or disposal of personal data, which could subject us to fines or other sanctions, indemnification claims from customers as well as adverse reputational impact.

Compliance with these existing and proposed laws and regulations can be costly, increase our operating costs and require significant management time and attention, and failure to comply can result in negative publicity and subject us to inquiries or investigations, claims or other remedies, including fines or demands that we modify or cease existing business practices. Channel partners and end customers may demand or request additional functionality in our products or services that they believe are necessary or appropriate to comply with such laws and regulations, which can cause us to incur significant additional costs and can delay or impede the development of new solutions. In addition, there is a risk that failures in systems designed to protect private, personal or proprietary data held by us or our channel partners and end customers using our solutions will allow such data to be disclosed to or seen by others, resulting in application of regulatory penalties, enforcement actions, remediation obligations, private litigation by parties whose data were improperly disclosed, or claims from our channel partners and end customers for costs or damages they incur.

The planned upgrade of our enterprise resource planning ("ERP") software solution could result in significant disruptions to our operations.

We have initiated the process of upgrading our ERP software solution to a newer, cloud-based version. We expect the upgrade for our financial reporting systems to be completed in 2019. Implementation of the upgraded solution will have a significant impact on our business processes and information systems. The transition will require significant change management, meaningful investment in capital and personnel resources, and coordination of numerous software and system providers and internal business teams. We may experience difficulties as we manage these changes and transitions to the upgraded systems, including loss or corruption of data, delayed shipments, decreases in productivity as personnel implement and become familiar with new systems and processes, unanticipated expenses (including increased costs of implementation or costs of conducting business), and lost revenues. Difficulties in implementing the upgraded solution or significant system failures could disrupt our operations, divert management's attention from key strategic initiatives, and have an adverse effect on our capital resources, financial condition, results of operations, or cash flows. In addition, any delays in completing the upgrade process could exacerbate these transition risks as well as expose us to additional risks in the event that the support for our existing ERP software solution is reduced or eliminated.

The import of our products is subject to trade regulations and could be impacted by orders prohibiting the importation of products.

The import of our products into the United States and certain other countries is subject to the trade regulations in the countries where they are imported. Products may be subject to customs duties that we pay to the applicable government agency and then collect from our customers in connection with the sale of the imported products. The amount of the customs duty owed, if any, is based on classification of the products within the applicable customs regulations. A significant portion of our overall shipments import into the United States, any change to trade regulations may challenge our classifications and the amount of any duty or tax payable. While we believe that our products have been properly classified, the U.S. Customs Agency or other applicable foreign regulatory agencies, may challenge our classifications and the amount of any duty payable. For example, we currently have a case pending in the U.S. Court of International Trade regarding the challenge by the U.S. Customs Agency with respect to certain digital television adapters that we import into the United States and believe are duty free. If it is ultimately determined that a product has been misclassified for customs purposes, we may be required to pay additional duties for products previously imported and we may not be successful in collecting the increased duty from the customer that purchased the products. In addition, we could be required to pay interest and/or fines to the applicable regulator, which amounts could be significant and negatively impact our results of operations. Further, if we do not comply with the applicable trade regulations, delivery of products to customers may be delayed which could negatively impact our sales and results of operations.

From time to time, we, our customers and our suppliers, may be subject to proceedings at the U.S. International Trade Commission (the "ITC") with respect to alleged infringement of U.S. patents. If the ITC finds a party infringed a U.S. patent, it can issue an exclusion order barring importation into the United States of the product that infringes, or includes components, of the product that infringes the identified patents. An exclusion order impacting our products could have a material adverse effect on our revenues and results of operations.

Our stock price has been and may continue to be volatile.

Our ordinary shares are traded on The NASDAQ Global Select Market. The trading price of our shares has been and may continue to be subject to large fluctuations. Our stock price may increase or decrease in response to a number of events and factors including:

- future announcements concerning us, key customers or competitors;
- variations in operating results from period to period;
- changes in financial estimates and recommendations by securities analysts;
- developments with respect to technology or litigation;
- the operating and stock price performance of our competitors; and
- acquisitions and financings.

Fluctuations in the stock market, generally, also impact the volatility of our stock price. General stock market movements may adversely affect the price of our ordinary shares, regardless of our operating performance.

Our business is subject to the risks of earthquakes, fire, floods and other natural catastrophic events, and to interruption by manmade problems such as network security breaches, computer software or system errors or viruses, or terrorism.

We and our contract manufacturers maintain facilities in many areas known for seismic activity including the San Francisco Bay area and eastern Asia. A significant natural disaster, such as an earthquake, a fire or a flood, occurring near any of our major facilities, or near the facilities of our contract manufacturers, could have a material adverse impact on our business, operating results and financial condition. In addition, we have major development and support operations concentrated in India. A natural disaster in this location could have a material adverse impact on our support operations. In addition, natural disasters, acts of terrorism or war could cause disruptions in our or our customers' businesses, our suppliers' or manufacturers' operations or the economy as a whole. We also rely on IT systems to operate our business and to communicate among our workforce and with third parties. For example, we use business management and communication software products provided by third parties, such as Oracle, Microsoft Online, SAP and salesforce.com, and security flaws or outages in such products would adversely affect our operations. Any disruption to these systems, whether caused by a natural disaster or by manmade problems, such as power disruptions, could adversely affect our business. To the extent that any such disruptions result in delays or cancellations of customer orders or impede our suppliers' and/or our manufacturers' ability to timely deliver our products and product components, or the deployment of our products, our business, operating results and financial condition would be adversely affected.

Cyber-security incidents, including data security breaches or computer viruses, could harm our business by disrupting our delivery of services, damaging our reputation or exposing us to liability.

We receive, process, store and transmit, often electronically, the confidential data of our clients and others. Unauthorised access to our computer systems or stored data could result in the theft or improper disclosure of confidential information, the deletion or modification of records or could cause interruptions in our operations. These cyber-security risks increase when we transmit information from one location to another, including transmissions over the Internet or other electronic networks. Despite implemented security measures, our facilities, systems and procedures, and those of our third-party service providers, may be vulnerable to security breaches, acts of vandalism, software viruses, misplaced or lost data, programming and/or human errors or other similar events which may disrupt our delivery of services or expose the confidential information of our clients and others.

In addition, defects in the hardware or software we develop and sell, or in their implementation by our customers, could also result in unauthorised access to our customers' and/or consumers' networks. Any security breach involving the misappropriation, loss or other unauthorised disclosure or use of confidential information of our customers or others, whether by us or a third party, could (i) subject us to civil and criminal penalties, (ii) have a negative impact on our reputation, or (iii) expose us to liability to our customers, third parties or government authorities. Any of these developments could have a material adverse effect on our business, results of operations and financial condition. We have not experienced any such incidents that have had material consequences to date. We expect the U.S. and other countries to adopt additional cyber-security legislation that, if enacted, could impose additional obligations upon us that may negatively impact our operating results.

We have not historically paid cash dividends.

We have not historically paid cash dividends on our ordinary shares. In addition, our ability to pay dividends is limited by the terms of our credit facilities. Payment of dividends in the future will depend on, among other things, business conditions, our results of operations, cash requirements, financial condition, contractual restrictions, provisions of applicable law and other factors that our board of directors may deem relevant.

As a result of shareholder voting requirements in the United Kingdom, we have less flexibility with respect to certain aspects of capital management.

Under English law, our directors may issue new ordinary shares up to a maximum amount equal to the allotment authority granted to the directors under our articles of association or by an ordinary resolution of our shareholders, subject to a five-year limit on such authority. Additionally, subject to specified exceptions, English law grants preemptive rights to existing shareholders to subscribe for new issuances of shares for cash but allows shareholders to waive these rights by way of a special resolution with respect to any particular allotment of shares or generally, subject to a five-year limit on such waiver. Our articles of association contain, as permitted by English law, a provision authorising our Board to issue new shares for cash without preemptive rights. The authorisation of the directors to issue shares without further shareholder approval and the authorisation of the waiver of the statutory preemption rights must both be renewed by the shareholders at least every five years, and we cannot provide any assurance that these authorisations always will be approved, which could limit our ability to issue equity and, thereby, adversely affect the holders of our ordinary shares. While we do not believe that English laws relating to our capital management will have a material adverse effect on us, situations may arise where the flexibility to provide certain benefits to our shareholders is not available under English law.

Any attempted takeovers of us will be governed by English law.

As a U.K. incorporated company, we are subject to English law. An English public limited company is potentially subject to the protections afforded by the U.K. Takeover Code if, among other factors, a majority of its directors are resident within the U.K., the Channel Islands or the Isle of Man. We do not believe that the U.K. Takeover Code applies to us, and, as a result, our articles of association include measures similar to what may be found in the charters of U.S. companies, including the power for our Board to allot shares where in the opinion of the Board it is necessary to do so in the context of an acquisition of 20% or more of the issued voting shares in specified circumstances (this power is subject to renewal by our shareholders at least every five years and will cease to be applicable if the U.K. Takeover Code is subsequently deemed to be applicable to ARRIS). Further, it could be more difficult for us to obtain shareholder approval for a merger or negotiated transaction because the shareholder approval requirements for certain types of transactions differ, and in some cases, are greater under English law. The provisions of our articles of association and English law may have an anti-takeover impact on us and our ordinary shares.

Transfers of our ordinary shares, other than one effected by means of the transfer of book-entry interests in the Depository Trust Company ("DTC"), may be subject to U.K. stamp duty.

Substantially all of our outstanding shares are currently represented by book-entry interests in DTC. Transfers of our ordinary shares within DTC should not be subject to stamp duty or stamp duty reserve tax ("SDRT") provided no instrument of transfer is entered into and no election that applies to our ordinary shares is made or has been made by DTC or Cede, its nominee, under Section 97A of the U.K. Finance Act 1986. In this regard DTC has confirmed that neither DTC nor Cede (its nominee) has made an election under Section 97A of the Finance Act that would affect our shares issued to Cede. If such an election is or has been made, transfers of our ordinary shares within DTC generally will be subject to SDRT at the rate of 0.5% of the amount or value of the consideration. Transfers of our ordinary shares held in certificated form generally will be subject to stamp duty at the rate of 0.5% of the consideration given (rounded up to the nearest £5). SDRT will also be chargeable on an agreement to transfer such shares, although such liability would be discharged if stamp duty is duly paid on the instrument of transfer implementing such agreement within a period of six years from the agreement. Subsequent transfer of our ordinary shares to an issuer of depository receipts or into a clearance system (including DTC) may be subject to SDRT at a rate of 1.5% of the consideration given or received or, in certain cases, the value of our ordinary shares transferred. The purchaser or transferee of the ordinary shares generally will be responsible for paying any stamp duty or SDRT payable.

The Strategic Report is set out on pages 1 to 56 and includes the relevant information as required by the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013.

On behalf of the board

Bruce McClelland
Director

18 March 2019

Corporate Governance

ARRIS International plc is incorporated in England and Wales and its shares are listed on the NASDAQ Global Select Market.

As we are not listed on the London Stock Exchange, the Company is not required to comply with the U.K. Corporate Governance Code (the "Code"). As a company listed on the NASDAQ we are required to comply with all corporate governance regulations of both NASDAQ and the United States Securities and Exchange Commission. We have chosen to provide disclosure of these as far as it is appropriate and practicable for a company of this size and status.

The ARRIS Policy on Business Ethics and Code of Conduct and ARRIS Code of Ethics for Employees with Financial Reporting Responsibilities (applicable to our officers, directors, management, other employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions) are available on our website at www.arris.com under Investor Relations, Corporate Governance. The website also will disclose whether there have been any amendments or waivers to the ARRIS Policy on Business Ethics and Code of Conduct. ARRIS will provide copies of these documents in electronic or paper form upon request to Investor Relations, free of charge.

The Board of Directors

Name	Age	Director Since	Brief Biography	Independent	Committee Membership AC	CC	GC
Andrew M. Barron	53	2016	Former Chairman, Com Hem Holding AB	X		X	X
Alex B. Best*	78	2003*	Former Executive Vice President, Cox Communications, Inc	X		X	X
J. Timothy Bryan	58	2015	CEO, National Rural Telecommunications Cooperative	X	X		
James A. Chiddix	73	2009	Former Chairman and CEO, OpenTV Corporation	X			C
Andrew T. Heller	63	2011	Former Vice Chairman, Turner Broadcasting System, Inc.	X	X	X	
Dr. Jeong Kim	58	2014	Chairman Kiswe Mobile, Inc	X		X	X
Bruce McClelland	52	2016	Chief Executive Officer, ARRIS International plc				
Barton Y. Shigemura	59	2018	Chief Executive Officer, RioRey	X			X
Robert J. Stanzione	71	1998	Executive Chairman, ARRIS International plc				
Doreen A. Toben	69	2013	Former Executive Vice President, Verizon Communications, Inc.	X	C		
Debora J. Wilson	61	2011	Former President & CEO, The Weather Channel Inc.	X		C	
David A. Woodle	63	2007	Chairman & CEO, Nano Horizons, Inc.	X	X		

AC Audit Committee

CC Compensation Committee

GC Nominating and Corporate Governance Committee

C Chair

* Alex B. Bestdid not stand for election at the Annual Meeting on 3 May 2018.

Executive Officers of the Company

The following table sets forth the name, age as of 1 March 2019, and position of our executive officers.

Name	Age	Position
Bruce W. McClelland	52	Chief Executive Officer
Robert J. Stanzione	71	Executive Chairman and Chairman of the Board of Directors
David B. Potts	61	Executive Vice President and Chief Financial Officer
Lawrence Robinson	51	President, Customer Premises Equipment
Daniel T. Whalen	51	President, Network & Cloud
Stephen McCaffery	52	President, International Sales & Managing Director, International Business Operations Group
Timothy O'Loughlin	45	President, U.S. Sales, Global Marketing and Operations
Ian Whiting	54	President, Enterprise Networks
James R. Brennan	57	Senior Vice President, Supply Chain & Quality
Karen Renner	57	Senior Vice President, Chief Information Officer
Patrick W. Macken	45	Senior Vice President, General Counsel and Secretary
Victoria P. Brewster	56	Senior Vice President, Human Resources

Roles

The Board

The ARRIS International plc Board is accountable to the Company's shareholders for standards of governance across the Group's businesses. The Board has responsibility for the overall management of the Company and its long-term strategic aims.

In discharging their obligations, directors should be entitled to rely on the honesty and integrity of the Company's senior management and its outside advicers and auditors. Board members are expected to devote the time necessary to appropriately discharge their responsibilities and to rigorously prepare for and, to the extent possible, attend in person and participate in all Board meetings and meetings of Board committees on which they serve. Each Board member is expected to ensure that other commitments do not materially interfere with the member's service as a director.

Whilst day-to-day operational decisions are managed by the Chief Executive Officer and the other senior officers, the principal matters reserved for the Board include the following set out below:

- setting the overall strategic direction and oversight of the management of the Company;
- recommending or declaring dividends;
- approval of share repurchase programmes;
- approval of the Company consolidated financial statements;
- approval of major corporate transactions and commitments;
- succession planning and appointments to the Board and senior management compensation;
- review of the Group's overall corporate governance arrangements including systems of internal controls and risk management; and
- approval of the delegation of authority to the Chief Executive Officer and the charters of all Committees of the Board.

Where appropriate, matters are delegated to a Committee which will consider them in accordance with its charter or other delegation by the Board.

Details of each Committee's charter is available on the ARRIS website at www.arris.com under Investor Relations, Corporate Governance.

The Executive Chairman, Robert J. Stanzione, is an employee of the Company and is responsible for strategic planning and the running of the Board, ensuring, together with the Lead Independent Director, Andrew T. Heller and the Senior Vice President, General Counsel and Secretary, that it receives timely and clear information appropriate to enable it to discharge its duties. The responsibilities of the Chief Executive Officer, Bruce McClelland, are to focus on running the Group's business and implementing Group strategy. The Chief Executive Officer is assisted in managing the business on a day-to-day basis by the Executive Officers of the Company as further described below.

All the non-executive directors are deemed by the Board to be independent. In addition, the Board has designated Andrew T. Heller as the Lead Independent Director. All directors have access to the advice and services of the Senior Vice President, General Counsel and Secretary and are able to take independent professional advice at the Company's expense in the furtherance of their duties, if necessary. Each of the directors submit themselves for re-election on an annual basis.

All directors are offered the opportunity to continually update their skills and knowledge by attending external training events. The Company has in place procedures to deal with directors' conflicts of interest and the Board is satisfied that these procedures operate effectively.

The Board normally meets at least four times each year. It reviews the strategic direction of the Group and meets with Executive Officers of the Company and employees within the Group as required during the year. The Lead Independent Director holds meetings with the non-executive directors without the executive directors being present on a regular basis. It is the policy of the Board to undertake a formal annual review and evaluation of its performance including the performance of its Committees on an annual basis. This is generally concluded by written feedback in standardised form from each director to the Secretary who shares the results with the full Board.

Executive Officers of the Company

The Executive Officers meet regularly at the discretion of the Chief Executive Office. The meetings are chaired by the Chief Executive Officer and provide an opportunity for the management to receive updates on progress in other areas of the Group and ensure that the strategy, plans and policies previously delegated by the Board are implemented. The Executive Officers are listed on page 58.

Committees of the Board of Directors

The Board has delegated certain functions to three standing committees: an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. Each of the committees has a written charter that is available on the Company's website at www.arris.com. The following is a summary of the principal responsibilities and other information regarding each of the committees:

Audit Committee

- Assists the Board with the oversight of the integrity of our financial statements and financial reporting process; compliance with legal and regulatory requirements; is responsible for the engagement of the independent auditor, and its qualifications, independence and performance; subject to the provisions of the Companies Act, the appointment and performance of the U.K. statutory auditor; and the performance of our internal audit function.

- The Board of Directors has determined that each of its Audit Committee members is independent and financially literate as defined by the SEC and the current listing standards of The NASDAQ Stock Market.

- The Board has identified each of Ms. Toben and Mr. Bryan as an "audit committee financial expert," as defined by the SEC.

Compensation Committee

- Determines the compensation for our executive officers and non-employee directors, establishes our compensation policies and practices, and reviews annual financial performance under our employee incentive plans.

- Generally exercises all powers of the Board of Directors in connection with compensation matters, including incentive compensation, benefit plans and share grants, except as relates to the Chairman and Chief Executive Officer, in which case the entire Board of Directors approves or ratifies all said compensation matters.

Nominating and Corporate Governance Committee

- Identifies individuals qualified to become directors and recommends candidates to the Board of Directors.

- Supervises the conduct of director self-evaluation procedures including the performance of an anonymous survey of directors as to the Board's processes and effectiveness and governance practices in general.

- Together with the Board, actively reviews succession issues and plans for both management and the Board of Directors.

- Reviews the Company's material risks, including information security risks, and the Company's policies and procedures designed to mitigate such risks.

Directors' remuneration

The Compensation Committee reviews the performance of the executive directors as a prelude to recommending their annual compensation, bonus awards and long-term share incentive awards to the Board and approves the compensation for the other executive officers. The final determinations with respect to the executive directors are made by the Board as a whole but no director plays a part in any discussions concerning their own remuneration. There are no agreements between the Company and its employees providing for compensation for loss of office or employment (whether through resignation, purported redundancy or otherwise) that occurs as a result of a change in control. There are agreements with the Executive Chairman, Chief Executive Officer and all Executive Officers which provide for compensation for loss of office and a change in control, and further details are contained in the Remuneration Policy which can be found on our website as part of our 2016 and 2017 Annual Reports.

The Remuneration Report of the directors to shareholders is set out on pages 65 to 77.

Board and committee meetings attendance

Director	Board	Audit	Compensation	Nominating and Corporate Governance
Andrew M. Barron	13		8	4
Alex B. Best[(1)]	3		4	2
J. Timothy Bryan	14	11		
James A. Chiddix	13			4
Andrew T. Heller	14	11	7	
Dr. Jeong Kim	14		8	4
Bruce McClelland	14			
Barton Y. Shigemura [(2)]	9			4
Robert J. Stanzione	14			
Doreen A. Toben	14	11		
Debora J. Wilson	14		8	
David A. Woodle	14	11		
Total meetings in 2018	**14**	**11**	**8**	**4**

(1) Mr. Best served on the Board until 3 May 2018

(2) Mr. Shigemura joined the Board effective 1 June 2018 and attended all Board and Nominating and Corporate Governance Committee meetings held after his appointment to the Board.

The Company has not adopted a formal policy on Board members' attendance at annual general meetings of shareholders; however, all directors are encouraged to attend the meetings. All of the Company's directors at the time of the meeting attended the 2018 annual general meeting of shareholders held on 3 May 2018.

Relations with shareholders

Prior to the announcement of the Acquisition, the Chief Executive Officer and Chief Financial Officer held quarterly investor conference calls as part of the Group's reporting cycle. From time to time we meet and consult with major shareholders in an effort to ensure a mutual understanding of the Company's objectives.

All shareholders are welcome to participate at the Company's Annual General Meeting when all the directors will normally be available to answer questions. The results of the Annual General Meeting resolutions, including details of votes cast/ withheld, are published on the website maintained by the SEC and copy is also posted on the Company's website.

Registered No. 09551763

Directors' Report

The directors present their report together with the audited consolidated financial statements for the year ended 31 December 2018.

Principal activities

The Group's principal activities are to enable service providers including cable, telecom, digital broadcast satellite operators and media programmers to deliver media, voice, and IP data services to their subscribers. The Group is the leader in set-tops, digital video and Internet Protocol Television ("IPTV") distribution systems, broadband access infrastructure platforms, and broadband data and voice CPE, and also sell directly to consumers through retail channels. Through the Group's enterprise distribution channels, it provides wireless and wired products and services for connectivity across varied networking environments to customers across a spectrum of verticals — including hospitality, education, smart ethics, venues, service providers and more. The Group's core solutions are complemented by a broad array of services including technical support, repair and refurbishment, and system design and integration.

Basis of Preparation

The directors have elected to prepare the Consolidated Financial Statements under U.S. GAAP in line with The Accounting Standards (Prescribed Bodies) (United States of America and Japan) Regulations 2015 (as permitted by the Companies Act 2006) and the Parent Company Financial Statements in accordance with Financial Reporting Standard 102 'The Financial Reporting Standard applicable in the UK and Republic of Ireland' and UK Companies Act 2006.

Acquisition of Own Shares

In 2016, the Board approved a $300 million share repurchase authorisation replacing all prior programmes. In early 2017, the Board authorised an additional $300 million for share repurchases. In March 2018, the Board authorised an additional $300 million for repurchases and an additional $375 million again in August 2018.

During the fiscal year of 2018, we repurchased 13.9 million shares of our ordinary shares for $353.1 million at an average stock price of $25.38. The remaining authorised amount for stock repurchases under this plan was $546.9 million as of 31 December 2018. Unless terminated earlier by a Board resolution, this new plan will expire when we have used all authorised funds for repurchase. However, U.K. law also generally prohibits a company from repurchasing its own shares through "off market purchases" without prior approval of shareholders because we are not traded on a recognised investment exchange in the U.K. This shareholder approval lasts for a maximum period of five years. Prior to and in connection with the Pace combination, we obtained approval to purchase our own shares. This authority to repurchase shares terminates in January 2021, unless otherwise reapproved by our shareholders.

Under the terms of the Acquisition Agreement, we have agreed not to purchase additional shares prior to the closing of the Acquisition without the consent of CommScope.

Strategic Report

The Companies Act 2006 requires us to present a fair review of the business during the year to 31 December 2018 and of the position of the Group at the end of the financial year along with a description of the principal risks and uncertainties faced.

Information in respect of the following are included within the Strategic Report on pages 1, 7, 38, 27 and 28.

- Future Developments of the Business
- Activities in Research & Development
- Employees and Employee Policies
- Financial Risk Management Objectives

- Share Repurchases

Dividend

The Directors do not have any current plans for the payment of dividends and the Company has not paid a cash dividend since inception.

Statement of Going concern

The Directors have undertaken a going concern assessment in accordance with "Guidance on the Going Concern Basis of Accounting and Reporting on Solvency and Liquidity Risks". As a result of this assessment the directors have a reasonable expectation that the Company has adequate resources to continue in operational existence for the foreseeable future. For this reason, the directors continue to adopt the going concern basis for preparing the accounts.

The ARRIS acquisition by CommScope is expected to complete first half of 2019, for further details related to the transaction please refer to *Proposed Transactions with CommScope* on page 1. At acquisition date the Company would become part of the CommScope group and operate within its strategic direction for the foreseeable future. The acquisition does not change the directors expectation in respect of going concern.

Share capital

The Company has one class of ordinary shares, which does not carry the right to receive a fixed income. Each share: carries the right to one vote at an annual general meeting of the Company; ranks equally for any dividend declared; and ranks equally for any distribution made on a winding up. There are no restrictions known to the Company that may result in restrictions on shares or voting rights in the Company. There are no specific restrictions on the transfer of shares or on voting rights, both of which are governed by the provisions of the Company's Articles of Association.

Political donations

No political donations were made in the year.

Significant shareholdings

The following table sets forth information as of 1 March 2019, with respect to each person who is known by the management of the Company to be the beneficial owner of more than 5% of our outstanding ordinary shares. Unless otherwise indicated, the beneficial owner has sole voting and investment power and the information below is based upon Securities and Exchange Commission ("SEC") filings by the person.

Amount and Nature of Beneficial Beneficial Owner	Ownership	Percent of Class
The Vanguard Group, Inc[(1)]	15,574,524	8.95%
BlackRock, Inc.[(2)]	14,612,330	8.40%

(1) According to the most recent Schedule 13G filed with the SEC on 11 February 2019, Vanguard Group, Inc. has sole voting power with respect to 79,767 shares, shared voting power with respect to 21,881 shares, sole dispositive power with respect to 15,490,468 shares, and shared dispositive power with respect to 84,056 shares. The address for The Vanguard Group, Inc. is 100 Vanguard Blvd, Malvern, PA 19355.

(2) According to the most recent Schedule 13G filed with the SEC on 11 February 2019, BlackRock, Inc. has sole voting power with respect to 13,942,329 shares. The address for BlackRock, Inc. is 55 East 52nd Street, New York, NY 10055.

Directors

The names of the current directors of the Company are listed on page 57. All those listed held office from 1 January 2018 except for Barton Y. Shigemura who was appointed 1 June 2018 and Alex B. Best who left in 3 May 2018.

Directors Indemnity

The Company maintains customary directors' and officers' liability insurance. The Company is permitted under its Articles of Association to indemnify its officers and directors under certain circumstances and has entered into a Deed of Indemnity in favour of the directors.

Greenhouse gas emissions

All disclosures concerning the Group's greenhouse gas emissions (as required to be disclosed under the Large and Medium Sized Companies and Groups (Accounts and Reports) Regulations 2008 (as amended) and the methodology used by the Group are contained on page 37 of the Strategic Report, in the *Regulation and Corporate Responsibility* section.

Disclosure of Information to Auditors

The directors who held office at the date of approval of this Directors' Report confirm that, so far as they are each aware, there is no relevant audit information of which ARRIS International plc's auditors are unaware; and each director has taken all steps that they ought to have taken as a director to make themselves aware of any relevant audit information and to establish that ARRIS' auditors are aware of that information.

Re-Appointment of the Auditors

In accordance with Section 489 of the Companies Act, the company intends to appoint Ernst & Young LLP as statutory auditors of the company for the period ending 31 December 2019.

Approved by the board and signed on behalf of the board

Patrick W. Macken

Patrick W. Macken
Senior Vice President, General Counsel and Secretary.
Registered Address: Victoria Road, Saltaire, West Yorkshire, BD18 3LF

18 March 2019

Directors' Remuneration Report for the year ended 31 December 2018

This report has been prepared in accordance with the provisions of the United Kingdom Companies Act 2006 and Schedule 8 of The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 (as amended in 2013).

Annual Statement by the Chair of the Compensation Committee

Dear Shareholder,

On behalf of the Compensation Committee I am pleased to present the Remuneration Report for the year ended 31 December 2018.

Throughout 2018 and up to 18 March 2019, being the date of this Report, all decisions taken by the Compensation Committee were materially compliant with the Remuneration Policy.

Our Remuneration Policy, approved by shareholders at our AGM on 10 May 2017, can be found on our website as part of the 2016 and 2017 Annual Reports.

The Company's Annual Report on Remuneration, discloses the compensation paid to directors in the year ended 31 December 2018. The format of this Annual Report on Remuneration is specified in accordance with United Kingdom law.

As outlined in the Directors Remuneration Policy, the philosophy of the Compensation Committee in determining the compensation for our executive directors is guided by three key objectives: competitive pay, pay for performance, and alignment of interests with that of the Company's shareholders. ARRIS' financial results for 2018, while below budget, reflect another strong year of operations led by the strength in the Network & Cloud business and a rebound in sales within the CPE business with sales in the fourth quarter 2018 being the highest of the year. The Company also completed the integration of the Enterprise Wireless business, which was acquired in December 2017. In addition, in November 2018, ARRIS announced the proposed Acquisition by CommScope in an all cash transaction for $31.75 per ordinary share, a premium of 27% over the volume weighted average closing price of ARRIS's ordinary shares for the 30 trading days ending 23 October 2018 (the day prior to market rumours regarding a potential transaction leaking to the media), subject to certain closing conditions. These achievements, among others, were considered by the Compensation Committee (and the full Board of Directors) in determining the 2018 remuneration set forth in this Annual Report on Remuneration presented below.

Debora J. Wilson
Chair of the Compensation Committee

18 March 2019

Annual Report on Remuneration

(The information in this part of the Remuneration Report is audited unless stated otherwise.)

This report gives details of remuneration earned by the directors in 2018.

Single total figure of remuneration for each executive director

		Base Salary ($)	Taxable Benefits ($) (1)	Annual Cash Incentive Bonus ($)(2)	Performance based Long-term Incentives Vesting in Year ($)(3)	Time-based Long-term Incentives granted in Year ($)(4)	Matching 401(k) and 401(k) Wrap Contributions ($)(5)	Other ($) (6)	Total ($)
Robert J. Stanzione	2018	462,500	6,908	106,375	-	412,499	11,000	20,355	1,019,637
	2017	675,000	13,453	438,100	-	825,030	71,584	19,859	2,043,026
Bruce McClelland	2018	906,250	5,571	212,750	-	1,900,021	61,401	20,355	3,106,348
	2017	825,000	4,920	572,900	-	1,650,060	50,542	19,859	3,123,281

(1) Taxable benefits include tax preparation services with respect to any U.K. income taxes that may be owed by U.S.-based directors and Executive Life AD & D contributions, but excludes matching contributions made under the 401(k) defined and the 401(k) Wrap, which are shown separately in the table.

(2) Represents bonus paid for performance in year presented.

(3) Calculated by multiplying the number of shares issuable upon vesting of the award by the closing trading price of the Company's ordinary shares on the date of vesting. The Company withholds taxes by retaining or cash cancelling an appropriate number of shares (equal to the value of the amount required to be withheld) that vest.

(4) Represents time-based long-term incentive awards granted during the year ending 31 December 2018 which are scheduled to vest over four years in equal instalments. Calculated by multiplying the number of shares issuable upon vesting of the award by the closing trading price of the Company's ordinary shares on the date of grant. The Company will withhold taxes by retaining or cash cancelling an appropriate number of shares (equal to the value of the amount required to be withheld) that vest.

(5) Contributions under the 401(k) Wrap have been made in line with the terms of each plan. For both executive directors the Company matched 100% of the first 3% of the executive director's contribution of pay and matched 50% of the next 2% of the executive director's contribution of pay up to in the case of the 401(k) savings plan, the maximum permitted by applicable regulations less the amount of employer matches made to the 401(k).

(6) Both executive directors exercised ESPP options over 877 shares on 30 April 2018. The exercise price payable was $23.21 per share, representing a 15% discount to the then current share price. Prior year amounts reflect the value of ESPP options exercised over 899 shares on 28 April 2017. The exercise price payable was $22.09 per share, representing a 15% discount to the then current share price. The figures included above represent the cumulative value of this discount.

Annual Cash Incentive Bonus

Annual cash bonuses are tied to Company performance. Annual bonus targets for executive officers have been established as a percentage of base pay including the annual raise, if any, in the relevant years. For 2018, the bonus targets for Messrs. Stanzione and McClelland were 100% of base salary.

The Compensation Committee seeks to establish variable pay in the form of an annual cash bonus opportunity within the market levels of our peer group based on the analysis described above. The Compensation Committee believes that the variable pay target should be set at a level and permit a payout ranging from 0% to 200% in order to strongly align executive pay with the performance of the Company.

For 2018, we focused on both profitable growth and shareholder return. This required us to focus on both generation of profitable revenue growth and direct operating income and, importantly, cash generation which enabled us to make investments in our business (both organic and through acquisition) and fund programmes, such as share repurchases, that return capital to our shareholders. Thus, in 2018, we added cash from operating activities as a third financial metric of our bonus programme. In 2018, 40% of the total bonus continued to be based on adjusted direct operating income, 40% continued to be based on adjusted revenues and cash from operating activities made up the remaining 20%. Payouts continued to depend on the results achieved relative to established objectives for each component.

The adjusted direct operating income, adjusted revenue and cash from operating activities targets set by the Compensation Committee may vary from the amounts in the annual budget for the Company approved by the Board of Directors, if the Compensation Committee determines that such adjustments are appropriate to better reflect how such measures are used internally to track the performance of the Company (e.g., non-GAAP measures). Actual payouts depend on results relative to the established objectives as detailed in the table below with straight-line interpolation between levels.

Adjusted Direct Operating Income Component (40% of Total Bonus)		Adjusted Revenue Component (40% of Total Bonus)		Cash From Operating Activities (20% of Total Bonus)	
Percentage of Target Achieved	Payout Percentage	Percentage of Target Achieved	Payout Percentage	Percentage of Target Achieved	Payout Percentage
Below 90%	0%	Below 90%	0%	Below 80%	0%
90%	25%	90%	25%	80%	25%
95%	50%	95%	50%	90%	50%
100%	100%	100%	100%	100%	100%
115% or greater	200%	110% or greater	200%	120% or greater	200%

The 2018 target for adjusted direct operating income (40% of the bonus) that would yield a 100% payout of this component of the targeted bonus was $721 million. Actual adjusted direct operating income performance for 2018 was approximately $638 million, which was 88% of the target performance, and, accordingly, would yield a 0% payout for this component of the bonus. The target adjusted revenue component (40% of the bonus) for 2018 was based on an adjusted revenue target of $7,370 million. Actual 2018 performance was approximately $6,756 million, which was approximately 92% of target and would yielded a 33% payout for the revenue component. The target cash from operating activities component (20% of the bonus) for 2018 was based on a cash from operating activities target of $823 million. Actual 2018 performance was approximately $671 million, which was approximately 82% of target and would yield a 29% payout for the cash from operating activities component. As a result, the combined financial performance would yield a total bonus payout of 19% of target.

The Compensation Committee has the authority to adjust bonuses, including additions to the bonuses earned (or to pay bonuses when no bonus has been earned) under the bonus plan. The Committee may consider any of a number of elements such as individual performance, business unit performance, relative performance to competitors, strategic accomplishments, the level of work or sacrifice required in the relevant year, years of service with the Company and other factors. We do not have a formal policy for payments above the amounts established under the bonus plan. The Compensation Committee also may adjust the performance criteria if circumstances dictate (e.g., acquisitions, financings or other items that may not have been incorporated in the budget and therefore might require adjustment). As a result of the proposed Acquisition, the Compensation Committee discussed that the announcement and pendency of the Acquisition could create uncertainty amongst the Company's customers that could have impacted the Company's 2018 financial results and, therefore, the actual financial results are not necessarily reflective of the results that would have been achieved if the proposed Acquisition was not announced. As a result, the Compensation Committee (and the full Board with respect to bonuses payable to Messrs. Stanzione and McClelland) determined it to be in the best interests of the Company's employees to pay out the financial portion of the bonuses based on the forecasted levels of Adjusted Direct Operating Income, Adjusted Revenues and Cash from Operating Activities presented to the Board in connection with its review of the Acquisition. Those combined forecasted levels used by the Compensation Committee resulted in a total bonus payout of 23%, notwithstanding the actual 2018 financial results.

Outstanding Equity Incentive Awards

Long-term equity incentive awards granted in 2017 and 2018 to the executive directors consisted of restricted stock units. One-half of the restricted stock units awarded to the executive directors utilised performance vesting and the remaining restricted stock unit awards vest equally over a four year period.

The performance criteria used for performance-based vesting awards for 2017 and 2018 compare the Company's total shareholder return ("TSR") to the shareholder return of the NASDAQ composite over a three year period (the "TSR measurement") beginning with the calendar year of grant. The TSR measurement allows for payment from 0% and 200% based on underperforming, meeting or exceeding the NASDAQ composite three year return as set forth in the following table, with straight-line interpolation between levels.

Number of Percentage Points by which the Company's TSR Outperforms/Underperforms the NASDAQ Composite Over the Measurement Period	Percentage of Performance Shares Earned
More than 25 pts. below the Composite	0%
25 pts. below the Composite	50%
Equal to the Composite	100%
25 pts. or more above the Composite	200%

Our TSR was 30.2 points below the NASDAQ Composite for the period from 2015 to 2018, which would have resulted in none of the performance-based awards granted in 2015 vesting in January 2018. However, under the terms of the Acquisition Agreement governing the Acquisition, if the Acquisition is completed, the performance-based awards granted in 2015 will be deemed to have been satisfied at 100% of target. For additional information of the treatment of the performance-based awards in the Acquisition, see "- *Treatment of ARRIS's Equity-Based Awards in the Acquisition*" below.

Pursuant to the terms of the Acquisition Agreement, we have agreed that we will not grant additional equity awards to our employees in 2019, including the NEOs, without the prior consent of CommScope.

Equity Incentive Awards that vested during the year

Time based awards granted to Mr. McClelland on 27 March 2014 and 30 March 2015 over 21,755 and 20,635 shares respectively vested in four equal instalments on an annual basis, with final vesting on 29 March 2018 and final vesting of the 30 March 2015 grant was accelerated on 28 December 2018 in order to avoid the imposition of any excise tax in the United States under Section 280G of the U.S. Internal Revenue Code (the "Code") and (ii) preserve certain U.S. tax deductions for ARRIS. On the final vesting dates these awards had total values of $592,824 and $629,780 respectively.

Exercise of options under the ESPP

The executive directors participated in the broad-based employee stock purchase plan in 2018. Options were granted to each executive director with an exercise price set at the lower of (i) 85% of market value on the date of grant and (ii) 85% of market value on the date of exercise of each option. The following options were exercised during 2018:

Executive director	ESPP grant	Number of shares purchased	ESPP exercise date	Exercise price payable
Robert J. Stanzione	1 November 2017	877	30 April 2018	$23.21
Bruce McClelland	1 November 2017	877	30 April 2018	$23.21

Pension Benefits

Name	Plan Name	Number of Years Credited Service (#)	Present Value Of Accumulated Benefit ($)	Payments During Last Fiscal Year ($)
Robert J. Stanzione	Qualified Pension Plan	—	—	—
	Non Qualified Plan	—	—	—
Bruce McClelland	Qualified Pension Plan	—	—	—
	Non Qualified Plan	6	190,565	—

For full details of the pension benefits please refer to the Pension Benefits section of the Directors Remuneration Policy which can be found on our website as part of our 2016 and 2017 Annual Reports.

Single total figure of remuneration for each non-executive director

		Retainer/Fees ($)[1]	Taxable Benefits ($)[2]	Annual Cash Award ($)	Annual Equity Award Vesting in Year ($)[4]	Total ($)
Andrew M. Barron	2018	86,875	-	-	140,163	227,038
	2017	85,000	1,746	-	-	86,746
Alex B.Best[3]	2018	38,626	2,397	-	148,257	189,280
	2017	92,500	2,328	-	192,220	287,048
J. Timothy Bryan	2018	95,000	2,397	-	140,163	237,560
	2017	95,000	2,328	-	192,220	289,548
James A. Chiddix	2018	90,000	2,397	-	140,163	232,560
	2017	90,000	2,328	-	192,220	284,548
Andrew T. Heller	2018	122,500	2,397	-	140,163	265,060
	2017	122,500	2,328	-	192,220	317,048
Dr. Jeong Kim	2018	92,500	2,697	-	140,163	235,360
	2017	92,500	3,491	-	192,220	288,211
Barton Shigemura	2018	49,505	1,398	-	-	50,903
	2017	-	-	-	-	-
Doreen A. Toben	2018	105,000	2,397	-	140,163	247,560
	2017	105,000	2,328	-	192,220	299,548
Debora J. Wilson	2018	95,000	2,397	-	140,163	237,560
	2017	95,000	2,328	-	192,220	289,548
David A. Woodle	2018	95,000	2,397	-	140,163	237,560
	2017	95,000	2,328	-	192,220	289,548

(1) From March 2016, non-executive directors received an annual cash retainer of $80,000 (paid in quarterly instalments) and an additional cash retainer for service on the standing Board committees as follows: Audit — $25,000 for the chairperson and $15,000 for all other members; Compensation — $15,000 for the chairperson and $7,500 for all other members; and Nominating and Corporate Governance — $10,000 for the chairperson and $5,000 for all other members. The Lead Director received an additional retainer of $20,000.

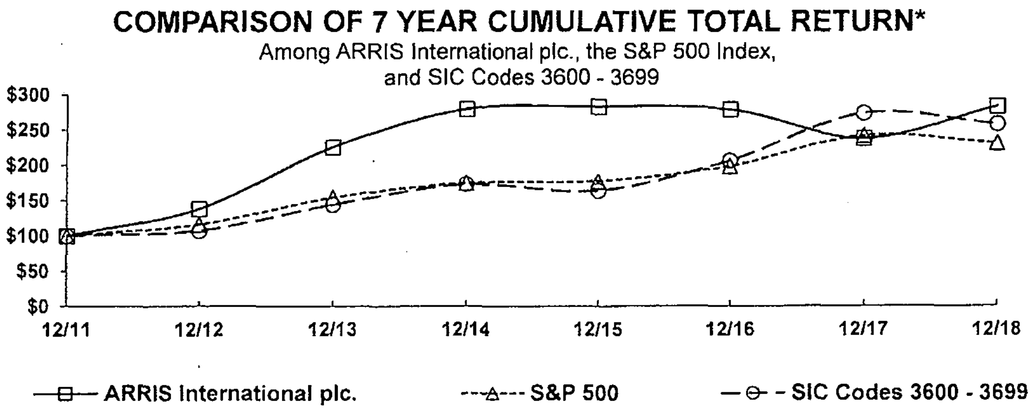
(2) Taxable benefits include tax preparation services with respect to any U.K. income taxes that may be owed by U.S.-based directors.

(3) Mr Best served on the Board until 3 May 2018.

(4) Restricted stock unit that vests in full on the first anniversary of the grant date.

Performance TSR graph and table (not subject to audit)

Below is a graph comparing total shareholder return on the Company's stock from 31 December 2011 through 31 December 2018, with the Standard & Poor's 500 and the Index of NASDAQ U.S. Stocks of entities in the industry of electronics and electrical equipment and components, exclusive of computer equipment (SIC 3600-3699), prepared by the Research Data Group, Inc. These indices have been selected to highlight performance of the stock price against the market as a whole and within its sector. For periods prior to 5 January 2016, the results for ARRIS reflect the total return on the common stock of ARRIS Group, Inc. as the predecessor entity to ARRIS International plc.



*$100 invested on 12/31/11 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

Seven year CEO total emoluments (not subject to audit)

Financial Year	CEO	Single Total Figure of Remuneration	Annual Variable Element (% of maximum bonus)	Performance-based RSU/share options vesting outcome (% of maximum)
2018	Bruce McClelland	$3,106,348	11.74%	0.00%
2017	Bruce McClelland	$3,123,281	34.72%	0.00%
2016(1)	Bruce McClelland	$2,025,620	64.95%	49.90%
2016(2)	Robert J. Stanzione	$4,222,074	87.13%	49.90%
2015	Robert J. Stanzione	$23,381,453	10.86%	100.00%
2014	Robert J. Stanzione	$10,545,444	129.03%	100.00%
2013	Robert J. Stanzione	$4,031,134	55.90%	100.00%
2012	Robert J. Stanzione	$5,711,923	46.60%	25.00%

(1) Pro-rata from date of appointment 1 September 2016.

(2) Single Total Figure of Remuneration is pro-rata to date of cessation of role. Restricted stock units subject to performance vesting have been excluded completely as these vested after cessation of role.

Stock Awards during 2018

The tables below show details of the equity awards made to each director during the year.

	Date of Grant	Share price on date of grant	Number of Shares Subject to Award	Face Value of Award[(1)]
Executive Directors:				
Robert J. Stanzione	30/03/2018	$26.57	15,525[(2)]	$412,499.25
	30/03/2018	$26.57	15,525[(3)]	$412,499.25
Bruce McClelland	30/03/2018	$26.57	71,510[(2)]	$1,900,020.70
	30/03/2018	$26.57	71,510[(3)]	$1,900,020.70
Non-executive Directors:				
Andrew Barron	01/07/2018	$24.45	6,500[(4)]	$158,925.00
J. Timothy Bryan	01/07/2018	$24.45	6,500[(4)]	$158,925.00
James A. Chiddix	01/07/2018	$24.45	6,500[(4)]	$158,925.00
Andrew T. Heller	01/07/2018	$24.45	6,500[(4)]	$158,925.00
Dr. Jeong Kim	01/07/2018	$24.45	6,500[(4)]	$158,925.00
Barton Shigemura	01/07/2018	$24.45	6,500[(4)]	$158,925.00
Doreen A. Toben	01/07/2018	$24.45	6,500[(4)]	$158,925.00
Debora J. Wilson	01/07/2018	$24.45	6,500[(4)]	$158,925.00
David A. Woodle	01/07/2018	$24.45	6,500[(4)]	$158,925.00

(1) The face value represents the number of shares covered by the award times the closing price of the Company's ordinary shares on NASDAQ on the trading date immediately preceding the grant date.

(2) Restricted stock unit that vests in four equal instalments beginning on the first anniversary of the grant date.

(3) Restricted stock unit subject to performance vesting over the three-year period from 1 January 2018 through 31 December 2020 and vests on 30 January 2021. Amount represents vesting at target level (100%). Between 0 and 200% of the grant amount will vest based on the Company's shareholder return as compared to the NASDAQ Composite shareholder return over the three-year measurement period. 7,762 Restricted stock units awarded to Mr. Stanzione would vest at minimum threshold level (50%). 35,755 restricted stock units awarded to Mr. McClelland would vest at minimum threshold level (50%).

(4) Restricted stock unit that vests in full on the first anniversary of the grant date.

The performance awards are also subject to Clawback as set out in the section "Clawback Policy" within our Remuneration Policy, which can be can be found on our website as part of the 2016 and 2017 Annual Reports.

The awards were granted on the basis set out in the section "Equity Incentive Awards" within Remuneration Policy, which can be can be found on our website as part of the 2016 and 2017 Annual Reports.

Payments to Past Directors

No payments were made to any past executive or non-executive director in 2018.

Payments for Loss of Office

No payments for loss of office were made to any executive or non-executive director in 2018.

Statement of directors' shareholdings and share interests

The Company's Share Ownership Guidelines require each director to own shares having a value equal to a multiple of (i) the annual base salary for the executive directors or (ii) the annual retainer amount for non-executive directors. The multiple is six times base salary for Messrs. Stanzione and McClelland and is three times the annual cash retainer amount for the non-executive directors. Each director has five years to meet the guideline, and for executive directors must retain one-half of any equity awards, after tax, that vest if the executive has not met the holding requirement at the time of vesting. The five year period to meet the guideline also applies to changes in the required number of shares due to changes in the required multiple, share price or applicable base salary. The Compensation Committee reviews compliance with the guideline annually. As of 31 December 2018 directors met the guideline or were on track to reach compliance within the five year period.

Directors' share ownership guidelines

	Share Holding Requirement	**Shares Owned[1]**	**Unvested Restricted Stock Units[2]**	**Total Interests in Shares**	**Value[3]**	**% of Share Holding Requirement Met**
Executive Directors:						
Robert J. Stanzione[4]	6x annual base salary ($2,400,000)	862,144	312,098	1,174,242	$35,896,577.94	1495.69%
Bruce McClelland[5]	6x annual base salary ($5,550,000)	270,120	301,362	571,482	$17,470,204.74	314.78%
Non-executive Directors:						
Andrew Barron	3x annual retainer amount ($240,000)	5,700	6,500	12,200	$372,954.00	155.40%
J. Timothy Bryan	3x annual retainer amount ($240,000)	18,200	6,500	24,700	$755,079.00	314.62%
James A. Chiddix	3x annual retainer amount ($240,000)	55,500	6,500	62,000	$1,895,340.00	789.73%
Andrew T. Heller	3x annual retainer amount ($240,000)	35,100	6,500	41,600	$1,271,712.00	529.88%
Dr. Jeong Kim	3x annual retainer amount ($240,000)	36,885	6,500	43,385	$1,326,279.45	552.62%
Barton Shigemura[6]	3x annual retainer amount ($240,000)	-	6,500	6,500	$198,705.00	82.79%
Doreen A. Toben	3x annual retainer amount ($240,000)	23,140	6,500	29,640	$906,094.80	377.54%
Debora J. Wilson	3x annual retainer amount ($240,000)	64,300	6,500	70,800	$2,164,356.00	901.82%
David A. Woodle	3x annual retainer amount ($240,000)	81,451	6,500	87,951	$2,688,662.07	1120.28%

(1) Shares owned outright and by connected persons as at 31 December 2018.

(2) For unvested restricted stock units, assumes the awards vest at target level (100%).

(3) Value is determined by multiplying the total interest in shares by the closing price of the Company's ordinary shares on NASDAQ on 31 December 2018 of $30.57, the last trading day of 2018.

(4) 114,358 of the total restricted stock units awarded to Mr. Stanzione are subject to time-based vesting, the remaining

197,740 restricted stock units are subject to performance measures.

(5) 108,677 of the total restricted stock units awarded to Mr. McClelland are subject to time-based vesting, the remaining 192,685 restricted stock units are subject to performance measures.

(6) Mr Shigemura joined the Board during the year, the 100% guideline is to be met within 5 years from joining the Company.

Percentage change in the remuneration of the Chief Executive compared with the remuneration of employees (not subject to audit)

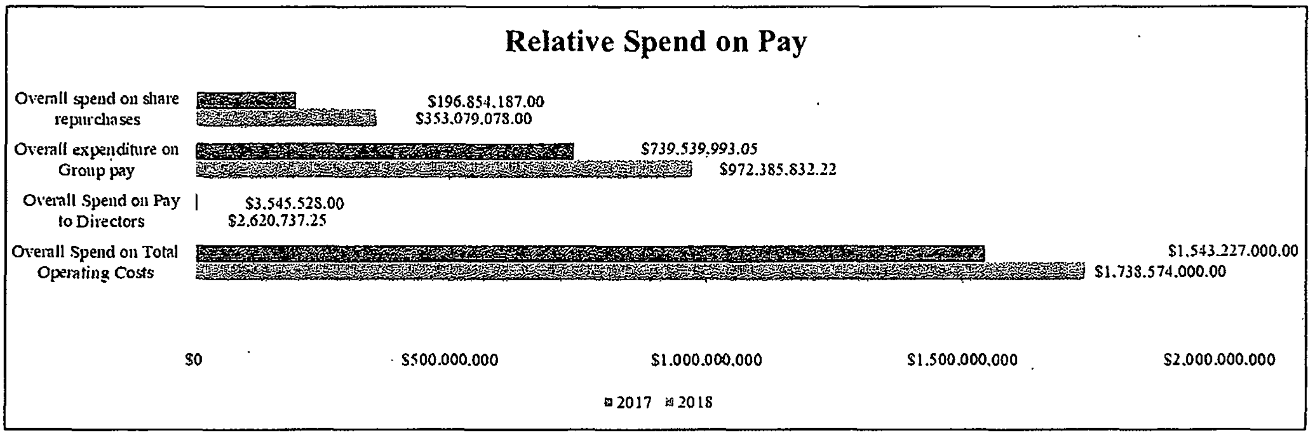
The table below shows the percentage change in compensation for the executive director undertaking the role of CEO between 2017 and 2018 in comparison to the percentage change in compensation for Group employees.

	Salary % change	Bonus % change[1]	Benefits % change
CEO	9.85	(62.86)	(13.24)
Group	11.50	(6.16)	7.28

(1) Represents bonus paid for performance in year presented.

Relative importance of spend on pay (not subject to audit)

The following table shows the relative importance of spend on pay by reference to distribution by way of share purchase programme and expenditure on total operating expenses, which includes research and development costs. The values have been extracted from the information in the financial statements for each year.



Illustrations of implementation of Remuneration Policy in 2019 (information hereafter not subject to audit unless stated otherwise)

In view of the proposed Acquisition there were no proposed changes to how the policy will be implemented in 2019. The Compensation Committee operated the executive remuneration in line with the approved policy until the Effective Date of the Scheme of Arrangement. After the Acquisition, executive remuneration will be determined by CommScope Compensation Committee.

Treatment of ARRIS's Equity-Based Awards in the Acquisition

Pursuant to the Acquisition Agreement, at the effective time of the Scheme (the "Effective Time"), the ARRIS RSUs will either be (i) accelerated and converted into the right to receive cash or (ii) be converted and assumed or replaced by CommScope as described below:

Accelerated RSUs

The following ARRIS RSUs outstanding immediately prior to the Effective Time will be considered "Accelerated RSUs":

- ARRIS RSUs granted to non-employee directors of ARRIS ("Non-Employee Director RSUs");

- ARRIS RSUs previously subject to performance-based vesting requirements (the "Performance Based RSUs");
- ARRIS RSUs granted to former C-COR employees in connection with ARRIS's acquisition of C-COR and that are fully vested ("C-COR RSUs"); and
- One-half (or such higher percentage as determined by CommScope) of the other ARRIS RSUs that are not Non-Employee Director RSUs, Performance-Based RSUs, or C-COR RSUs (the "Accelerated Service-Based RSUs").

The Accelerated RSUs shall, at the Effective Time, automatically be cancelled and converted into the right to receive cash equal to the product of $31.75 multiplied by the number of ordinary shares subject to such Accelerated RSUs, less applicable taxes required to be withheld. For purposes of the foregoing, each Performance-Based RSU that is outstanding immediately prior to the Effective Time will be deemed to have satisfied its performance-based vesting conditions, (i) at the target level with respect to Performance-Based RSUs issued prior to 2018, and (ii) at a level that results in performance vesting at 150% of the target level with respect to Performance-Based RSUs issued in 2018. Any Performance-Based RSUs that would not vest based on those performance-based vesting requirements shall be cancelled as of the Effective Time without payment and shall have no further force or effect.

On 18 December 2018, ARRIS and CommScope agreed to accelerate a portion of the ARRIS RSUs held by three ARRIS executive officers, including Mr. McClelland, so that such ARRIS RSUs were settled in 2018 and also to pay those officers their projected 2018 bonuses in 2018 (rather than in early 2019), in order to (i) reduce the reduction in their awards that would be necessary to avoid the imposition of any excise tax under Section 280G of the Internal Revenue Code (the "Code") and (ii) preserve certain tax deductions for ARRIS. These accelerated ARRIS RSUs include only ARRIS RSUs that would otherwise be considered Accelerated RSUs under the Acquisition Agreement, if not for the early settlement. The number of ARRIS RSUs accelerated for these purposes and the amounts of the bonuses pre-paid for Mr. McClelland was 44,029 ARRIS RSUs and $212,750 in bonus, as reflected in the single figure remuneration table above.

Assumed RSUs

The ARRIS RSUs outstanding immediately prior to the Effective Time that are not Accelerated RSUs, the Assumed RSUs, will remain outstanding and shall, automatically at the Effective Time, be converted and assumed or replaced by CommScope in accordance with the terms and conditions of the applicable stock plan or award agreement evidencing such ARRIS RSUs, which will include any service-based vesting conditions and other relevant payment terms and conditions, but each Assumed RSU will be denominated and settled in shares of CommScope common stock, and the number of shares of CommScope common stock subject to an Assumed RSU will equal the product of (i) the number of ordinary shares subject to the Assumed RSU immediately prior to the Effective Time, multiplied by (ii) the quotient obtained by dividing (x) $31.75 by (y) the volume weighted average price per share of CommScope common stock over the twenty trading days on the NASDAQ exchange immediately preceding the Effective Time.

Notwithstanding the foregoing description, all ARRIS RSUs outstanding immediately prior to the Effective Time and granted to Mr. Stanzione that are not Non-Employee Director RSUs, Performance-Based RSUs or C-COR RSUs (the "Executive Service Based RSUs") will, at the Effective Time, be treated as Assumed RSUs, though CommScope may, in its sole discretion, elect to treat all Executive Service Based RSUs as Accelerated RSUs.

As noted above, CommScope may, in its sole discretion, elect to treat more than one-half of the Service-Based RSUs, in which case they would be fully vested and payable and settled in cash as described above under the heading "Accelerated RSUs."

Role of the Compensation Committee

The Compensation Committee concluded that it would be inequitable to convert Performance-Based RSUs into performance-based restricted stock units of CommScope because of the significant differences between ARRIS and CommScope and how the performance criteria might, or might not, be satisfied, following the Effective Time. The Compensation Committee also considered a range of percentages of target vesting for the Performance-Based RSUs. Ultimately, the Compensation Committee approved (which approval was subsequently confirmed by the Board with respect to Messrs. Stanzione and McClelland) the percentages of target vesting described above and approved the conversion of all Performance-Based RSUs into service-based restricted stock units of CommScope.

In order to assure that the decisions by the Compensation Committee did not impact the Per Share Consideration, the Compensation Committee did not make any decisions with respect to ARRIS RSUs until after the Per Share Consideration had been fully negotiated between ARRIS and CommScope.

Following the Compensation Committee's approvals as described above, CommScope requested that a greater portion of the ARRIS RSUs be paid at the Effective Time. This resulted in the decision to accelerate all of the Performance-Based RSUs and other Accelerated RSUs described above and one-half of the Service-Based RSUs as set forth in the Acquisition Agreement. In addition, the Compensation Committee (and the full Board, as applicable) approved the additional accelerations of ARRIS RSUs and bonus payments of certain executive officers described above.

Statement of voting at the 2018 Annual General Meeting

The voting on the directors' remuneration report at the 2018 annual general meeting were as follows:

	For	Against	Withheld
Directors' Remuneration Report	152,127,611 (96.09)%	6,071,343 (3.83)%	121,988 (0.08)%

The Compensation Committee

The key responsibilities of the Compensation Committee are to:

- Determine the Remuneration Policy for executive directors and such other members of the senior management as it is designated to consider;
- Design specific remuneration packages which include salaries, bonuses, equity incentives, pension rights and benefits;
- Review the executive directors' service contracts;
- Ensure that failure is not rewarded and that steps are always taken to mitigate loss on termination, within contractual obligations;
- Review remuneration trends across the Group; and
- Approve the terms of and recommend grants under the Group's incentive plans.

As at 18 March 2019, the Committee comprised Debora J. Wilson, Chairperson, Andrew Barron, Andrew T. Heller, Dr. Jeong Kim and Alex B. Best. No other director sat on the Committee during the year ending 31 December 2018.

During the year the Committee met eight times. Attendance by individual members of the Committee is disclosed in the Corporate Governance section of the Directors' Report on page 60.

The Committee reviews its own performance annually and considers where improvements can be made as appropriate.

External Advisors

The Compensation Committee did not engage an independent compensation consultant in 2018 to assist the Committee generally with respect to the annual compensation of the executive and non-executive directors. Annually, the Compensation Committee reviews the independence of each of its advisors and confirms that any executive compensation consultant used by the Committee is independent.

Herbert Smith Freehills LLP and Troutman Sanders LLP provide the Company with legal advice. Advice from Herbert Smith Freehills and Troutman Sanders is made available to the Compensation Committee, where it relates to matters within its remit.

The Remuneration Report was approved by a duly authorised Committee of the Board of Directors on 18 March 2019 and signed on its behalf by:

Debora J. Wilson
Chair of the Compensation Committee

18 March 2019

Statement of Directors' Responsibilities in respect of the Annual Report and the Financial Statements

The directors are responsible for preparing the Strategic Report, Directors' Report and the financial statements in accordance with applicable U.K. law and regulations.

Company law requires the directors to prepare financial statements for each financial year. Under that law the directors have elected to prepare the group financial statements in accordance with U.S. GAAP in line with The Accounting Standards (Prescribed Bodies) (United States of America and Japan) Regulations 2015 (as permitted by the Companies Act 2006) and applicable law and have elected to prepare the parent company financial statements in accordance with U.K. Accounting Standards and applicable law (U.K. Generally Accepted Accounting Practice).

Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Company and of the profit or loss of the Company for that period. In preparing each of the group and parent financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable U.S. GAAP has been followed in the group financial statements, subject to any material departures disclosed and explained in the financial statements; and
- state whether applicable U.K. Accounting Standards have been followed in the parent company financial statement, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the group and the parent company will continue in business.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the group and parent company's transactions and disclose with reasonable accuracy at any time the financial position of the group and parent company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the Company's website. Legislation in the U.K. governing the preparation and dissemination of financial statements may differ from legislation in other jurisdiction.

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ARRIS INTERNATIONAL PLC

Opinion

In our opinion:

- ARRIS International plc's Group financial statements and Parent Company financial statements (the "financial statements") give a true and fair view of the state of the Group's and of the Parent Company's affairs as at 31 December 2018 and of the Group's profit for the year then ended;
- the Group financial statements have been properly prepared in accordance with US Generally Accepted Accounting Principles;
- the Parent Company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Principles, including FRS 102 "The Financial Reporting Standard in the UK and Republic of Ireland"; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of ARRIS International plc which comprise:

Group	Parent Company
Consolidated balance sheet as at 31 December 2018	Balance sheet as at 31 December 2018
Consolidated income statement for the year then ended	Statement of changes in shareholders' equity for the year then ended
Consolidated statement of comprehensive income for the year then ended	Related notes 1 to 15 to the financial statements including a summary of significant accounting policies
Consolidated statement of changes in shareholders' equity for the year then ended	
Consolidated statement of cash flows for the year then ended	
Related notes 1 to 30 to the financial statements, including a summary of significant accounting policies	

The financial reporting framework that has been applied in the preparation of the Group financial statements is applicable law US Generally Accepted Accounting Principles. The financial reporting framework that has been applied in the preparation of the Parent Company financial statements is applicable law and United Kingdom Accounting Standards, including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" (United Kingdom Generally Accepted Accounting Practice).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report below.

We are independent of the Group and Parent Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the Financial Reporting Council's Ethical Standard as applied to listed entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the directors' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or

- the directors have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the Group's or the Parent Company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

Overview of our audit approach

Key audit matters	• Revenue recognition and sales commitments • Goodwill impairment evaluation • Acquisition accounting of Ruckus Wireless and ICX Switch business ("Enterprise Networks") • Income taxes: uncertain tax positions
Audit scope	• We performed an audit of the complete financial information of 3 components and audit procedures on specific balances for a further component. • The components where we performed full or specific audit procedures accounted for 94% (2017: 96%) of Revenue and 95% (2017: 95%) of Total Assets.
Materiality	• Overall Group materiality of $20.0m (2017: $16.0m) which represents 3% (2017: 2.3%) of adjusted EBITDA.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified. These matters included those which had the greatest effect on: the overall audit strategy, the allocation of resources in the audit; and directing the efforts of the engagement team. These matters were addressed in the context of our audit of the financial statements as a whole, and in our opinion thereon, and we do not provide a separate opinion on these matters.

Risk	**Our response to the risk**	**Key observations communicated to the Audit Committee**
Revenue Recognition The Group has reported revenues of $6.74 billion (2017: $6.61 billion) and year end deferred revenue balance of $170.0 million (2017: $169.0 million) Revenue is the most significant income statement account for the Group. The Group's revenue is systematically recorded through the Group's routine processes. Where necessary, manual adjustments are subsequently posted to	To obtain sufficient audit evidence to conclude on the appropriate recognition of revenue, we: • Performed walkthroughs of each significant class of revenue transactions and assessed the design of key controls. . We then tested the operating effectiveness of key controls in order to place reliance on them. • We tested material manual journal entries impacting revenue on a	We did not identify any evidence of material misstatement in the revenue recognised in the year and deferred at 31 December 2018.

record revenue in line with contractual terms and revenue recognition criteria under US GAAP. These manual entries require additional judgment and are susceptible to manipulation, and as a result, there is a greater risk of misstatement. As such we have identified improper recognition as a fraud risk. This has remained consistent with the previous period. Refer to Note 2(g) *Accounting policies – Revenue* (page 99); and Note 11 *Segment Information* (page 119) of the Consolidated Financial Statements	quarterly basis using a computer assisted audit tool. We corroborated these journals to source documentation and recalculated management's calculation of the revenue to be recognised and agreed this to the journal. We ensured that these journals have been recorded in accordance with US GAAP. • Agreed the contractual terms of a sample of transactions executed during the year to the underlying contracts. We agreed this sample to our manual journal testing to ensure completeness of journals posted. • Tested a sample of revenue transactions to evaluate whether management have concluded on the appropriate application of revenue recognition guidance, including tests of deferred revenue to ensure that the deferral has been calculated and accounted for correctly. • Inquired of key sales personnel regarding retroactive pricing adjustments (such as volume discounts) and obtained various representations from members of management regarding their awareness of pricing negotiations that could affect current year revenue and ensured they were reflected in revenue as appropriate. We tested all price changes for any products which have had a material amount of revenue recognised in the year and ensured that this price change is in line with the contractual terms and accounted for in line with accounting standards. • Performed revenue testing using data analytic tools to analyse the relationship and correlation between revenue, cash, receivables, and contract assets or liabilities within the Company's GL data set. • Performed various disaggregated revenue analytical procedures to identify any trends which are inconsistent with historical trends. We performed full and specific scope audit procedures over this risk area at 3 components, which covered 94% of the	

	risk amount. For the remaining 6%, we performed analytical review procedures.	
Goodwill impairment evaluation The Group has $2.24 billion of goodwill (2017: $2.28 billion). Of the total $1.38 billion relates to the CPE cash generating unit ('CGU'), $494 million relates to Network Infrastructure, $288 million relates to Enterprise Networks, $50 million relates to Cloud Services, and $26 million relates to the CloudTV reporting unit. As of 1 January 2018 the CloudTV reporting unit was impaired by $3.4 million as a result of the transition to ASC 606 Revenue from Contracts with Customers. As of 1 October 2018, the fair value of the Group's CPE and CloudTV reporting units exceeded its carrying amount by 4% and 3% (2017: 34% and 0%) respectively. Over the last twelve months, near-term trends impacting revenue and gross margin, including higher product costs associated with memory components, have decreased the amount by which the fair value exceeds the carrying value, such that the CPE reporting unit could be at risk impairment if future projections are not realised. We have , therefore, identified goodwill impairment, specifically related to the CPE and Cloud TV reporting units, as a key audit matter due to the size of the balance and because the assessment of 'value in use' of the reporting units involves significant judgment and estimation, specifically in respect of prospective financial information. Our risk is therefore that the CPE and CloudTV reporting units are particularly sensitive to changes in the underlying assumptions and forecasts used which could give rise to an impairment.	To obtain sufficient audit evidence to conclude on the annual goodwill impairment test, we: • Performed a walkthrough of the impairment process and assessed the design of key controls. We then tested the operating effectiveness of key controls in order to place reliance on them. Our procedures included testing controls over the Group's budgetary processes including management's review of the reasonableness of the projections used in the analysis. • Evaluated the appropriateness of the Group's fair value estimates together with EY valuation specialists. We reviewed key assumptions used in the prospective financial information within the valuation including the revenue and revenue growth, gross margin, terminal value growth rate, and the discount rate. We also evaluated the work of the Group's specialists used in performing the valuation considering their independence and objectivity in respect to the work that has been performed. • Challenged the reasonableness of the Group's projected financial information by considering evidence available to support these assumptions and their consistency with findings from other areas of the audit. Our procedures included: (i) discussions with reporting unit management, (ii) comparing to budgeted information presented to the Board of Directors and forecasts used in recent financing transactions, (iii) look back analyses of prior year budgets, and (iv) comparison of metrics to industry information.	We agree with management's conclusion that no impairment of goodwill is required in the current year in respect of the CPE and Cloud TV reporting units.

Refer to Note 2(k) *Accounting policies – Goodwill, and other intangible assets* (page 101); and Note 6 *Goodwill and Other Intangible Assets* (page 111) of the Consolidated Financial Statements	• We calculated the degree to which inputs and assumptions would need to fluctuate before an impairment and considered the likelihood of this occurring. • Tested the carrying amount for each of the CPE and CloudTV reporting units, including assessing the allocation methodology to assign group assets and liabilities to each of these reporting units and comparing the current year methodology to that used in prior impairment tests. • Considered the appropriateness of the disclosures provided in note 6 in the Group financial statements. Goodwill was subject to full scope procedures by the integrated primary audit team.	
Acquisition accounting of Ruckus Wireless and ICX Switch business ("Enterprise Networks")Acquisition accounting of Ruckus Wireless and ICX Switch business ("Enterprise Networks") On 1 December 2017, the Company completed its acquisition of the Ruckus Wireless and ICX Switch businesses (Enterprise Networks) from Broadcom for approximately $762 million. The acquisition resulted in the Company recording approximately $289 million of goodwill and $501 million of intangible assets. The acquisition accounting is finalised as of 31 December 2018. We have identified this business combination as a key audit matter due to the significance of the acquired business and also the judgement required in the acquisition accounting and the reliance on prospective financial information ('PFI'). This is a new key audit matter due to the fact that in the prior year the acquisition had only closed on 1 December 2017 and only preliminary acquisition accounting had been performed as at 31 Dcember 2017 based upon the information available at that date.	To obtain sufficient evidence to conclude on the acquisition accounting of Enterprise Networks we have: • Performed a walkthrough of the acquisition accounting process and assessed the design of key controls. We then tested the operating effectiveness of key controls in order to place reliance on them. • Tested the valuation of the opening balance sheet of the acquired entity in accordance with ASC 805. • Evaluated the acquired reserves (e.g., inventory reserves and allowance for doubtful accounts) as of the opening balance sheet and performed procedures to assess the reasonableness of the acquired provisions. We performed retrospective review procedures to identify any significant changes in assumptions from the initial acquisition accounting. • Evaluated management's fair value model for Enterprise Networks, together with EY valuation experts. • Tested key assumptions such as annual revenue growth rates, gross	We conclude that the acquisition accounting of Enterprise Networks has been appropriately recorded and disclosed within the financial statements.

Refer to Note 5 *Business Acquisitions* (page 109) of the Consolidated Financial Statements	margin, and WACC ("Weighted Average Cost of Capital"). • Understood management's approach to PFI and evaluated its robustness, and consideration of management's assessment of the internal rate of return (used to establish to veracity of the PFI prepared). • Performed sensitivity analysis on key assumptions (i.e. revenue growth) to assess the model for sensitivity. • Evaluated the completeness of management's disclosures within the Consolidated Financial Statements. Acquisition accounting was subject to full scope procedures by the integrated primary audit team.	
Income taxes: Uncertain tax positions The complexity of the Group's structure extending across multiple countries and tax jurisdictions, requires the Group to make judgments and estimates in relation to tax issues and exposures arising from certain tax positions taken. As a result, the Group has uncertain tax liabilities 'UTPs' of $119.0 million (2017: $149.0 million). This liability for uncertain tax positions requires judgment in identification, recognition and estimation of tax positions taken. As such, there is a risk that the liability could be understated, and therefore this is deemed to be a key audit matter. Refer to Note 2(o) *Accounting policies – Income Taxes* (page 102); and Note 19 *Income Taxes* (page 127) of the Consolidated Financial Statements	To obtain sufficient audit evidence to conclude on level of uncertain tax positions, we: • Performed a walkthrough of the process relating to UTPs and assessed design of key controls We then tested the operating effectiveness of key controls in order to place reliance on them. • Tested and evaluated significant uncertain tax positions and assumptions based on our understanding of open positions and filed tax returns. • Inspected reports of income tax examinations, including significant local and foreign examinations completed during the year and the status of current examinations in process. • Inspected third-party memoranda in connection with significant tax positions which gives rise to UTPs in order to corroborate the position recorded. We involve EY tax specialists to assist with this assessment. • Reviewed significant transactions entered into in the year to identify any new uncertain tax positions to verify the completeness, the potential impact	We are satisfied that the Group has appropriately recorded the liability for uncertain tax positions.

	on historic tax treatment, and accuracy of the amounts recorded. Taxation was subject to full scope procedures by the integrated primary audit team.	

In the prior year, our auditor's report included a key audit matter in relation to US Tax Reform. In the current year, this is no longer considered a key audit matter as the Company has fully evaluated the impact of US Tax reform which did not give risk to any significant adjustments from the initial assessment.

An overview of the scope of our audit

Tailoring the scope

Our assessment of audit risk, our evaluation of materiality and our allocation of performance materiality determine our audit scope for each entity within the Group. Taken together, this enables us to form an opinion on the consolidated financial statements. We take into account size, risk profile, other factors such as recent Internal audit results when assessing the level of work to be performed at each entity.

In assessing the risk of material misstatement to the Group financial statements, and to ensure we had adequate quantitative coverage of significant accounts in the financial statements, of the 201 reporting components of the Group, we selected 4 components covering entities within the United States of America and United Kingdom, which represent the principal business units within the Group. We have defined a component based on legal entities or group of legal entities.

Of the 4 components selected, we performed an audit of the complete financial information of 3 components ("full scope components") which were selected based on their size or risk characteristics. For the remaining 1 component ("specific scope components"), we performed audit procedures on specific accounts within that component that we considered had the potential for the greatest impact on the significant accounts in the financial statements either because of the size of these accounts or their risk profile. The audit scope of this specific scope component may not have included testing of all significant accounts of the component but will have contributed to the coverage of significant accounts tested for the Group.

Our scoping and allocation of performance materiality is based on revenue, as this provides the most appropriate measure of the relative size of each component, due to the global structure, the way in which the Group operates and how costs are allocated to individual components. Full scope and specific scope audit procedures were performed on 94% of Revenue (2017: 96%) and 95% of Total Assets (2017: 95%). Full scope components contributed 85% (2017: 93%) of the Group's Revenue and 90% (2017: 89%) of the Group's Total Assets. The specific scope component contributed 9% (2017: 3%) of the Group's Revenue and 5% (2017: 6%) of the Group's Total Assets.

Of the remaining 151 legal entities that together represent 6% of the Group's Revenue, none are individually greater than 3% of the Group's Revenue. At the Shared Service Centre in Asia Pacific, we performed specified audit procedures, including payroll, fixed assets, accounts payable, and cash disbursement testing to respond to any potential risks of material misstatement to the Group financial statements. In addition, for these remaining 151 legal entities, we performed other procedures, including analytical reviews, inquiries of operating and financial personnel, control procedures to determine whether management has implemented group policies, procedures and appropriate controls over reporting financial information and operating results, and that the policies, procedures and controls are being followed by component management and other personnel.

Changes from the prior year

In the prior year we identified specific scope locations relating to Brazil, Taiwan and Shared Service Centre of Europe, Middle East and Africa ('EMEA'). In the current year based on their contribution to the overall group these entities are not significant for 2018. Brazil has been assigned a review scope. Taiwan, following the sale of the factory and the manufacturing facility, is subject to specified procedures but only in respect of the Shared Service Centre for Asia Pacific. The EMEA SSC is no longer deemed significant. Our overall coverage has not changed significantly at a revenue and total asset level as a result of our changes in scope.

Integrated primary team structure

The Group is required to prepare consolidated financial statements in both the UK and the US as they are a UK domiciled Company and are traded on the NASDAQ, respectively, with Group management predominately residing in the US.

As a result of these reporting requirements in both the UK and the US, we have determined that the most effective audit approach is to have an integrated UK and US primary audit team. The overall audit strategy is jointly determined and the team works together throughout the audit including the determination of risks, scoping and oversight of component teams. This includes members of the integrated team spending time in the UK and US throughout the audit cycle focusing on the significant risks and judgmental areas of the audit.

Involvement with component teams

In establishing our overall approach to the Group audit, we determined the type of work that needed to be undertaken at each of the components by us, as the primary audit engagement team, or by component auditors from other EY global network firms operating under our instruction. For the 3 full scope components and 1 specific scope component, audit procedures were performed directly by the integrated primary audit team.

Our application of materiality

We apply the concept of materiality in planning and performing the audit, in evaluating the effect of identified misstatements on the audit and in forming our audit opinion.

Materiality

The magnitude of an omission or misstatement that, individually or in the aggregate, could reasonably be expected to influence the economic decisions of the users of the financial statements. Materiality provides a basis for determining the nature and extent of our audit procedures.

We determined materiality for the Group to be $20.0 million (2017: $16.0 million), which is 3% (2017: 2.3% of adjusted EBITDA) of adjusted EBITDA. EBITDA has been adjusted for restructuring costs of $41.0 million, $13.3 million gain on sale of the Taiwan factory, and $9.7 million acquisition costs relating to the pending acquisition of the Group by CommScope Inc. 2017 EBITDA was adjusted for the non-recurring equity award payment of $61.0 million associated with the Enterprise business acquisition and goodwill and the other intangible impairment charge of $55.0 million related to the CloudTV reporting unit. We believe that adjusted EBITDA at 3% is a reasonable basis to form our materiality as management focuses on this to measure the performance of the Group and is the basis that is closely aligned to the measure used when presenting results to investors.

We determined materiality for the Parent Company to be $49.4 million (2017: $54.6 million), which is 1% (2017: 1%) of equity. The Parent Company materiality is higher than Group materiality given the different measurement basis. As we determined the users of the financial statements to be the Group shareholders, the basis is aligned to them.

During the course of our audit, we reassessed initial materiality. Our final materiality did not result in any substantive change in our audit procedures.

Performance materiality

The application of materiality at the individual account or balance level. It is set at an amount to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds materiality.

On the basis of our risk assessments, together with our assessment of the Group's overall control environment, our judgement was that performance materiality was 50% (2017: 50%) of our planning materiality, namely $10.0m (2017: $8.0m). Our performance materiality has remained at 50% to reflect the risks associated with the Group and the industry it operates within.

Audit work at component locations for the purpose of obtaining audit coverage over significant financial statement accounts is undertaken based on a percentage of total performance materiality. The performance materiality set for each component is based on the relative scale and risk of the component to the Group as a whole and our assessment of the risk of misstatement at that component. In the current year, the range of performance materiality allocated to components was $2.5m to $10.0m (2017: $1.6m to $8.0m).

Reporting threshold

An amount below which identified misstatements are considered as being clearly trivial.

We reported all uncorrected audit differences in excess of $1.0m (2017: $0.8m) to the Audit Committee, which is set at 5% of planning materiality, as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds.

We evaluate any uncorrected misstatements against both the quantitative measures of materiality discussed above and in light of other relevant qualitative considerations in forming our opinion.

Other information

The other information comprises the information included in the annual report other than the financial statements and our auditor's report thereon. The directors are responsible for the other information.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in this report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

We have nothing to report in this regard.

Opinions on other matters prescribed by the Companies Act 2006

In our opinion, the part of the directors' remuneration report to be audited has been properly prepared in accordance with the Companies Act 2006.

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Strategic report and the Directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and

- the Strategic report and Directors' report have been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

In the light of the knowledge and understanding of the group and the parent company and its environment obtained in the course of the audit, we have not identified material misstatements in the strategic report or the directors' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept by the parent company, or returns adequate for our audit have not been received from branches not visited by us; or
- • the parent company financial statements and the part of the directors' remuneration report to be audited are not in agreement with the accounting records and returns; or
- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit

Responsibilities of directors

As explained more fully in the directors' responsibilities statement set out on page 78, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the group and parent company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the group or the parent company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at https://www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Ernst & Young LLP.

Christabel Cowling (Senior statutory auditor)
for and on behalf of Ernst & Young LLP, Statutory Auditor
Leeds

19 March 2019

Consolidated Income Statement
For the year ended 31 December 2018

	Note	2018	2017	2016
		For the Years Ended 31 December,		
		(in thousands, except per share data)		
Net sales	4,11	$ 6,742,640	$ 6,614,392	$ 6,829,118
Cost of sales		4,823,781	4,948,153	5,121,501
Gross margin		1,918,859	1,666,239	1,707,617
Operating expenses:				
Selling, general, and administrative expenses		667,053	475,369	454,190
Research and development expenses		644,038	539,094	584,909
Amortisation of intangible assets	6,28	383,561	375,407	397,464
Impairment of goodwill and intangible assets	6,28	3,400	55,000	2,200
Integration, acquisition, restructuring and other costs		41,922	98,357	158,137
Total operating expenses		1,739,974	1,543,227	1,596,900
Operating income		178,885	123,012	110,717
Other expense (income):				
Interest expense		95,086	87,088	79,817
Loss on investments		308	11,066	21,194
Loss (Gain) on foreign currency		3,834	9,757	(13,982)
Interest income		(8,341)	(7,975)	(4,395)
Other expense, net		5,056	1,873	3,991
Income before income taxes		82,942	21,203	24,092
Income tax (benefit) expense	19	(24,344)	(44,921)	15,131
Consolidated net income		107,286	66,124	8,961
Net loss attributable to non-controlling interest		(6,454)	(25,903)	(9,139)
Net income attributable to ARRIS International plc.		$ 113,740	$ 92,027	$ 18,100
Net income per common share(1):				
Basic	17	$ 0.63	$ 0.49	$ 0.09
Diluted	17	$ 0.62	$ 0.49	$ 0.09
Weighted average common shares:				
Basic	17	180,147	187,133	190,701
Diluted	17	182,041	189,616	192,185

(1) Calculated based on net income attributable to shareowners of ARRIS International plc.

See accompanying notes to the consolidated financial statements.

Consolidated Statement of Comprehensive Income
For the year ended 31 December 2018

	For the Years Ended 31 December,		
	2018	2017	2016
		(in thousands)	
Consolidated net income	$ 107,286	$ 66,124	$ 8,961
Available-for-sale securities:			
Unrealised gain (loss) on available-for-sale securities, net of tax of $0, $(288) and $6 in 2018, 2017 and 2016 respectively	—	471	(11)
Reclassification adjustments recognised in net income, net of tax of $(2), $(33) and $(9) in 2018, 2017 and 2016, respectively	6	54	15
Net change in available-for-sale	6	525	4
Derivative instruments:			
Unrealised gain on derivative instruments, net of tax of $(30), $(1,797) and $(472) in 2018, 2017 and 2016, respectively	1,091	3,790	1,631
Reclassification adjustments recognised in net income, net of tax of $77, $(535) and $(1,691) in 2018, 2017 and 2016, respectively	(2,774)	1,128	5,821
Net change in derivative instruments	(1,683)	4,918	7,452
Pension liabilities:			
Unrealised gain (loss) on pension liability, net of tax of $(825), $1,391 and $1,425 in 2018, 2017 and 2016, respectively	2,338	(2,487)	(2,934)
Reclassification adjustments recognised in net income, net of tax of $(2,209), $(170) and $(155) in 2018, 2017 and 2016, respectively	6,263	304	319
Net change in pension liabilities	8,601	(2,183)	(2,615)
Cumulative translation adjustments	(24,110)	(2,050)	11,096
Other comprehensive (loss) income, net of tax	(17,186)	1,210	15,937
Comprehensive income	90,100	67,334	24,898
Comprehensive loss attributable to non-controlling interest	(6,411)	(25,954)	(9,126)
Comprehensive income attributable to ARRIS International plc	$ 96,511	$ 93,288	$ 34,024

See accompanying notes to the consolidated financial statements.

Consolidated Balance Sheet
At 31 December 2018

	Note	31 December, 2018	2017
		(in thousands except share and per share data)	
ASSETS			
Current assets:			
Cash and cash equivalents		$ 729,933	$ 487,573
Short-term investments, at fair value	7	5,538	23,874
Total cash, cash equivalents and short-term investments		735,471	511,447
Accounts receivable		1,225,975	1,218,089
Other receivables		222,368	157,845
Inventories	12	740,205	825,211
Prepaid income taxes		17,391	28,351
Prepaids		26,978	26,644
Other current assets			
Other current assets due within 1 year		144,251	145,953
Deferred income taxes due after more than 1 year	19	175,405	115,436
Total current assets		3,288,044	3,028,976
Non-current assets			
Property, plant and equipment	13,27	287,671	372,467
Intangible assets – Goodwill	6,28	2,240,642	2,278,512
Intangible assets – Other	6,28	1,403,659	1,771,362
Investments	7	45,295	71,082
Other non-current assets		62,558	101,858
Total non-current assets		4,039,825	4,595,281
Total assets		$ 7,327,869	$ 7,624,257
LIABILITIES AND STOCKHOLDERS' EQUITY			
Current liabilities:			
Accounts payable		$ 1,288,827	$ 1,206,656
Accrued compensation, benefits and related taxes		141,565	155,966
Accrued warranty		36,988	44,507
Deferred revenue		111,254	115,224
Current portion of long-term debt and financing lease obligation	16	83,862	83,559
Income taxes payable		2,964	6,244
Other accrued liabilities		302,307	321,113
Total current liabilities		1,967,767	1,933,269
Non-current liabilities:			
Long-term debt and financing lease obligation, net of current portion	16	2,032,382	2,116,244
Provision for liabilities:			
Accrued pension		25,303	42,637
Non-current deferred revenue		58,744	54,090
Non-current income taxes		119,047	144,665
Deferred income taxes	19	46,784	68,888
Other non-current liabilities		71,994	80,430
Total non-current liabilities and provisions for liabilities		2,354,254	2,506,954
Total liabilities		4,322,021	4,440,223

See accompanying notes to the consolidated financial statements.

	Note	31 December, 2018	2017
		(in thousands except share and per share data)	
Stockholders' equity:			
Ordinary shares, nominal value £0.01 per share, 174.0 million and 185.2 million shares issued and outstanding in 2018 and 2017, respectively		2,623	2,768
Capital in excess of par value		3,468,728	3,387,128
Retained deficit		(466,165)	(225,881)
Accumulated other comprehensive (loss) income	22	(13,345)	4,552
Total ARRIS International plc stockholders' equity		2,991,841	3,168,567
Stockholders' equity attributable to non-controlling interest		14,007	15,467
Total stockholders' equity		3,005,848	3,184,034
Total liabilities and stockholders' equity		$ 7,327,869	$ 7,624,257

These Financial Statements were approved by the Board of directors on 18 March 2018 and were signed on its behalf by:

Bruce McClelland
Director

See accompanying notes to the consolidated financial statements.

Consolidated Statements of Changes in Equity
For the year ended 31 December 2018 (in thousands)

	Common Stock	Ordinary Shares	Capital in Excess of Par Value[2]	Treasury Stock	Retained Earnings (Deficit)	Accumulated Other Comprehensive Income (Loss)[3]	Total ARRIS International plc stockholders' equity	Non-controlling interest	Total stockholders' equity
Balance at 1 January 2016	$ 1,790	$ —	$ 1,777,276	$ (331,329)	$ 358,823	$ (12,646)	$ 1,793,914	$ 47,047	$ 1,840,961
Net income (loss)	—	—	—	—	18,100	—	18,100	(9,139)	8,961
Other comprehensive income (loss), net of tax	—	—	—	—	—	15,937	15,937	13	15,950
Compensation under stock award plans	—	—	60,049	—	—	—	60,049	—	60,049
Effect of combination on ARRIS Group	(1,439)	2,173	(734)	—	—	—	—	—	—
Cancellation of treasury stock	(351)	—	—	331,329	(330,978)	—	—	—	—
Issuance of ordinary shares for Pace combination	—	703	1,433,987	—	—	—	1,434,690	—	1,434,690
Issuance of ordinary shares and other	—	32	(2,242)	—	—	—	(2,210)	—	(2,210)
Provision for warrants	—	—	30,159	—	—	—	30,159	—	30,159
Repurchase of ordinary shares, net	—	(77)	—	—	(177,958)	—	(178,035)	—	(178,035)
Income tax effect related to vesting of restricted share units	—	—	18,929	—	—	—	18,929	—	18,929
Other	—	—	(2,717)	—	—	—	(2,717)	—	(2,717)
Balance at 31 December 2016	—	2,831	3,314,707	—	(132,013)	3,291	3,188,816	37,921	3,226,737
Net income (loss)	—	—	—	—	92,027	—	92,027	(25,903)	66,124
Other comprehensive income (loss), net of tax	—	—	—	—	—	1,261	1,261	(51)	1,210
Compensation under stock award plans	—	—	81,557	—	—	—	81,557	—	81,557
Contribution from noncontrolling interest	—	—	—	—	—	—	—	3,500	3,500
Issuance of ordinary shares and other, net	—	33	(9,136)	—	—	—	(9,103)	—	(9,103)
Repurchase of ordinary shares, net	—	(96)	—	—	(196,869)	—	(196,965)	—	(196,965)
Cumulative effect adjustment to opening balance [1]	—	—	—	—	10,974	—	10,974	—	10,974
Balance at 31 December 2017	—	2,768	3,387,128	—	(225,881)	4,552	3,168,567	15,467	3,184,034
Net income (loss)	—	—	—	—	113,740	—	113,740	(6,454)	107,286
Other comprehensive income (loss), net of tax	—	—	—	—	—	(17,229)	(17,229)	43	(17,186)
Compensation under stock award plans	—	—	85,233	—	—	—	85,233	—	85,233
Contribution from noncontrolling interest	—	—	—	—	—	—	—	2,257	2,257
Issuance of ordinary shares and other, net	—	38	(3,633)	—	—	—	(3,595)	—	(3,595)
Repurchase of ordinary shares, net	—	(183)	—	—	(352,896)	—	(353,079)	—	(353,079)
Cumulative effect adjustment to opening balance [1]	—	—	—	—	(1,128)	(668)	(1,796)	2,694	898
Balance at 31 December 2018	—	2,623	3,468,728	—	(466,165)	(13,345)	2,991,841	14,007	3,005,848

(1) Cumulative adjustment related to the adoption of accounting standards, see Note 3 Impact of Recently Adopted Accounting Standards of Notes to the Consolidated Financial Statements for additional information.

See accompanying notes to the consolidated financial statements.

(2) Capital in Excess of Par Value is made up of the following items (in thousands).

	Share Premium	Shared based payments and warrants reserve	Total
Balance at 1 January 2016	$ 1,790,249	$ (12,973)	$ 1,777,276
Compensation under stock award plans	—	60,049	60,049
Effect of combination on ARRIS Group	(734)	—	(734)
Issuance of ordinary shares for Pace combination	1,433,987	—	1,433,987
Issuance of ordinary shares and other	15,610	(17,852)	(2,242)
Provision for warrants	—	30,159	30,159
Income tax effect related to vesting of restricted share units	—	18,929	18,929
Other	(2,717)	—	(2,717)
Balance at 31 December 2016	3,236,395	78,312	3,314,707
Compensation under stock award plans	—	81,557	81,557
Issuance of ordinary shares for restricted stock vesting	17,460	(35)	17,425
Shares withheld for taxes upon restricted stock vesting	—	(26,561)	(26,561)
Balance at 31 December 2017	3,253,855	133,273	3,387,128
Compensation under stock award plans	—	85,233	85,233
Issuance of ordinary shares for restricted stock vesting	20,174	(38)	20,136
Shares withheld for taxes upon restricted stock vesting	—	(23,769)	(23,769)
Balance at 31 December 2018	3,274,029	194,699	3,468,728

(3) Please refer to Note 22 for a breakdown of the constituents of Accumulated Other Comprehensive Income (Loss).

See accompanying notes to the consolidated financial statements.

Consolidated Statement of Cash Flows
For the year ended 31 December 2018

	Years Ended 31 December,		
	2018	Restated 2017	Restated 2016
	(in thousands)		
Operating activities:			
Consolidated net income	$ 107,286	$ 66,124	$ 8,961
Depreciation	83,686	88,195	90,577
Amortisation of intangible assets	391,074	382,416	404,475
Amortisation of deferred financing fees and debt discount	4,811	7,960	7,705
Deferred income tax	(68,812)	(74,465)	(148,418)
Foreign currency re-measurement of deferred tax liability	(477)	9,360	(16,356)
Stock compensation expense	85,233	81,557	60,049
Impairment of intangible assets	3,400	55,000	2,200
Provision for non-cash warrants	—	—	30,159
Provision for doubtful accounts	(462)	(566)	1,386
Loss on disposal of property, plant & equipment and other	(10,774)	7,063	8,706
Loss on investments and other	517	11,066	21,194
Excess income tax benefits from stock-based compensation plans	—	—	(20,085)
Changes in operating assets and liabilities, net of effect of acquisitions and dispositions:			
Accounts receivable	(22,138)	175,930	(258,677)
Other receivables	(64,523)	(84,652)	(31,517)
Inventories	81,815	(224,582)	282,644
Accounts payable and accrued liabilities	24,948	49,988	(178,086)
Prepaids and other, net	33,418	(16,583)	98,263
Net cash provided by operating activities	649,002	533,811	363,180
Investing activities:			
Purchases of investments	$ (64,454)	$ (68,493)	$ (141,543)
Sales of investments	79,473	165,301	25,931
Proceeds from dividends on equity investments	9,966	826	2,903
Purchases of property, plant and equipment	(63,616)	(78,072)	(66,760)
Proceeds from sale of property, plant and equipment	74,425	—	29
Purchases of intangible assets	(423)	(6,422)	(5,526)
Acquisition, net of cash acquired	(1,152)	(760,802)	(340,118)
Other, net	9,352	—	575
Net cash provided by (used in) investing activities	43,571	(747,662)	(524,509)
Financing activities:			
Proceeds from issuance of shares, net	$ 20,186	$ 17,469	$ 12,885
Repurchase of shares	(353,079)	(196,965)	(178,035)
Excess income tax benefits from stock-based compensation plans	—	—	20,085
Repurchase of shares to satisfy employee minimum tax withholdings	(23,781)	(26,573)	(17,925)
Proceeds from issuance of debt	—	175,847	800,000
Payment of debt obligations	(87,500)	(244,009)	(319,750)
Payment of financing lease obligation	(870)	(777)	(758)
Payment for accounts receivable financing facility	—	—	(23,546)
Payment for deferred financing fees and debt discount	—	(5,961)	(2,304)
Contribution from non-controlling interest	2,257	3,500	—
Net cash (used in) provided by financing activities	(442,787)	(277,469)	290,652
Effect of exchange rate changes on cash and cash equivalents	(7,520)	(1,256)	(12,097)
Net increase (decrease) in cash and cash equivalents	242,266	(492,576)	117,226
Cash and cash equivalents at beginning of year	489,116	981,692	864,466
Cash and cash equivalents at end of year	$ 731,382	$ 489,116	$ 981,692
Supplemental cash flow information:			
Interest paid during the year	$ 90,140	$ 80,791	$ 71,127
Income taxes paid during the year	$ 34,325	$ 34,053	$ 111,524
Non-cash investing and financing activities: debt assumed in acquisition	$ —	$ —	$ 263,795

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the Consolidated Balance Sheet to the total of the same such amounts show above (in thousands). Amounts included in restricted cash represent those required to be set aside by contractual agreements, such as rent deposits with landlords, deposits with certain government agencies and cash collateral with certain financial institutions.

	31 December 2018	Restated 31 December 2017	Restated 31 December 2016
Cash and cash equivalents	$729,933	$487,573	$980,123
Restricted cash included in other current assets	776	23	149
Restricted cash included in other assets	673	1,520	1,420
Total	$ 731,382	$ 489,116	$ 981,692

See accompanying notes to the consolidated financial statements.

Notes to the Consolidated Financial Statements

Note 1. Organisation and Basis of Presentation

Basis of presentation

ARRIS International plc is registered in Saltaire, U.K., publicly listed on the NASDAQ stock exchange and limited by shares. ARRIS International plc filed its Form 10-K for the fiscal year ended 31 December 2018 to the United States Securities and Exchange Commission ("SEC") on 1 March 2019.

The Group's Financial Statements have been prepared in accordance with U.S. GAAP as permitted by Part 15 of the 2006 U.K. Companies Act by section 464 of the 2006 Act to the extent that those principles do not contravene with any provisions of the U.K. Companies Act 2006. The financial statements are rounded to the nearest $ thousand.

Under U.S. GAAP Goodwill is not amortised, but held at cost less impairment, with any impairment charge included in Other expenses in the Income Statement. The U.K. Companies Act 2006 in accordance with the Large and Medium-sized Companies and Group (Accounts and Reports) Regulations 2008 requires that Goodwill is carried at cost and systematically amortised over a period no longer than its useful economic life. However, the Directors consider this would not give a true and fair view of our results for the year and that the economic measure of performance in any period is properly made by reference only to impairment that may have arisen. The carrying value of Goodwill at 31 December 2018 was $2,240.6 million (31 December 2017: $2,278.5 million). The Company is not able to reliably estimate the impact on the financial statements of the true and fair override on the basis that the useful life of goodwill cannot be predicted with a satisfactory level of reliability nor can the pattern in which goodwill diminishes be known.

Organisation and overview

ARRIS International plc (together with its consolidated subsidiaries and consolidated venture, except as the context otherwise indicates, "ARRIS" or the "Company") is a global entertainment, communications, and networking technology and solutions provider, headquartered in Suwanee, Georgia. The Company operates in three business segments, Customer Premises Equipment, Network & Cloud, and Enterprise Networks (See Note 11 *Segment Information* of Notes to the Consolidated Financial Statements for additional details), specialising in enabling service providers including cable, telephone, and digital broadcast satellite operators and media programmers to deliver media, voice, IP data services, and Wi-Fi to their subscribers and enabling enterprises to experience constant, wireless and wired connectivity across complex and varied networking environments. ARRIS is a leader in set-tops, digital video and Internet Protocol Television distribution systems, broadband access infrastructure platforms, associated data and voice Customer Premises Equipment, and wired and wireless enterprise networking. The Company's solutions are complemented by a broad array of services including technical support, repair and refurbishment, and systems design and integration.

Note 2. Summary of Significant Accounting Policies

(a) Consolidation

The accompanying consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries and consolidated venture in which the Company owns more than 50% of the outstanding voting shares of the entity. Intercompany accounts and transactions have been eliminated in consolidation. The consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP), and our reporting currency is the United States Dollar (USD).

(b) Use of Estimates

The preparation of the consolidated financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual results could differ from those estimates.

(c) Restatements

Certain prior year amounts in the financial statements and notes have been restated to conform to the fiscal year 2018 presentation.

Beginning in 2018, certain costs previously recorded or classified as part of "Corporate and Unallocated Costs", including bonus, equity compensation and certain other direct costs are now reported within each operating segment. Consequently, our segment information for the 2017 and 2016 periods has been restated to reflect such change in Note 11 *Segment information*. Direct contribution by segments decreased by $127.9m and $123.4m for the years ended 31 December 2017 and 2016 respectively. Consequently, corporate and unallocated costs decreased by $127.9m and $115.9m for the years ended 31 December 2017 and 2016 respectively. The remaining amount in 2016 was reallocated from integration, acquisition, restructuring and other costs that decreased by $7.5m.

Comparitives for 2017 and 2016 have been restated in the Consolidated Statement of Cash Flows within Net cash provided by (used in) investing activities. For 2017 and 2016 proceeds from dividends on equity investments has been allocated from other, net amount within the statement, $0.1m and $2.9m respectively, to better show the source of cash generation.

In November 2016, the FASB issued new guidance that requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The new guidance is effective for interim and annual periods beginning after 15 December 2017. ARRIS adopted this update retrospectively as of 1 January 2018. As a result of the adoption of this guidance comparitives for 2017 and 2016 have been restated in the Consolidated Statement of Cash Flows. Cash and cash equivalents at the end of year increased by $1.5m to $489.1m for the year ended 31 December 2017 and $1.6m to $981.7m for the year ended 31 December 2016. The restatements were made within net cash provided by operating activities, prepaids and other, net.

(d) Cash, Cash Equivalents, and Investments

Cash and cash equivalents

ARRIS's cash and excess cash are primarily held in demand deposit accounts and money market accounts.

The Company classifies all investments that are readily convertible to known amounts of cash and have stated maturities of three months or less from the date of purchase as cash equivalents and those with stated maturities of greater than three months as marketable securities.

Marketable securities

The Company determines the appropriate classification of our investments in marketable securities at the time of purchase and reevaluates such designation at each balance sheet date. The Company has classified and accounted for its marketable debt securities as available-for-sale. These securities are carried at fair value, and the unrealised gains and losses, net of taxes, are reported as a component of stockholders' equity, except for unrealised losses determined to be other-than-temporary, which are recorded within loss on investments in the Consolidated Income Statement. The Company determines any realised gains or losses on the sale of marketable debt securities on a specific identification method and records such gains and losses as a gain or loss on investment in the Consolidated Income Statement.

Non-marketable investments

The Company accounts for non-marketable equity investments through which the Company exercises significant influence but does not have control over the investee under the equity method. Beginning on 1 January 2018, non-marketable equity securities not accounted for under the equity method are either carried at fair value or under the measurement alternative upon the adoption of accounting standard *Recognition and Measurement of Financial Assets and Financial Liabilities*. Under the measurement alternative, the carrying value is measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. Adjustments are determined primarily based on a market approach as of the transaction date. The Company classifies its non-marketable investments as long-term investments on the Consolidated Balance Sheet as those investments do not have stated contractual maturity dates.

Impairment of investments

The Company periodically reviews its debt and equity investments for impairment. For debt securities the Company considers the duration, severity and the reason for the decline in security value; whether it is more likely than not that the Company will be required to sell the security before recovery of its amortised cost basis; or if the amortised cost basis cannot be recovered as a result of credit losses. If any impairment is considered other-than-temporary, the Company will write down the security to its fair value and record the corresponding charge as a loss on investments. For equity securities the Company considers impairment indicators such as negative changes in industry and market conditions, financial performance, business prospects, and other relevant events and factors. If indicators exist and the fair value of the security is below the carrying amount, the Company writes down the security to fair value.

(e) Accounts Receivable and Allowance for Doubtful Accounts and Sales Returns

Accounts receivable are stated at amounts owed by the customers, net of allowance for doubtful accounts, sales returns and allowances. ARRIS establishes a reserve for doubtful accounts based upon the historical experience and leading market indicators in collecting accounts receivable. A majority of the accounts receivable are from a few large cable system operators and telecommunication companies, either with investment rated debt outstanding or with substantial financial resources and have favourable payment histories. If ARRIS was to have a collection problem with one of its major customers, it is possible the reserve will not be sufficient. ARRIS calculates the reserve for uncollectible accounts using a model that considers customer payment history, recent customer press releases, bankruptcy filings, if any, Dun & Bradstreet reports, and financial statement reviews. The calculation is reviewed by management to assess whether there needs to be an adjustment to the reserve for uncollectible accounts. The reserve is established through a charge to the provision and represents amounts of current and past due customer receivable balances of which management deems a loss to be both probable and estimable. Accounts receivable are charged to the allowance when determined to be no longer collectible.

ARRIS also establishes a reserve for sales returns and allowances. The reserve is an estimate of the impact of potential returns based upon historic trends.

The following table represents a summary of the changes in the reserve for allowance for doubtful accounts, and sales returns and allowances for fiscal 2018, 2017 and 2016 (in thousands):

	2018	2017	2016
Balance at beginning of fiscal year	$ 10,230	$ 15,253	$ 9,975
(Credit) Charges to expenses	(462)	(566)	1,386
(Write-offs) recoveries, net	(2,326)	(4,457)	3,892
Balance at end of fiscal year	$ 7,442	$ 10,230	$ 15,253

(f) Inventories

Inventories are stated at the lower of cost or net realisable value. Inventory cost is determined on a first-in, first-out basis. The cost of work-in-process and finished goods is comprised of material, labour, and overhead.

(g) Revenue recognition

On 1 January 2018, the Company adopted the new accounting standard Revenue from Contracts with Customers using the modified retrospective transition method. The Company has elected to apply the new standard to contracts that were considered "open" as of 1 January 2018. Results for reporting periods beginning after 1 January 2018 are presented under the new accounting standard, while prior period amounts are not adjusted and continue to be reported in accordance with our historic accounting under previous guidance.

ARRIS generates revenue from of varying activities, including the delivery of stand-alone equipment, custom design and installation services, and bundled sales arrangements inclusive of equipment, software and services. Revenue is recognised when performance obligations in a contract are satisfied through the transfer of control of the good or service at the amount of consideration expected to be received. The following are required before revenue is recognised:

- Identify the contract with the customer. A variety of arrangements are considered contracts; however, these are usually the Master Purchase Agreement and amendments or customer purchase orders.

- Identify the performance obligations in the contract. Performance obligations are identified as promised goods or services in an arrangement that are distinct.

- Determine the transaction price. Transaction price is the amount of consideration the Company expects in exchange for transferring the promised goods or services. The consideration may include fixed or variable amounts or both.

- Allocate the transaction price to the performance obligations. The transaction price is allocated to the performance obligations on a relative standalone selling price basis.

- Recognise revenue as the performance obligations are satisfied. Revenue is recognised when transfer of control of the promised goods or services has occurred. This is either at a point in time or over time.

Revenue is deferred for any performance obligations in which payment is received or due prior to the transfer of control of the good or service.

Equipment – For the N&C and CPE segments, the Company provides customers with equipment that can be placed within various stages of a broadband system that enable delivery of telephony, video and high-speed data as well as outside plant construction and maintenance equipment. For the Enterprise segment, equipment sales include products for wireless and wired connections to data networks. For equipment sales, revenue is recognised when control of the product has transferred to the customer. This is generally at a point in time when products have been shipped, right to payment has normally been obtained, and risk of loss has been transferred. Additionally, based on historical experience, ARRIS has established reliable estimates related to sales returns and other allowances for discounts. These estimates are recorded as a reduction to revenue at the time the revenue is recognised.

The Company's equipment performance obligations typically include proprietary operating system software, which isn't considered separately identifiable. Therefore, ARRIS's equipment and their related software are considered one performance obligation.

Multiple Performance Obligation Arrangements – Certain customer transactions may include multiple performance obligations based on the bundling of equipment, software and services. When a multiple performance obligation arrangement exists, the transaction price is allocated to the performance obligations, and revenue is recognised on a relative standalone selling price basis upon transfer of control.

To determine the standalone selling price ("SSP"), the Company first looks to establish SSP through an observable price when the good or service is sold separately in similar circumstances. If SSP cannot be established through an observable price, the Company will estimate the SSP considering market conditions, customer specific factors, and customer class. The Company typically uses a combination of approaches to estimate SSP.

Software Sold Without Tangible Equipment – ARRIS sells functional intellectual property ("IP") licences that typically do not meet the criteria to be recognised over time. Revenue from a functional IP licence is most commonly recognised upon delivery of the licence/software to the customer.

Standalone Services – Standalone service revenues result from a variety of offerings including:

- Maintenance and support services provided under annual service-level agreements with the Company's customers. These services represent stand-ready obligations that are recognised over time (on a straight-line basis over the contract period) because the customer simultaneously receives and consumes the benefits of the services as the services are performed.

- Professional services and other similar services consist primarily of "Day 2" services to help customers maximise their utilisation of deployed ARRIS systems. The services are recognised over time because the customer simultaneously receives and consumes the benefits of the service as the services are performed.

- Installation services relate to the routine installation of equipment ordered by the customer at the customer's site and are distinct performance obligations from delivery of the related hardware. The associated revenues are recognised over time as the services are provided, which is generally a very short period (less than a couple of days).

Incentives – Customer incentive programmes that include consideration, primarily rebates/credits to be used against future product purchases and certain volume discounts, are classified as variable consideration and reduce the overall transaction price.

Value Added Resellers (VAR), Distribution Channels and Retail – ARRIS recognises revenue upon transfer of control of the goods or services to the VAR, Distributors and Retail customers. Sales through retail and distribution channels are made primarily under agreements or commitments allowing for limited rights of return, primarily for stock rotation purposes, and include various sales incentive programmes, such as rebates, discounts, marketing development funds, price protection, and volume incentives.

Enterprise sales distributors are granted rights of stock rotation that are limited to contractually specified percentage of the distributors aggregate purchase volume. These stock rotation rights are subject to expiration 270 days from the time of product shipment by us to the distributor. Upon shipment of the product, ARRIS reduces revenue for an estimate of potential future stock rotation returns related to the current period product revenue. ARRIS analyses historical returns, channel inventory levels, current economic trends and changes in customer demand for our products when evaluating the adequacy of the allowance for sales returns, namely stock rotation returns.

Regarding the various sales incentive programmes, the Company can reasonably estimate its rebates, discounts and similar incentives due to an established sales history with its customers and records the estimated reserves and allowances at the time the related revenue is recognised. The Company recognises marketing development funds at the later of when the related revenue is recognised, or the programme is offered to the channel partner. ARRIS's sales incentives to its channel partners are recorded as a reduction to revenue.

ARRIS's estimated allowances for returns due to stock rotation and various sales incentive programmes can vary from actual results that could materially impact our financial position and results of operations. Based on the relevant facts and circumstances, the Company believes the methodologies applied to calculate these reserves fairly represents our expected results at the point in time in which they are made.

(h) Shipping and Handling Fees

Shipping and handling costs for the years ended 31 December 2018, 2017, and 2016 were approximately $13.2 million, $12.6 million and $4.3 million, respectively, and are classified in cost of sales.

(i) Taxes Collected from Customers and Remitted to Governmental Authorities

Taxes assessed by a government authority that are both imposed on and concurrent with specific revenue transactions between us and our customers are presented on a net basis in our Consolidated Income Statement.

(j) Depreciation of Property, Plant and Equipment

The Company provides for depreciation of property, plant and equipment on the straight-line basis over estimated useful lives of 10 to 40 years for buildings and improvements, 2 to 10 years for machinery and equipment, and the shorter of the term of the lease or useful life for leasehold improvements. Included in depreciation expense is the amortisation of landlord funded tenant improvements which amounted to $14.0 million in 2018, $12.1 million in 2017 and $6.6 million in 2016. Depreciation expense, including amortisation of capital leases, for the years ended 31 December 2018, 2017, and 2016 was approximately $83.4 million, $88.2 million, and $90.6 million, respectively.

See Note 13 *Property, Plant and Equipment* of Notes to the Consolidated Financial Statements for further information on property, plant and equipment.

(k) Goodwill, and Other Intangible Assets

Goodwill is tested for impairment annually as of 1 October or when an indicator of impairment exists. As of 1 October 2017, we early adopted Accounting Standards Update ("ASU") 2017-04, Intangibles - Goodwill and Other (Topic 350) - Simplifying the Test for Goodwill Impairment ("ASU 2017-04"). ASU 2017-04 eliminated Step 2 of the goodwill impairment test in which an entity had to perform procedures to determine the fair value at the impairment testing date of its assets and liabilities. The standard does not change the guidance on completing Step 1 of the goodwill impairment test. In accordance with the new standard, we compare the fair value of our reporting units with the carrying amount, including goodwill. The Company recognises an impairment charge for the amount by which the carrying amount exceeds a reporting unit's fair value, as applicable.

Purchased intangible assets with finite lives are carried at cost, less accumulated amortisation. Amortisation is computed over the estimated useful lives of the respective assets. Useful lives of identifiable intangible assets are determined after considering the specific facts and circumstances related to each intangible asset. Intangible assets that are deemed to have definite lives are amortised, primarily on a straight-line basis, over their useful lives, generally ranging from 1 to 13 years. Certain intangible assets are being amortised using an accelerated method, as an accelerated method best approximates the distribution of cash flows generated by the intangible assets. See "Long-Lived Assets" for the Company's policy regarding impairment testing of purchased intangible assets with finite lives. Purchased intangible assets with indefinite lives are assessed for potential impairment annually or when events or circumstances indicate that their carrying amounts might be impaired.

See Note 6 *Goodwill and Other Intangible Assets* of Notes to the Consolidated Financial Statements for further information on goodwill and other intangible assets.

Long-Lived Assets

Long-lived assets, including property, plant and equipment and intangible assets with finite lives, that are held and used are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Determination of recoverability of long-lived assets is based on an estimate of the undiscounted future cash flows resulting from the use of the asset and its eventual disposition. To test for recovery, the Company groups assets (an "asset group") in a manner that represents the lowest level for which identifiable cash flows are largely independent of the cash flows of other groups of assets and liabilities. If the sum of the expected future cash flows (undiscounted and pre-tax based upon policy decision) is less than the carrying amount, the Company recognises an impairment loss. The impairment loss recognised is the amount by which the carrying amount of the asset or asset group exceeds the fair value. A variety of methodologies are used to determine the fair value of these assets, including discounted cash flow models, which are consistent with the assumptions the Company believes hypothetical marketplace participants would use. Measurement of an impairment loss for long-lived assets that management expects to hold and use is based on the difference between the fair value of the asset and its carrying value. Long-lived assets to be disposed of are reported at the lower of carrying amount or fair value less costs to sell.

(l) Advertising and Sales Promotion

Advertising and sales promotion costs are expensed as incurred. Advertising and sales promotion expense was approximately $23.5 million, $17.5 million, and $19.6 million for the years ended 31 December 2018, 2017 and 2016, respectively.

(m) Research and Development

Research and development ("R&D") costs are expensed as incurred. The expenditures include compensation costs, materials, other direct expenses, and an allocation of information technology, telecommunications, and facilities costs.

(n) Warranty

ARRIS provides warranties of various lengths to customers based on the specific product and the terms of individual agreements. For further discussion, see Note 10 *Guarantees* of the Notes to the Consolidated Financial Statements for further discussion.

(o) Income Taxes

ARRIS uses the liability method of accounting for income taxes, which requires recognition of temporary differences between financial statement and income tax bases of assets and liabilities, measured by enacted tax rates.

If necessary, the measurement of deferred tax assets is reduced by a valuation allowance to an amount that is more likely than not to be realised based on available evidence. ARRIS reports a liability for unrecognised tax benefits resulting from uncertain tax positions taken or expected to be taken in a tax return. The Company elects to account for Global Intangible Low-Taxed Income ("GILTI") in the period the tax is incurred. The Company recognises interest and penalties, if any, related to unrecognised tax benefits in Income tax (benefit) expense in the Consolidated Income Statement. See Note 19 *Income Taxes* of Notes to the Consolidated Financial Statements for further discussion.

(p) Foreign Currency

A significant portion of the Company's products are manufactured or assembled in Brazil, China, Mexico and Taiwan, and we have research and development centres in Canada, China, France, India, Ireland, Israel, Singapore, Sweden, Taiwan and United Kingdom. Sales into international markets have been and are expected in the future to be an important part of the Company's business. These foreign operations are subject to the usual risks inherent in conducting business abroad, including risks with respect to currency exchange rates, economic and political destabilisation, restrictive actions and taxation by foreign governments, nationalisation, the laws and policies of the United States affecting trade, foreign investment and loans, and foreign tax laws.

The financial position and results of operations of certain of the Company's international subsidiaries are measured using the local currency as the functional currency. Revenues and expenses of these subsidiaries are translated into U.S. dollars at average exchange rates prevailing during the period. Assets and liabilities of these subsidiaries are translated at the exchange rates as of the balance sheet date. Translation gains and losses are recorded in Accumulated other comprehensive (loss) income.

ARRIS has certain international customers who are billed in their local currency and certain international operations that procure in U.S. dollars. ARRIS also has certain predictable expenditures for international operations in local currency. Additionally, certain intercompany transactions are denominated in foreign currencies and subject to revaluation. The Company enters into forward or currency option contracts based on a percentage of expected foreign currency exposures. The percentage can vary, based on the predictability of the exposures denominated in the foreign currency. See Note 9 *Derivative Instruments and Hedging Activities* of Notes to the Consolidated Financial Statements for further discussion. Foreign currency transaction gains and losses are recognised in earnings when incurred.

(q) Stock-Based Compensation

See Note *20 Stock-Based Compensation* of Notes to the Consolidated Financial Statements for further discussion of the Company's significant accounting policies related to stock-based compensation.

(r) Concentrations of Credit Risk

Financial instruments that potentially subject ARRIS to concentrations of credit risk consist principally of cash, cash equivalents and short-term investments, accounts receivable and derivatives. ARRIS places its temporary cash investments with high credit quality financial institutions. Concentrations with respect to accounts receivable occur as the Company sells primarily to large, well-established companies, including companies outside of the United States. The Company's credit policy generally does not require collateral from its customers. ARRIS closely monitors extensions of credit to other parties and, where necessary, utilises common financial instruments to mitigate risk or requires cash on delivery terms. Overall financial strategies and the effect of using a hedge are reviewed periodically. As of 31 December 2018, two customers represented 13% and 12% of total accounts receivable. As of 31 December 2017, two customers represented 19% and 14% of total accounts receivable.

(s) Fair Value

Fair value is based on the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. U.S GAAP establishes a fair value hierarchy that is based on the extent and level of judgement used to estimate the fair value of assets and liabilities. In order to increase consistency and comparability in fair value measurements, the FASB has established a fair value hierarchy that prioritises observable and unobservable inputs used to measure fair value into three broad levels. An asset or liability's categorisation within the fair value hierarchy is based upon the lowest level of input that is significant to the measurement of its fair value. The three levels of input defined by U.S. GAAP are as follows:

Level 1: Quoted prices (unadjusted) in active markets that are accessible at the measurement date for assets or liabilities.

Level 2: Observable prices that are based on inputs not quoted on active markets but corroborated by market data.

Level 3: Unobservable inputs are used when little or no market data is available.

The following methods and assumptions were used by the Company in estimating its fair value disclosures for financial instruments:

- Cash, cash equivalents, and short-term investments: The carrying amounts reported in the Consolidated Balance Sheet for cash, cash equivalents, and short-term investments approximate their fair values.
- Accounts receivable and accounts payable: The carrying amounts reported in the balance sheet for accounts receivable and accounts payable approximate their fair values.
- Marketable securities: The fair values for available-for-sale equity securities are based on quoted market prices or observable prices based on inputs not in active markets but corroborated by market data.
- Non-marketable securities: Non-marketable equity securities are subject to a periodic impairment review; however, there are no open-market valuations, and the impairment analysis requires significant judgement. This analysis includes

assessment of the investee's financial condition, the business outlook for its products and technology, its projected results and cash flow, recent rounds of financing, and the likelihood of obtaining subsequent rounds of financing.

- Senior secured credit facilities: Comprised of term loans and a revolving credit facility of which the outstanding principal amount approximates fair value because of interest-bearing rates that are adjusted periodically, analysis of recent market conditions, prevailing interest rates and other Company specific factors.
- Derivative instruments: The carrying amounts reported in the balance sheet for derivative financial instruments reflect their estimated fair values, as the valuation inputs are based on quoted prices and market observable data of similar instruments.

(t) Computer Software

Internal-use software

The Company capitalises costs associated with internally developed and/or purchased software systems for internal use that have reached the application development stage and meet recoverability tests. Capitalised costs include external direct costs of materials and services utilised in developing or obtaining internal-use software and payroll and payroll-related expenses for employees who are directly associated with and devote time to the internal-use software project. Capitalisation of such costs begins when the preliminary project stage is complete and ceases no later than the point at which the project is substantially complete and ready for its intended purpose. These capitalised costs are amortised on a straight-line basis over periods of two to seven years, beginning when the asset is ready for its intended use. Capitalised costs are included in property, plant, and equipment on the Consolidated Balance Sheet.

External-use software

Research and development costs are charged to expense as incurred. ARRIS generally has not capitalised any such development costs because the costs incurred between the attainment of technological feasibility for the related software product through the date when the product is available for general release to customers has been insignificant.

Cloud Computing Arrangements

Implementation costs incurred in a cloud computing arrangement that is a service contract are capitalised similar to implementation costs incurred to develop or obtain internal-use software. Amortisation is computed over the term of the hosting arrangement. As of 31 December 2018, implementation costs of $11.9 million associated with cloud computing arrangements has been capitalised and is included in Other Assets in the Consolidated Balance Sheet.

(u) Comprehensive Income (Loss)

The components of comprehensive (loss) income include net income (loss), unrealised gains (losses) on available-for-sale debt securities, unrealised gains (losses) on certain derivative instruments, change in pension liabilities, net of tax, if applicable and foreign currency translation adjustments.

(v) Warrants

The Company has outstanding warrants with certain customers to purchase ARRIS's ordinary shares. Vesting of the warrants is subject to certain purchase volume commitments by the customers. Under applicable accounting guidance, if the vesting of a tranche of the warrants is probable, the Company is required to mark-to-market the fair value of the warrant until it vests, and any increase in the fair value is treated as a reduction in revenues from sales to the customers. See Note *18 Warrants* of Notes to the Consolidated Financial Statements for further discussion.

Note 3. Impact of Recently Issued Accounting Standards

Adoption of new accounting standards — In May 2014, the FASB issued an accounting standard update, Revenue from Contracts with Customers. The standard requires an entity to recognise revenue to depict the transfer of control of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In addition, the standard requires disclosure of the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The FASB issued several amendments to the standard since its initial issuance, including delaying its effective date to reporting periods beginning after 15 December 2017, but permitting companies the option to adopt the standard one year earlier, as well as clarifications on identifying performance obligations and accounting for licences of intellectual property, among others.

There are two permitted transition methods under the new standard, the full retrospective method or the modified retrospective method. Under the full retrospective method, the standard would be applied to each prior reporting period presented and the cumulative effect of applying the standard would be recognised at the earliest period shown on the face of the financial statements being presented. Under the modified retrospective method, the cumulative effect of applying the standard would be recognised at the date of the initial application of the standard and the effect of the prior periods would be calculated and shown through a cumulative effect change in retained earnings. ARRIS adopted the standard using the modified retrospective method on 1 January 2018. (See Note 4 *Revenue from Contracts* with Customers for additional details).

In January 2016, the FASB issued an update to amend certain aspects of recognition, measurement, presentation and disclosure of financial instruments. Under this standard, certain equity investments are measured at fair value with changes recognised in current period earnings as opposed to other comprehensive (loss) income. This guidance is effective for interim and annual reporting periods in fiscal years beginning after 15 December 2017. ARRIS adopted the standard on 1 January 2018 by recording a cumulative-effect adjustment as of the beginning of the year. The adoption of this guidance did not have a material impact on the Company's consolidated financial position and results of operations.

In August 2016, the FASB issued amended guidance on the classification of certain cash receipts and payments in the statement of cash flows. The primary purpose of the amended guidance is to reduce the diversity in practice that has resulted from the lack of consistent principles on this topic. The amended guidance adds or clarifies guidance on eight cash flow issues, including debt prepayment or debt extinguishment costs, settlement of zero-coupon debt instruments or certain other debt instruments, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies, distributions received from equity method investees, beneficial interests in securitisation transactions and separately identifiable cash flows and application of the predominance principle. The guidance is effective for the Company beginning 1 January 2018 for both interim and annual reporting periods, with early adoption permitted. Entities must apply the guidance retrospectively to all periods presented but may apply it prospectively from the earliest date practicable if retrospective application would be impracticable. ARRIS adopted this update as of 1 January 2018. The adoption of this guidance did not have a material impact on the Company's consolidated financial position and results of operations.

In November 2016, the FASB issued new guidance that requires that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The new guidance is effective for interim and annual periods beginning after 15 December 2017. ARRIS adopted this update retrospectively as of 1 January 2018. The adoption of this guidance did not have a material impact on the Company's consolidated financial position and results of operations.

In January 2017, the FASB issued an accounting standard update that clarifies the definition of a business to help companies evaluate whether acquisition or disposal transactions should be accounted for as asset groups or as businesses. The accounting standard update is effective for the Company for annual periods beginning after 15 December 2017. The adoption of this guidance did not have a material impact on the Company's consolidated financial position and results of operations. The future impact of this accounting standard update will be facts and circumstances dependent, but the Company expects, that in some situations, transactions that were previously accounted for as business combinations or disposal transactions will be accounted for as asset purchases or asset sales under the accounting standard update.

In March 2017, the FASB issued an accounting standard update that requires entities to disaggregate the service cost component from the other components of net periodic benefit costs and present it with other current compensation costs for related employees in the income statement and present the other components elsewhere in the income statement and outside of income from operations if that subtotal is presented. The amendments in this update also allow only the service cost component to be eligible for capitalisation when applicable. The accounting standard update is effective for the Company in the first quarter of fiscal 2018. ARRIS adopted this update as of 1 January 2018. The adoption of this guidance did not have a material impact on the Company's consolidated financial position and results of operations.

In May 2017, the FASB issued an accounting standard which amends the scope of modification accounting for share-based payment arrangements. The standard provides guidance on the types of changes to the terms or conditions of share-based payment awards to which an entity would be required to apply modification accounting. The accounting standard will be applied prospectively to awards modified on or after the effective date. It is effective for interim and annual periods beginning after 15 December 2017 (1 January 2018 for the Company). ARRIS adopted this update as of 1 January 2018. The adoption of this guidance did not have a material impact on the Company's consolidated financial position and results of operations.

In August 2018, the FASB issued an accounting standard update related to customer's accounting for implementation costs incurred in a cloud computing arrangement that is a service contract. The standards update aligns the requirements for capitalising implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalising implementation costs incurred to develop or obtain internal-use software. The capitalised implementation costs of a hosting arrangement that is a service contract will be expensed over the term of the hosting arrangement. The accounting standard is effective for annual and interim periods beginning after 15 December 2019. Early adoption is permitted, including adoption in any interim period. The amendments can be applied either retrospectively or prospectively to all implementation costs incurred after the adoption date. The Company early adopted this standard in the third quarter of 2018 using the prospective method. The adoption of this guidance did not have a material impact on the Company's consolidated financial position and results of operations.

Accounting standards issued but not yet effective — In February 2016, the FASB issued new guidance that will require lessees to recognise most leases on their Balance Sheet as a right-of-use asset with a corresponding lease liability, and lessors to recognise a net lease investment. Additional qualitative and quantitative disclosures will also be required. This standard is effective for interim and annual reporting periods beginning after 15 December 2018, although early adoption is permitted. The new standard requires a modified retrospective transition through a cumulative-effect adjustment as of the beginning of the earliest period presented in the financial statements, although the FASB recently approved an option for transition relief to not restate or make required disclosures under the new standard in comparative periods in the period of adoption. Along with that transition relief, the FASB also recently approved a practical expedient for lessors to allow for the combined presentation of lease and non-lease revenues when certain conditions are met.

Many factors will impact the ultimate measurement of the lease liability and corresponding right of use asset to be recognised upon adoption. The Company continues to evaluate the impact this guidance will have on its consolidated financial statements. The Company expects to take advantage of the transition relief provided by the amendment to the new guidance which allows us to elect not to restate 2017 and 2018 comparative periods upon adoption and continue to apply existing guidance to such periods. With respect to the other practical expedients, the Company expects to elect the package of three expedients, which allows us not to reassess the existence, the classification or the amount and treatment of initial direct costs for existing leases. The Company does not expect to apply hindsight for the evaluation of lease options (e.g., renewal). The Company expects to elect not to record on the balance sheet a lease with a term (including reasonably certain renewal or purchase options, or reasonably certain not to terminate) of less than 12 months. Finally, the Company expects to elect the practical expedient which allows us not to separate lease and non-lease components. This guidance becomes effective 1 January 2019 with early adoption permitted.

The Company has established a project management team to analyse the impact of this standard, including its current accounting policies and practices to identify potential impacts that would result from the application of this standard. The Company's adoption process of the new standard is ongoing, including evaluating and quantifying the impact on its consolidated financial statements, identifying the population of leases (and embedded leases), implementing a selected technology solution and collecting and validating lease data. The Company expects its lease obligations designated as operating leases (as disclosed in Note 24) will be reported on the Consolidated Balance Sheet upon adoption.

In August 2017, the FASB issued an accounting standard which eliminates the requirement to separately measure and report hedge ineffectiveness and requires companies to recognise all elements of hedge accounting that impact earnings in the same income statement line item where the hedged item resides. The standard includes new alternatives for measuring the hedged item for fair value hedges of interest rate risk and eases the requirements for effectiveness testing, hedge documentation and applying the critical terms match method. Finally, the standard introduces new alternatives that permit companies to reduce the risk of material error if the shortcut method is misapplied. The accounting standard is effective beginning 1 January 2019 and is required to be applied prospectively. The Company is currently assessing the potential impact of the adoption of this standard on its Consolidated Financial Statements.

In February 2018, the FASB issued an accounting standard which allows companies to reclassify stranded tax effects resulting from the U.S. 2017 Tax Cuts and Jobs Act, from Accumulated other comprehensive (loss) income to Accumulated deficit. The guidance also requires certain new disclosures regardless of the election. The accounting standard is effective in the first quarter of fiscal 2020, and earlier adoption is permitted. The Company is currently assessing the potential impact of the adoption of this standard on its Consolidated Financial Statements.

In August 2018, the FASB issued an accounting standard update which amends fair value measurement disclosure requirements aiming to improve the overall usefulness of disclosures to financial statement users and reduce unnecessary costs to companies when preparing the disclosures. This guidance will be effective for interim and annual periods beginning after 15 December 2019 and early adoption is permitted. Adoption of this guidance is not expected to have a material impact on the Company's consolidated financial statements.

In August 2018, the FASB issued an accounting standard update that eliminated certain disclosures about defined benefit plans, added new disclosures, and clarified other requirements. This guidance will be effective for interim and annual periods beginning after 15 December 2020 and early adoption is permitted. There were no changes to interim disclosure requirements. Adoption of this guidance is not expected to have a material effect on the Company's annual financial statement statements.

Note 4. Revenue from Contracts with Customers

On 1 January 2018, the Company adopted the new accounting standard *Revenue from Contracts with Customers* using the modified retrospective transition method. The Company has elected to apply the new standard to contracts that were considered "open" as of 1 January 2018. Results for reporting periods beginning after 1 January 2018 are presented under the new accounting standard, while prior period amounts are not adjusted and continue to be reported in accordance with our historic accounting under previous guidance. Upon adoption, an initial cumulative effect adjustment of $1.8 million increase was recorded to opening accumulated deficit and a $2.7 million increase in shareholder's equity attributable to noncontrolling interest.

Disaggregation of Revenue

The following table summarises the revenues from contracts with customers by major product line (in thousands):

	31 December 2018
CPE:	
Broadband CPE	$ 1,643,152
Video CPE	2,280,742
Sub-total	3,923,894
Network & Cloud:	
Networks	1,850,416
Software and services	306,161
Sub-total	2,156,577
Enterprise Networks:	
Enterprise Networks	675,352
Other:	
Other	(13,183)
Total net sales	$ 6,742,640

Customer Premises Equipment — The CPE segment's product solutions include Broadband products, such as DSL and DOCSIS gateways and modems, and Video products, such as video gateways, clients and set-tops, that enable service providers to offer voice, video and high-speed data services to residential and business subscribers.

Network & Cloud — The N&C segment's product solutions include cable modem termination system, video infrastructure, distribution and transmission equipment and cloud solutions that enable facility-based service providers to construct a state-of-the-art residential and metro distribution network. The portfolio also includes a full suite of global services that offer technical support, professional services and system integration offerings to enable solution sales of ARRIS's end-to-end product portfolio.

Enterprise Networks — The Enterprise Networks segment focuses on enabling constant, wireless and wired connectivity across complex and varied networking environments through its array of access points, controllers and switches along with technical support, analytical tools and professional services needed to support those networks. It offers dedicated engineering, sales and marketing resources to serve customers across a spectrum of enterprises—including hospitality, education, smart cities, government, venues, service providers and more.

Other — Other includes adjustments related to acquisition accounting impacts related to deferred revenue

The following table summarises the revenues from contracts with customers by geographic areas (in thousands):

	31 December 2018				
	CPE	N&C	Enterprise	Other [1]	Total
Domestic – U.S.	$2,201,912	$1,369,695	$ 408,971	$ (7,331)	$3,973,247
Americas, excluding U.S.	793,203	378,223	10,910	(47)	1,182,289
Asia Pacific	133,480	186,982	110,622	(39)	431,045
EMEA	795,299	221,677	144,849	(5,766)	1,156,059
Total international	1,721,982	786,882	266,381	(5,852)	2,769,393
Total net revenues	$3,923,894	$2,156,577	$ 675,352	$ (13,183)	$6,742,640

(1) Adjustments include acquisition accounting impacts related to deferred revenue

Impact of New Revenue Guidance on Financial Statement Line Items

The following table compares the reported Consolidated Balance Sheet and Consolidated Income Statement, as of and for the year ended 31 December 2018, to the pro-forma amounts had the previous guidance been in effect (in thousands):

	As Reported 31 December 2018	Pro forma – as if previous accounting guidance was in effect
Assets		
Accounts receivable	$ 1,225,975	$ 1,210,288
Other current assets	144,251	144,187
Deferred incomes taxes	175,405	172,967
Liabilities		
Deferred revenue (current and non-current)	$ 169,998	$ 169,426

	As Reported 31 December 2018	Pro forma – as if previous accounting guidance was in effect
Revenues		
Net sales	$ 6,742,640	$ 6,727,525
Costs and expenses		
Cost of sales	4,823,781	4,823,845
Income tax benefit	(24,344)	(21,905)
Consolidated net income	107,286	89,668
Net loss attributable to non-controlling interest	(6,454)	(7,282)
Net income attributable to ARRIS International plc	113,740	96,950
Net income per ordinary share:		
Basic	$ 0.63	$ 0.54
Diluted	$ 0.62	$ 0.53

Pro-forma net sales were $15.1 million lower than reported net sales in the Consolidated Income Statement for the year ended 31 December 2018 largely due to the timing of licence revenue that is currently being recognised upon transfer of control of the licence as opposed to recognising ratably over the licence term.

Other

Contract Assets and Liabilities – When payments from customers are received in advance of performance, the Company records a contract liability (deferred revenue). When the Company fulfils performance obligations prior to being able to invoice the customer, a contract asset (unbilled receivables) is recorded. Additionally, the balances for these are calculated at the contract level on a net basis.

The unbilled receivables are included in Accounts Receivable on the Consolidated Balance Sheet. As of 31 December 2018, the Company has unbilled receivables of $29.7 million.

The following table summarises the changes in deferred revenue for the year ended of 31 December 2018 (in thousands):

Opening balance at 1 January 2018	$ 168,757
Deferral of revenue	166,756
Recognition of unearned revenue	(164,545)
Other	(970)
Balance at 31 December 2018	$ 169,998

As of the end of the current reporting period, the aggregate amount of the transaction price allocated to performance obligations that are unsatisfied that have a duration of one year or more was $64.1 million. The majority of ARRIS's contracts that have performance obligations that are unsatisfied are part of contracts have a duration of one year or less.

Practical Expedients

Sales commissions are incremental contract acquisition costs which are expected to be recovered. The Company has elected to recognise these expenses as incurred due to the amortisation period of these costs being one year or less.

Costs to obtain or fulfil a contract are incremental costs that are expected to be recovered. The Company has elected to recognise these expenses as incurred due to the amortisation period of these costs being one year or less. Costs to obtain a contract that would have been incurred regardless of whether the contract was obtained are recognised in expense when incurred.

The Company has elected not to adjust the promised amount of consideration for the effects of a significant financing component when it expects, at contract inception, that the period between when ARRIS transfers a promised good or service to a customer, and when the customer pays will be one year or less.

The Company has elected the expedient that states an entity does not need to evaluate whether shipping and handling activities are promised services to its customers. If revenue is recognised for the related good before the shipping and handling activities occur, the related costs of those shipping and handling activities are accrued.

The Company has also elected to exclude from the transaction price certain types of taxes collected from a customer and remitted to a third-party (e.g., governmental agency), including sales, use and value-added taxes. As a result, revenue is presented net of these taxes.

Additionally, the Company has elected for contracts that were modified before the beginning of the earliest reporting period to reflect the aggregate effect of all modifications when identifying the satisfied and unsatisfied performance obligations, determining the transaction price, and allocating the transaction price.

Note 5. Business Acquisitions

Acquisition of Ruckus Wireless and ICX Switch business

On 1 December 2017, ARRIS completed the acquisition of Ruckus Wireless and ICX Switch business ("Ruckus Networks"). The total consideration transferred was approximately $762.2 million (net of estimated adjustments for working capital and noncash settlement of pre-existing payables and receivables) The purchase agreement provides for customary final adjustments and potential cash payments or receipts.

With this acquisition, ARRIS expanded its leadership in converged wired and wireless networking technologies beyond the home into the education, public venue, enterprise, hospitality, and multi-dwelling unit markets.

The goodwill of $289.0 million arising from the acquisition is attributable to the strategic opportunities and synergies that are expected to arise from the acquisition of Ruckus Networks and the workforce of the acquired business. The Company finalised the accounting for business combination in the fourth quarter of 2018 and goodwill has been assigned to our new Enterprise Networks reporting unit. Goodwill of $5.8 million is expected to be deductible for income tax purposes.

The following table summarises the fair value of consideration transferred for Ruckus Networks (in thousands):

Cash Consideration	$ 779,743
Working capital adjustments	(15,219)
Non-cash Consideration[(1)]	(2,359)
Total consideration transferred	$ 762,165

(1) Non-cash consideration represents $2.4 million settlement of pre-existing payables and receivables between Ruckus Networks and ARRIS.

Total consideration excludes $61.5 million paid to Broadcom for the cash settlement of unvested stock-based compensation as contemplated in the purchase agreement. This was expensed in the fourth quarter of 2017.

The following is a summary of the estimated fair values of the net assets acquired (in thousands):

	Amounts Recognised as of Acquisition Date
Total estimated consideration transferred	$ 762,165
Cash and cash equivalents	18,958
Accounts and other receivables	26,022
Inventories	48,436
Prepaids and other	3,792
Property, plant & equipment	31,863
Intangible assets	500,700
Other assets	6,852
Accounts payable and other current liabilities	(15,693)
Other accrued liabilities	(11,654)
Deferred revenue	(46,748)
Noncurrent deferred income tax liabilities, net	(81,928)
Other noncurrent liabilities	(7,408)
Net assets acquired	473,192
Goodwill	$ 288,973

The acquisition was accounted for using the acquisition method of accounting, which requires, among other things, that the assets acquired, and liabilities assumed be recognised at their acquisition date fair values, with any excess of the consideration transferred over the estimated fair values of the identifiable net assets acquired recorded as goodwill. During the fourth quarter of 2018, the Company completed the accounting for the aforementioned business combination.

The $500.7 million of acquired intangible assets are as follows (in thousands):

	Preliminary Estimated Fair value	Estimated Weighted Average Life (years)
Customer contracts and relationships	$ 197,100	10.0
Technology and patents	220,900	5.4
Tradenames	55,400	indefinite
Trademarks and tradenames	10,800	10.0
Backlog	16,500	0.4
Total estimated fair value of intangible assets	$ 500,700	

The fair value of trade accounts receivable is $26.0 million with the gross contractual amount being $26.9 million. The Company expects $0.9 million to be uncollectible.

The Company incurred acquisition related costs of $1.3 million during 2018. This amount was expensed by the Company as incurred and is included in the Consolidated Income Statement in the line item titled "Integration, acquisition, restructuring and other costs, net".

The Ruckus Networks business contributed revenues of approximately $721.1 million to our consolidated results from the date of acquisition through 31 December 2018.

Proposed Transaction with CommScope

On 8 November 2018, ARRIS and CommScope Holding Company, Inc. entered into a Bid Conduct Agreement whereby CommScope agreed to acquire ARRIS in an all-cash transaction for $31.75 per share or a total purchase price of approximately $7.4 billion, including repayment of debt. In addition, The Carlyle Group, a global alternative asset manager, plans to participate in the acquisition and reestablishes an ownership position in CommScope through a $1 billion minority equity investment as part of CommScope's financing of the transaction. The combined company is expected to drive profitable growth in new markets, shape the future of wired and wireless communications, and position the new company to benefit from key industry trends, including network convergence, fibre and mobility everywhere, 5G, Internet of Things and rapidly changing network and technology architectures.

The consummation of the Acquisition is subject to various closing conditions, including, among other things, (i) the receipt of certain approvals of our shareholders, (ii) the sanction of the Scheme by the High Court of Justice of England and Wales, (iii) the receipt of certain required regulatory approvals or lapse of certain review periods with respect thereto, including those in the U.S. and European Union, Chile, Mexico, Russia and South Africa, (iv) the absence of a Company Material Adverse Effect (as defined in the Acquisition Agreement), (v) the accuracy of representations and warranties (subject, in certain cases, to certain materiality or Company Material Adverse Effect qualifiers, as applicable) and (vi) the absence of legal restraints prohibiting or restraining the Acquisition. ARRIS's shareholders approved the Acquisition on 1 February 2019 and regulatory approvals have been received, or the review period has lapsed, in the European Union, United States, Russia and South Africa. The parties expect to complete the Acquisition in the first half of 2019.

Acquisition related costs of $8.4 million have been incurred during 2018. This amount was expensed by the Company as incurred and is included in the Consolidated Income Statement in the line item titled "Integration, acquisition, restructuring and other costs, net".

Note 6. Goodwill and Intangible Assets

The changes in the carrying amount of goodwill for the three years ended 31 December 2018 are as follows (in thousands):

	CPE	N & C	Enterprise	Total
Goodwill	1,391,171	1,003,654	—	2,394,825
Accumulated impairment losses	—	(378,656)	—	(378,656)
Balance as of 31 December 2016	$ 1,391,171	$ 624,998	$ —	$ 2,016,169
Changes in year 2017:				
Goodwill acquired, net	—	—	318,034	318,034
Impairment	—	(51,200)	—	(51,200)
Other	(4,491)	—	—	(4,491)
Balance as of 31 December 2017	$ 1,386,680	$ 573,798	$ 318,034	$ 2,278,512
Goodwill	1,386,680	$ 1,003,654	318,034	2,708,368
Accumulated impairment losses	—	(429,856)	—	(429,856)
Balance as of 31 December 2017	$ 1,386,680	$ 573,798	$ 318,034	$ 2,278,512
Changes in year 2018:				
Goodwill acquired, net	—	—	(29,061)	(29,061)
Impairment	—	(3,400)	—	(3,400)

Other	(5,863)	454	—	(5,409)
Balance as of 31 December 2018	$ 1,380,817	$ 570,852	$ 288,973	$ 2,240,642
Goodwill	1,380,817	$ 1,004,108	288,973	2,673,898
Accumulated impairment losses	—	(433,256)	—	(433,256)
Balance as of 31 December 2018	$ 1,380,817	$ 570,852	$ 288,973	$ 2,240,642

During 2018, the Company recorded an adjustment of $29.1 million to goodwill related to the Ruckus Network acquisition. The Company also recorded a partial impairment of goodwill of $3.4 million related to its Cloud TV reporting unit, respectively, of which $1.2 million is attributable to the noncontrolling interest. This impairment was a result of the indirect effect of a change in accounting principle related to the adoption of new accounting standard *Revenue from Contracts with Customers*, resulting in changes in the composition and carrying amount of the net assets of our Cloud TV reporting unit. The partial impairment was included in impairment of goodwill on the Consolidated Income Statement. Fair value was determined using a discounted cash flow model.

As of 31 December 2018, Cloud and Services reporting unit, which is included in the N&C segment, had a negative carrying amount of net assets of $(15.5) million. As of 31 December 2018, remaining goodwill allocated to this reporting unit was $49.9 million.

During 2017, as a result of a change in strategy for our Cloud TV reporting unit associated with the ActiveVideo acquisition, the Company expected lower future projected cash flows for the business, and as such, the Company recorded a partial impairment of $51.2 million for the amount by which the Cloud TV reporting unit carrying amount exceeded its fair value of which $17.9 million is attributable to noncontrolling interest. The partial impairment was included in impairment of goodwill and intangible assets on the Consolidated Income Statement.

Intangible Assets

The gross carrying amount and accumulated amortisation of the Company's intangible assets as of 31 December 2018 and 31 December 2017 are as follows (in thousands):

	31 December 2018			31 December 2017		
	Gross Amount	Accumulated Amortisation	Net Book Value	Gross Amount	Accumulated Amortisation	Net Book Value
Definite-lived intangible assets:						
Customer relationships	$1,762,750	$ 952,308	$ 810,442	$ 1,672,470	$ 780,655	$ 891,815
Developed technology, patents & licences	1,482,200	956,012	526,188	1,521,893	771,200	750,693
Trademarks, trade and domain names	75,772	64,257	11,515	87,472	41,885	45,587
Backlog	16,500	16,386	114	35,000	5,833	29,167
Sub-total	$3,337,222	$1,988,963	$1,348,259	$ 3,316,835	$1,599,573	$1,717,262
Indefinite-lived intangible assets:						
Trademarks	55,400	—	55,400	—	—	—
In-process research and development	—	—	—	54,100	—	54,100
Sub-total	55,400	—	55,400	54,100	—	54,100
Total	$3,392,622	$1,988,963	$1,403,659	$ 3,370,935	$1,599,573	$1,771,362

During 2018, the Company recorded additional intangible assets (other than goodwill) of $28.2 million during the measurement period related to Ruckus Networks, for a total of $500.7 million, see Note 5 *Business Acquisitions* of Notes to the Consolidated Financial Statements for further discussion. In addition, an in-process research and development project of $54.1 million was reclassified to become a definite-lived asset upon completion of the associated research and development efforts during 2018.

During 2017, due to lower projected cashflows of its Cloud TV reporting unit, the Company recorded a $3.8 million partial impairment of indefinite-lived trademarks and tradenames, determined using a "relief from royalty income" approach. The partial impairment was included in impairment of goodwill and intangible assets on the Consolidated Income Statement. The remaining carrying amount was reclassified as a definite-lived intangible asset.

Amortisation expense is reported in the Consolidated Income Statement within cost of sales and operating expenses. The following table presents the amortisation of intangible assets (in thousands):

	Years Ended 31 December,		
	2018	2017	2016
Cost of sales	$ 3,558	$ 3,174	$ 2,963
Selling, general & administrative expenses	3,955	3,835	4,048
Amortisation of intangible assets	383,561	375,407	397,464
Total	$391,074	$382,416	$404,475

The estimated total amortisation expense for finite-lived intangibles for each of the next five fiscal years is as follows (in thousands):

2019	$333,882
2020	322,037
2021	187,250
2022	149,949
2023	106,749
Thereafter	248,392

Note 7. Financial Instruments

Debt securities

The following tables summarise the Company's debt securities by significant investment categories as of 31 December 2018 and 31 December 2017 (in thousands):

ARRIS's investments consisted of the following (in thousands):

	31 December 2018				31 December 2017			
	Amortised Costs	Gross Unrealised Gains	Gross Unrealised Losses	Fair Value	Amortised Costs	Gross Unrealised Gains	Gross Unrealised Losses	Fair Value
Certificates of deposit (non-U.S.)	$ 5,538	$ —	$ —	$ 5,538	$ 12,809	$ —	$ —	$ 12,809
Corporate bonds	—	—	—	—	11,003	86	(24)	11,065
Total	$ 5,538	$ —	$ —	$ 5,538	$ 23,812	$ 86	$ (24)	$ 23,874

The Company classifies the investments listed in the above table as available-for-sale debt securities. These investments are stated at fair value as required by the applicable accounting guidance. Unrealised gains and losses on available-for-sale debt securities are included in the Consolidated Balance Sheet as a component of Accumulated other comprehensive (loss) income. As of 31 December 2017, the available-for-sale debt securities have been in an unrealised loss position for less than 12 months. As of 31 December 2018, the contractual maturity of our available for sale debt securities was within 1 year.

Investments in the above table are included in short-term investments on the Consolidated Balance Sheet. Realised gains and losses on investments are included in earnings and are derived using the specific identification method for determining the cost of securities sold.

Long-Term Investments

The following table summarises the Company's long-term investments by significant categories as of 31 December 2018 and 31 December 2017 (in thousands):

	As of 31 December 2018		As of 31 December 2017	
Equity investments:				
Marketable equity securities	$	5,562	$	5,718
Non-marketable equity securities		9,987		10,092
Equity method investments		12,507		22,021
Other investments		17,239		33,251
Total	$	45,295	$	71,082

Equity investments

The following discusses the Company's marketable equity securities, non-marketable equity securities, realised and unrealised gains and losses on marketable and non-marketable equity securities, as well as its equity method investments.

Marketable equity securities

Marketable equity securities are deferred compensation plan assets related to non-qualified deferred compensation plans for certain executives, including money market funds and mutual funds with readily determinable values which are accounted for at fair value.

Prior to 1 January 2018, the Company accounted for its marketable equity securities at fair value with unrealised gains and losses recognised in Accumulated other comprehensive (loss) income on the Consolidated Balance Sheet. As of 31 December 2017, investments had an amortised cost of $5.1 million and unrealised gains (loss) of $0.8 million and $(0.1) million, respectively. Realised gains and losses on marketable equity securities sold or impaired were recognised in Loss on investments in the Consolidated Income Statement.

On 1 January 2018, the Company adopted the accounting standard *Recognition and Measurement of Financial Assets and Financial Liabilities*. Marketable equity securities are measured at fair value. Upon adoption, the Company reclassified $ 0.7 million net unrealised gain related to its marketable equity securities from Accumulated other comprehensive (loss) income to opening Accumulated deficit. Starting 1 January 2018, unrealised gains and losses are recognised in the Consolidated Income Statement. As of 31 December 2018, investments had an amortised cost of $5.9 million and unrealised gain (loss) of $0.6 million and $(1.0) million, respectively.

As of 31 December 2018, and 31 December 2017, the Company's marketable equity securities have been in an unrealised loss position for less than 12 months.

The classification of marketable equity securities as current or non-current is dependent upon management's intended holding period, the security's maturity date and liquidity consideration based on market conditions. If management intends to hold the securities for longer than one year as of the balance sheet date, they are classified as non-current.

The sale and/or maturity of marketable equity securities resulted in the following activity (in thousands):

	Years Ended 31 December					
	2018		2017		2016	
Proceeds from sales	$	79,473	$	165,301	$	25,931
Gross gains		5		16		33
Gross losses		—		—		—

Non-marketable equity securities

Non-marketable equity securities are investments in privately held companies without readily determinable market values. Prior to 1 January 2018, the Company accounted for its non-marketable equity securities at cost less impairment. Realised gains and losses on non-marketable securities sold or impaired were included in loss on investments, included in the Consolidated Income Statement.

On 1 January 2018, Company adopted the accounting standard *Recognition and Measurement of Financial Assets and Financial Liabilities* which changed the accounting for non-marketable securities. The Company elected the measurement alternative for these investments without readily determinable fair values and for which the Company does not have the ability to exercise significant influence. Under the measurement alternative, these investments are carried at cost less any impairment, plus or minus adjustments resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. Resulting adjustments are recorded within the Consolidated Income Statement as loss on investments.

There have been no adjustments to the carrying value of investments resulting from impairments or observable price changes in 2018. For the year ended 31 December 2017, the Company concluded that one private company had indicators of impairment, as the cost basis exceeded the fair value of the investment, resulting in an other-than-temporary impairment charge of $2.8 million. These charges are reflected in "Loss on investments" in the Consolidated Income Statement.*Equity Method Investments*

The Company owns certain investments in limited liability companies and partnerships that are accounted for under the equity method, as the Company has significant influence over operating and financial policies of the investee companies. Our share of gains and losses in equity method investments including impairment are included in loss on investments in the Consolidated Income Statement. Due to the timing of receiving financial information from these limited liability companies and partnerships, the results are reported on a one quarter lag.

The following table summarises the ownership structure and ownership percentage of the non-consolidated investments as of 31 December 2018, accounted for using the equity method.

Name of Investee	Ownership Structure	% Ownership
MPEG LA	Limited Liability Company	8.4%
Music Choice	Limited Liability Partnership	18.2%
Conditional Access Licensing ("CAL")	Limited Liability Company	49.0%

Other Investments

The Company holds investments in certain life insurance contracts. The Company determined the fair value to be the amount that could be realised under the insurance contract as of each reporting period. The changes in the fair value of these contracts are reflected in "Loss on investments" in the Consolidated Income Statement.

Note 8. Fair Value Measurements

The following table presents the Company's investment assets (excluding non-marketable equity investments) and derivatives measured at fair value on a recurring basis as of 31 December 2018 and 2017 (in thousands):

	31 December 2018			
	Level 1	Level 2	Level 3	Total
Certificates of deposit (foreign)	$ —	$ 5,538	$ —	$ 5,538
Marketable equity securities	62	5,500	—	5,562
Interest rate derivatives — asset derivatives	—	10,976	—	10,976
Interest rate derivatives — liability derivatives	—	(6,088)	—	(6,088)
Foreign currency contracts — asset position	—	4,442	—	4,442
Foreign currency contracts — liability position	—	(405)	—	(405)

	31 December 2017			
	Level 1	Level 2	Level 3	Total
Certificates of deposit (foreign)	$ —	$ 12,809	$ —	$ 12,809
Corporate bonds	—	11,065	—	11,065
Marketable equity securities	117	5,601	—	5,718
Interest rate derivatives — asset derivatives	—	10,156	—	10,156
Interest rate derivatives — liability derivatives	—	(4,024)	—	(4,024)
Foreign currency contracts — asset position	—	405	—	405
Foreign currency contracts — liability position	—	(8,802)	—	(8,802)

All of the Company's short-term and long-term investments (excluding non-marketable equity investments) at 31 December 2018 are classified within Level 1 or Level 2 of the fair value hierarchy as they are valued using quoted market prices, market prices for similar securities, or alternative pricing sources with reasonable levels of price transparency. The types of instruments valued based on quoted market prices in active markets include the Company's investment in money market funds, mutual funds and municipal bonds. Such instruments are generally classified within Level 1 of the fair value hierarchy. The types of instruments valued based on other observable inputs include corporate obligations and bonds, commercial paper and certificates of deposit. Such instruments are classified within Level 2 of the fair value hierarchy.

In addition to the financial instruments included in the above table, certain nonfinancial assets and liabilities are to be measured at fair value on a nonrecurring basis in accordance with applicable authoritative guidance. This includes items such as nonfinancial assets and liabilities initially measured at fair value in a business combination (but not measured at fair value in subsequent periods) and nonfinancial long-lived asset groups measured at fair value for an impairment assessment. In general, nonfinancial assets including goodwill, other intangible assets and property and equipment are measured at fair value when there is an indication of impairment and are recorded at fair value only when any impairment is recognised.

During the year ended 31 December 2018, the Company recorded partial impairment of goodwill of $3.4 million related to its Cloud TV reporting unit, of which $1.2 million is attributable to the noncontrolling interest, respectively. During the fourth quarter of 2017, the Company recorded partial impairments of goodwill and indefinite-lived tradenames of $51.2 million and $3.8 million, respectively, acquired in the ActiveVideo acquisition and included as part of the Cloud TV reporting unit, of which $19.3 million is attributable to the noncontrolling interest. See Note 6 *Goodwill and Intangible Assets* of Notes to the Consolidated Financial Statements for further discussion.

The Company believes the principal amount of the debt as of 31 December 2018 approximated the fair value because of interest-bearing rates that are adjusted periodically, analysis of recent market conditions, prevailing interest rates, and other Company specific factors. The Company has classified the debt as a Level 2 item within the fair value hierarchy.

Note 9. Derivative Instruments and Hedging Activities

Overview

ARRIS is exposed to financial market risk, primarily related to foreign currency and interest rates. These exposures are actively monitored by management. To manage the volatility relating to certain of these exposures, the Company enters into a variety of derivative financial instruments. Management's objective is to reduce, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in foreign currency and interest rates. ARRIS's policies and practices are to use derivative financial instruments only to the extent necessary to manage exposures. ARRIS does not hold or issue derivative financial instruments for trading or speculative purposes.

The Company records all derivatives on the balance sheet at fair value. The accounting for changes in the fair value of derivatives depends on the intended use of the derivative, whether the Company has elected to designate a derivative in a hedging relationship and apply hedge accounting and whether the hedging relationship has satisfied the criteria necessary to apply hedge accounting. Derivatives designated and qualifying as a hedge of the exposure to changes in the fair value of an asset, liability, or firm commitment attributable to a particular risk, such as interest rate risk, are considered fair value hedges. Derivatives designated and qualifying as a hedge of the exposure to variability in expected future cash flows, or other types of forecasted transactions, are considered cash flow hedges. Derivatives also may be designated as hedges of the foreign currency exposure of a net investment in a foreign operation. Hedge accounting generally provides for the matching of the timing of gain or loss recognition on the hedging instrument with the recognition of the changes in the fair value of the hedged asset or liability that are attributable to the hedged risk in a fair value hedge or the earnings effect of the hedged forecasted transactions in a cash flow hedge. The Company may enter into derivative contracts that are intended to economically hedge certain of its risk, even though hedge accounting does not apply or the Company elects not to apply hedge accounting. In accordance with the FASB's fair value measurement guidance, the Company made an accounting policy election to measure the credit risk of its derivative financial instruments that are subject to master netting agreements on a net basis by counterparty portfolio.

Cash flow hedges of interest rate risk

The Company's senior secured credit facilities, which are comprised of (i) a "Term Loan A Facility", (ii) a "Term Loan A-1 Facility", (iii) a "Term Loan B-3 Facility", and (iv) a "Revolving Credit Facility", have variable interest rates based on LIBOR. (See Note 16 *Indebtedness* for additional details.) As a result of exposure to interest rate movements, during 2015, the Company entered into various interest rate swap arrangements, which effectively converted $625.0 million of its variable-rate debt based on one-month LIBOR to an aggregate fixed rate of 2.25% plus a leverage-based margin. During 2016, due to additional exposure from the Term Loan A-1 Facility, the Company added additional interest rate swap arrangements which effectively converted $450.0 million of the Company's variable-rate debt based on one-month LIBOR to an aggregate fixed rate of 0.98% plus a leverage-based margin. Total notional amount of the swaps as of 31 December 2018 was $1,075.0 million and each swap matures on 31 March 2020. During the year ended 31 December 2018, the Company entered into new forward-starting interest rate swap arrangements which effectively will convert $1,075.0 million of the Company's variable-rate debt based on one-month LIBOR to an aggregate fixed rate of 2.63% plus a leverage-based margin for the period beginning 31 March 2020 and ending 30 June 2022. ARRIS has designated these swaps as cash flow hedges, and the objective of these hedges is to manage the variability of cash flows in the interest payments related to the portion of the variable-rate debt designated as being hedged.

The Company's objectives in using interest rate derivatives are to add stability to interest expense and to manage its exposure to interest rate movements. To accomplish this objective, the Company uses interest rate swaps as part of its interest rate risk management strategy. Interest rate swaps designated as cash flow hedges involve the receipt of variable amounts from a counterparty in exchange for the Company making fixed-rate payments over the life of the agreements without exchange of the underlying notional amount.

The effective portion of changes in the fair value of derivatives designated and that qualify as cash flow hedges is recorded in Accumulated other comprehensive (loss) income and is subsequently reclassified into earnings in the period that the hedged forecasted transaction affects earnings. During 2018, such derivatives were used to hedge the variable cash flows associated with debt. The ineffective portion of the change in fair value of the derivatives is recognised directly in earnings. During the year ended 31 December 2018, approximately $0.5 million in income has been recorded related to hedge ineffectiveness by the Company. During the years ended 31 December 2017 and 2016, no expense has been recorded related to hedge ineffectiveness by the Company.

Amounts reported in Accumulated other comprehensive (loss) income related to derivatives will be reclassified to interest expense as interest payments are made on the Company's variable-rate debt. Over the next 12 months, the Company estimates that an additional $8.8 million may be reclassified as a decrease to interest expense.

The table below presents the impact of the Company's derivative financial instruments had on Consolidated Income Statement (in thousands):

	Location of Gain (Loss) Reclassified from AOCI into Income	Years Ended 31 December, 2018	2017	2016
Gain (loss) Recognised in OCI on Derivatives (Effective Portion)	Interest expense	$ 1,121	$ 5,587	$ 2,103
Amounts Reclassified from Accumulated OCI into Income (Effective Portion)	Interest expense	(2,851)	1,663	7,510

The following table indicates the location on the Consolidated Balance Sheet in which the Company's derivative assets and liabilities designated as hedging instruments have been recognised and the related fair values of those derivatives (in thousands):

	Balance Sheet Location	31 December 2018	31 December 2017
Derivatives designated as hedging instruments:			
Interest rate derivatives – asset derivatives	Other current assets	8,788	3,590
Interest rate derivatives – asset derivatives	Other non-current assets	2,188	6,566
Interest rate derivatives – liability derivatives	Other accrued liabilities	—	(3,053)
Interest rate derivatives – liability derivatives	Other noncurrent liabilities	(6,088)	(971)

Credit-risk-related contingent features

Each of ARRIS's agreements with its derivative counterparties contain a provision where the Company could be declared in default on its derivative obligations if repayment of the underlying indebtedness is accelerated by the lender due to the Company's default on the indebtedness. As of 31 December 2018, and 2017, the fair value of derivatives, which includes accrued interest but excludes any adjustment for nonperformance risk, related to these agreements was a net asset position of $4.6 million and $6.1 million, respectively. As of 31 December 2018, the Company has not posted any collateral related to these agreements nor has it required any of its counterparties to post collateral related to these or any other agreements.

Non-designated hedges of foreign currency risk

The Company has U.S. dollar functional currency subsidiaries that bill certain international customers in their local currency and foreign functional currency entities that procure in U.S. dollars. ARRIS also has certain predictable expenditures for international operations in local currency. Additionally, certain intercompany transactions are denominated in foreign currencies and subject to revaluation. To mitigate the volatility related to fluctuations in the foreign exchange rates for certain exposures, ARRIS has entered into various foreign currency contracts. As of 31 December 2018, the Company had forward contracts with notional amounts totaling 60 million euros which mature throughout 2019, forward contracts with a total notional amount of 10 million Australian dollars which mature throughout 2019, forward contracts with notional amounts totaling 31 million Canadian dollars which mature throughout 2019, forward contracts with notional amounts totaling 30.0 million British pounds which mature throughout 2019, forward contracts with notional amounts totaling 747.5 million South African rand which mature throughout 2019 and 2020.

The Company's objectives in using foreign currency derivatives are to add stability to foreign currency gains and losses recorded as other expense (income) and to manage its exposure to foreign currency movements. To accomplish this objective, the Company uses foreign currency option and foreign currency forward contracts as part of its foreign currency risk management strategy. The Company's foreign currency derivative instruments economically hedge certain risk but are not designated as hedges, and accordingly, all changes in the fair value of the instruments are recognised as a loss (gain) on foreign currency in the Consolidated Income Statement. The maximum time frame for ARRIS's derivatives is currently twenty months.

The following table indicates the location on the Consolidated Balance Sheet in which the Company's derivative assets and liabilities not designated as hedging instruments have been recognised and the related fair values of those derivatives (in thousands):

	Balance Sheet Location	31 December 2018	31 December 2017
Foreign exchange contracts — asset derivatives	Other current assets	$ 3,964	$ 405
Foreign exchange contracts — asset derivatives	Other assets	478	$ —
Foreign exchange contracts — liability derivatives....	Other accrued liabilities	(405)	(8,202)
Foreign exchange contracts — liability derivatives....	Other noncurrent liabilities	—	(600)

The change in the fair values of ARRIS's derivatives not designated as hedging instruments recorded in the Consolidated Income Statement were as follows (in thousands):

	Statements of Income Location	2018	2017	2016
Foreign exchange contracts	(Gain) loss on foreign currency	$ (15,969)	$ 25,339	$ 5,909

Note 10. Guarantees

Warranty

ARRIS provides warranties of various lengths to customers based on the specific product and the terms of individual agreements. The Company provides for the estimated cost of product warranties based on historical trends, the embedded base of product in the field, failure rates, and repair costs at the time revenue is recognised. Expenses related to product defects and unusual product warranty problems are recorded in the period that the problem is identified. While the Company engages in extensive product quality programmes and processes, including actively monitoring and evaluating the quality of its suppliers, the estimated warranty obligation could be affected by changes in ongoing product failure rates, material usage and service delivery costs incurred in correcting a product failure, as well as specific product failures outside of ARRIS's baseline experience. If actual product failure rates, material usage or service delivery costs differ from estimates, revisions (which could be material) would be recorded against the warranty liability.

The Company offers extended warranties and support service agreements on certain products. Revenue from these agreements is deferred at the time of the sale and recognised on a straight-line basis over the contract period. Costs of services performed under these types of contracts are charged to expense as incurred, which approximates the timing of the revenue stream.

Information regarding the changes in ARRIS's aggregate product warranty liabilities for the years ending 31 December 2018 and 2017 were as follows (in thousands):

	2018	2017
Beginning balance	$ 76,089	$ 88,187
Warranty reserve at acquisition	827	1,700
Accruals related to warranties (including changes in assumptions)	31,020	36,379
Settlements made (in cash or in kind)	(44,460)	(50,177)
Ending balance	$ 63,476	$ 76,089

Note 11. Segment Information

The "management approach" has been used to present the following segment information. This approach is based upon the way the management of the Company organises segments for making operating decisions and assessing performance. Financial information is reported on the basis that it is used internally by the chief operating decision maker ("CODM") for evaluating segment performance and deciding how to allocate resources to segments. The Company's chief executive officer has been identified as the CODM.

As of 1 January 2018, the Company changed the composition of its measurement of segment profit and loss (direct contribution) used by the Company's chief operating decision maker. Beginning in 2018, the Company charges bonus, equity compensation and certain other costs which are now directly aligned with each of its segments within its measurement of segment profit and loss (direct contribution). These costs historically were included as part of "Corporate and Unallocated Costs". Consequently, the Company's segment information for the 2016 and 2017 period has been restated to reflect such change.

The CODM manages the Company under three segments:

- *Customer Premises Equipment ("CPE")* — The CPE segment's product solutions include set-tops, gateways, and subscriber premises equipment that enable service providers to offer voice, video and high-speed data services to residential and business subscribers.

- *Network & Cloud ("N&C")* — The N&C segment's product solutions include cable modem termination system, video infrastructure, distribution and transmission equipment and cloud solutions that enable facility-based service providers to construct a state-of-the-art residential and metro distribution network. The portfolio also includes a full suite of global services that offer technical support, professional services and system integration offerings to enable solutions sales of ARRIS's end-to-end product portfolio.

- *Enterprise Networks ("Enterprise")* — The Enterprise Networks segment focuses on enabling constant, wireless and wired connectivity across complex and varied networking environments. It offers dedicated engineering, sales and marketing resources to serve customers across a spectrum of verticals—including hospitality, education, smart cities, government, venues, service providers and more.

These operating segments are determined based on the nature of the products and services offered. The measures that are used to assess the reportable segment's operating performance are sales and direct contribution. Direct contribution is defined as gross margin less direct operating expense. The "Corporate and Unallocated Costs" category of expenses include corporate sales and marketing (excluding Enterprise segment), home office general and administrative expenses. Marketing and sales expenses related to the Enterprise segment are considered a direct operating expense for that segment and are not included in the "Corporate and Unallocated Costs." These expenses are not included in the measure of segment direct contribution and as such are reported as "Corporate and Unallocated Costs" and are included in the reconciliation to income (loss) before income taxes. A measure of assets is not applicable, as segment assets are not regularly reviewed by the CODM for evaluating performance or allocating resources.

The tables below present information about the Company's reportable segments (in thousands):

	2018	Restated 2017	Restated 2016
Net sales to external customers:			
CPE	$3,923,894	$4,475,670	$4,747,445
N&C	2,156,577	2,094,113	2,111,708
Enterprise	675,352	45,749	—
Other	(13,183)	(1,140)	(30,035)
Total	6,742,640	6,614,392	6,829,118
Direct contribution:			
CPE	270,510	456,562	647,117
N&C	848,938	724,598	595,866
Enterprise	64,667	1,388	—
Segment total	1,184,115	1,182,548	1,242,983
Corporate and unallocated costs	(576,347)	(530,772)	(581,991)
Amortisation of intangible assets	(383,561)	(375,407)	(397,464)
Impairment of goodwill and intangible assets	(3,400)	(55,000)	(2,200)
Integration, acquisition, restructuring and other costs	(41,922)	(98,357)	(150,611)
Operating income	178,885	123,012	110,717
Interest expense	95,086	87,088	79,817
Loss on investments	308	11,066	21,194
Loss (gain) on foreign currency	3,834	9,757	(13,982)
Interest income	(8,341)	(7,975)	(4,395)
Other expense, net	5,056	1,873	3,991
Income before income taxes	$ 82,942	$ 21,203	$ 24,092

For the years ended 31 December 2018, 2017 and 2016, the composition of our corporate and unallocated costs that are reflected in the Consolidated Income Statement were as follows (in thousands):

	2018	Restated 2017	Restated 2016
Corporate and unallocated costs:			
Cost of sales	$ 85,838	$ 56,952	$ 118,001
Selling, general and administrative expenses	385,273	374,933	367,225
Research and development expenses	105,236	98,887	96,765
Total	$576,347	$ 530,772	$ 581,991

The following table summarises the Company's net intangible assets and goodwill by reportable segment as of 31 December 2018 and 2017 (in thousands):

	CPE	N&C	Enterprise	Total
31 December 2018				
Goodwill	$ 1,380,817	$ 570,852	$ 288,973	$ 2,240,642
Intangible assets, net	587,728	398,856	417,075	1,403,659
31 December 2017				
Goodwill	$ 1,386,680	$ 573,798	$ 318,034	$ 2,278,512
Intangible assets, net	807,314	501,998	462,050	1,771,362

The following table summarises the Company's revenues by products and services as of 31 December 2018, 2017 and 2016 (in thousands):

	2018	2017	2016
CPE:			
Broadband CPE	$ 1,643,152	$ 1,808,600	$ 1,683,491
Video CPE	2,280,742	2,667,070	3,063,954
Sub-total	3,923,894	4,475,670	4,747,445
Network & Cloud:			
Networks	1,850,416	1,747,936	1,789,097
Software and services	306,161	346,177	322,611
Sub-total	2,156,577	2,094,113	2,111,708
Enterprise Networks:			
Enterprise Networks	675,352	45,749	—
Other:			
Other [1]	(13,183)	(1,140)	(30,035)
Total net sales	$ 6,742,640	$ 6,614,392	$ 6,829,118

(1) Includes adjustments related to acquisition accounting impacts on deferred revenues in 2018 and 2017 and reduction in revenue related to warrants in 2016.

The Company's two largest customers (including their affiliates, as applicable) are Charter and Comcast. Over the past year, certain customers' beneficial ownership may have changed as a result of mergers and acquisitions. Therefore, the revenue for ARRIS's customers for prior periods has been adjusted to include the affiliates under common control. A summary of sales to these customers for 2018, 2017 and 2016 is set forth below (in thousands, except percentages):

	Years ended 31 December		
	2018	2017	2016
Charter and affiliates	$ 928,403	$ 985,237	$1,064,408[1]
% of sales	13.8%	14.9%	15.6%
Comcast and affiliates	$1,114,238	$1,479,415	$1,637,519[1]
% of sales	16.5%	22.4%	24.0%

(1) Revenues were reduced $30.2 million in 2016, as a result of warrants held by Charter and Comcast that are intended to incent additional purchases from them. (see Note 18 *Warrants* for additional information).

ARRIS sells its products primarily in the United States. The Company's international revenue is generated from Asia Pacific, Canada, Europe and Latin America. Sales to customers outside of United States were approximately 41.1%, 34.2% and 28.1% of total sales for the years ended 31 December 2018, 2017 and 2016, respectively. Sales for the years ended 31 December 2018, 2017 and 2016 were as follows (in thousands):

	For the Years Ended 31 December,		
	2018	2017	2016
Domestic – U.S	$3,973,247	$4,351,843	$4,909,698
International			
Americas, excluding U.S.	1,182,289	1,080,456	982,769
Asia Pacific	431,045	374,772	291,504
EMEA	1,156,059	807,321	645,147
Total international	$2,769,393	$2,262,549	$1,919,420
Total sales	$6,742,640	$6,614,392	$6,829,118

The following table summarises ARRIS's international property, plant and equipment assets by geographic region as of 31 December 2018 and 2017 (in thousands):

	For the Years Ended 31 December,	
	2018	2017
Domestic – U.S	$ 236,003	$ 250,866
International		
Americas, excluding U.S.	12,185	12,746
Asia Pacific	23,994	85,236
EMEA	15,489	23,619
Total international	$ 51,668	$ 121,601
Total property, plant and equipment assets	$ 287,671	$ 372,467

Note 12. Inventories

The components of inventory are as follows, net of reserves (in thousands):

	31 December,	
	2018	2017
Raw material	$ 94,978	$ 149,328
Work in process	4,275	5,416
Finished goods	640,952	670,467
Total inventories, net	$ 740,205	$ 825,211

Note 13. Property, Plant and Equipment

Property, plant and equipment, at cost, consisted of the following (in thousands):

	31 December,	
	2018	2017
Land	$ 26,652	$ 68,562
Buildings and leasehold improvements	203,920	205,534
Machinery and equipment	448,276	466,325
Total: Cost	678,848	740,421
Less: Accumulated depreciation	(391,177)	(367,954)
Total property, plant and equipment, net	$ 287,671	$ 372,467

In the fourth quarter of 2018, the Company completed the sale of land, building and certain manufacturing equipment related to its factory in Taiwan, for an aggregate consideration of $75.9 million. The Company recorded a ($13.3) million gain which is reported in the Consolidated Income Statement under the caption "Integration, acquisition, restructuring and other costs, net".

Note 14. Restructuring, Acquisition and Integration

Restructuring

The following table represents a summary of and changes to the restructuring accrual, which is primarily composed of accrued severance and other employee costs and contractual obligations that related to excess leased facilities (in thousands):

	Employee severance & termination benefits	Contractual obligations and other	Write-off of property, plant and equipment	Total
Balance at 31 December 2016	$ 27,886	$ 2,243	$ —	$ 30,129
Restructuring charges	13,346	5,742	1,842	20,930
Cash payments / adjustments	(35,955)	(4,683)	—	(40,638)
Non-cash expense	(898)	—	(1,842)	(2,740)
Balance at 31 December 2017	$ 4,379	$ 3,302	$ —	$ 7,681
Restructuring charges	38,512	1,607	911	41,030
Cash payments / adjustments	(38,056)	(1,149)	—	(39,205)
Non-cash expense	—	—	(911)	(911)
Balance at 31 December 2018	**$ 4,835**	**$ 3,760**	**$ —**	**$ 8,595**

Employee severance and termination benefits — In 2018, ARRIS recorded restructuring charges of $38.5 million related to severance and employee termination benefits for 1,084 employees. These restructuring initiatives affected all segments, except Enterprise Networks. The liability for these initiatives is expected to be settled in first half of 2019.

In 2017, ARRIS recorded restructuring charges of $13.3 million related to severance and employee termination benefits for 195 employees. This initiative affected all segments. The liability for the plan has been materially settled in 2018.

In first quarter of 2016, ARRIS completed its acquisition of Pace. ARRIS initiated restructuring plans as a result of the acquisition that focused on the rationalisation of personnel, facilities and systems across the ARRIS organisation. The cost recorded during 2016 was approximately $96.3 million. The 2016 restructuring plan affected 1,545 positions across the Company. The liability for the plan were settled in 2018.

These amounts are included in the Consolidated Income Statement in the line item titled "Integration, acquisition, restructuring and other costs, net".

Contractual obligations —Contractual obligations that relate to excess leased facilities are recognised and measured initially at fair value on the cease-use date based on remaining lease rentals, adjusted for the effects of any prepaid or deferred items recognised, reduced by the estimated sublease rentals that could be reasonably obtained even if it is not the intent to sublease. The fair value of these liabilities is based on a net present value model using a credit-adjusted risk-free rate. The liability will be paid out over the remainder of the leased properties' terms, which continue through 2021. Actual sublease terms may differ from the estimates originally made by the Company. Any future changes in the estimates or in the actual sublease income could require future adjustments to the liabilities, which would impact net income in the period the adjustment is recorded. During 2018 and 2017, the Company recorded lease exist costs of $1.6 million and $5.7 million, respectively.

Write-off of property, plant and equipment — As a result of restructuring activities in 2018 effecting certain leased facilities, the Company recorded a restructuring charge of $0.9 million to write-off certain leasehold improvements associated with the facilities. As part of the restructuring plan initiated as a result of the Pace combination, the Company recorded a restructuring charge of $1.8 million in 2017 related to the write-off of property, plant and equipment associated with a closure of a facility. This restructuring plan was related to the Corporate segment.

Acquisition

Acquisition expenses were approximately $9.7 million, $74.5 million and $29.0 million for the years ended 31 December 2018, 2017 and 2016, respectively. In 2018, acquisition costs include banker fees related to the proposed CommScope transaction. In 2017, acquisition expenses included $61.5 million relates to the cash settlement of stock-based awards held by transferring employees for the Ruckus Networks acquisition. These expenses primarily related to the acquisition of Ruckus Networks and consisted of banker and other fees.

Integration

Integration expenses were approximately $4.6 million, $2.9 million and $24.2 million for the years ended 31 December 2018, 2017 and 2016, respectively. The expenses were related to outside services and other integration related activities following the Ruckus Networks and Pace acquisition.

Note 15. Lease Financing Obligation

Sale-leaseback of San Diego Office Complex:

In 2015, the Company sold its San Diego office complex consisting of land and buildings with a net book value of $71.0 million, for total consideration of $85.5 million. The Company concurrently entered into a leaseback arrangement for two buildings on the San Diego campus ("Building 1" and "Building 2") with an initial leaseback term of ten years for Building 1 and a maximum term of one year for Building 2. The Company determined that the sale-leaseback of Building 1 did not qualify for sale-leaseback accounting due to continuing involvement that will exist for the 10-year lease term. Accordingly, the carrying amount of Building 1 will remain on the Company's balance sheet and will be depreciated over its remaining useful life with the proceeds reflected as a financing obligation. The Company concluded that Building 2 qualified for sale-leaseback accounting with the subsequent leaseback classified as an operating lease.

At 31 December 2018, the minimum lease payments required on the financing obligation were as follows (in thousands):

2019	4,388
2020	4,520
2021	4,655
2022	4,795
2023	4,939
Thereafter through 2025	6,368
Total minimum lease payments	$29,665

Note 16. Indebtedness

The following is a summary of indebtedness and lease financing obligations as of 31 December 2018 and 2017 (in thousands):

	As of 31 December 2018	As of 31 December 2017
Current liabilities:		
Term A loan	$ 19,550	$ 19,550
Term A-1 loan	62,500	62,500
Term B-3 loan	5,450	5,450
Lease finance obligation	1,050	870
Current obligations	88,550	88,370
Current deferred financing fees and debt discount	(4,688)	(4,811)
Net current obligations	83,862	83,559
Non-current liabilities:		
Term A loan	347,013	366,562
Term A-1 loan	1,109,375	1,171,875
Term B-3 loan	530,012	535,463
Lease finance obligation	59,982	61,032
Non-current obligations	2,046,382	2,134,932
Noncurrent deferred financing fees and debt discount	(14,000)	(18,688)

Net non-current obligations		2,032,382		2,116,244
Total	$	2,116,244	$	2,199,803

Senior Secured Credit Facilities

On 20 December 2017, the Company entered into a Fourth Amendment (the "Fourth Amendment") to its Amended and Restated Credit Facility dated 18 June 2015, as previously amended on 14 December 2015, 26 April 2017, and 17 October 2017 (the "Credit Agreement"). The Fourth Amendment provided for a new Term B Loan facility in the principal amount of $542.3 million, the proceeds of which (along with cash on hand) were used to repay in full the existing Term B Loan facility. Under the terms of the Fourth Amendment, the maturity date of the new Term B Loan facility remains 26 April 2024, but the new Term B Loan facility has an interest rate of LIBOR (as defined in the Credit Agreement) plus a percentage ranging from 2.00% to 2.25% for Eurocurrency Loans (as defined in the Credit Agreement) or the prime rate (as determined in accordance with the Credit Agreement) plus a percentage ranging from 1.00% to 1.25% for Base Rate Loans (as defined in the Credit Agreement), in either case depending on ARRIS's consolidated net leverage ratio. The Fourth Amendment also increased to $500 million the amount of cash that can be used to offset indebtedness in the calculation of the consolidated net leverage ratio for purposes of determining the applicable interest rate. All other material terms of the Credit Agreement remained unchanged.

On 17 October 2017, the Company entered into the Third Amendment and Consent (the "Third Amendment") to the Credit Agreement. Pursuant to the Third Amendment, ARRIS (i) incurred "Refinancing Term A Loans" of $391 million, (ii) incurred "Refinancing Term A-1 Loans" of $1,250 million, and (iii) obtained a "Refinancing Revolving Credit Facility" of $500 million, the proceeds of which were used to refinance in full the existing Term A Loans, the existing Term A-1 Loans and the existing Revolving Credit Loans outstanding under the Credit Agreement immediately prior to the effectiveness of the Third Amendment. The existing Term B Loans were not refinanced and remain outstanding.

The Third Amendment extended the maturity date of the Term A Loans and the Revolving Credit Facility to 17 October 2022. Pursuant to the Third Amendment, the Company is subject to a minimum consolidated interest coverage ratio test, which is unchanged from the Credit Agreement. In addition, the Company is subject to a maximum consolidated net leverage ratio test of not more than 4.0:1.0, subject to a step-down to 3.75:1.00 commencing with the fiscal quarter ending 31 March 2019. The amount of unrestricted cash used to offset indebtedness in the calculation of the consolidated net leverage ratio was also increased from $200 million to $500 million. The interest rates under the Third Amendment were not changed.

On 26 April 2017, ARRIS entered into a Second Amendment (the "Second Amendment") to the Credit Agreement. The Second Amendment provided for a new Term B Loan facility in the principal amount of $545 million, the proceeds of which (along with cash on hand) were used to repay the existing Term B Loan facility. Under the terms of the Second Amendment, the new Term B-2 Loan has a maturity date of April 2024 and an interest rate of LIBOR plus a percentage ranging from 2.25% to 2.50% for Eurocurrency Rate Loans (as defined in the Credit Agreement), or the prime rate plus a percentage ranging from 1.25% to 1.50% for Base Rate Loans (as defined in the Credit Agreement), in either case depending on the Company's consolidated net leverage ratio.

In connection with the Amendments in 2017, the Company paid and capitalised approximately $1.4 million of financing fees and $4.5 million of original issuance discount. In addition, the Company expensed approximately $4.5 million of debt issuance costs and wrote off approximately $1.3 million of existing debt issuance costs associated with certain lenders who were not party to the credit facility, which were included as interest expense in the Consolidated Income Statement for the year ended 31 December 2017.

Interest rates on borrowings under the senior secured credit facilities are set forth in the table below.

	Rate	As of 31 December 2018
Term Loan A	LIBOR + 1.75%	4.27%
Term Loan A-1	LIBOR + 1.75%	4.27%
Term Loan B-3	LIBOR + 2.25%	4.77%
Revolving Credit Facility(1)	LIBOR + 1.75%	Not Applicable

(1) Includes unused commitment fee of 0.30% and letter of credit fee of 1.75% not reflected in interest rate above.

The Credit Agreement provides for adjustments to the interest rates paid on the Term Loan A, Term Loan A-1, Term Loan B-3 and Revolving Credit Facility based upon the achievement of certain leverage ratios.

Borrowings under the senior secured credit facilities are secured by first priority liens on substantially all of the assets of ARRIS and certain of its present and future subsidiaries who are or become parties to, or guarantors under, the Credit Agreement governing the senior secured credit facilities. The Credit Agreement provides terms for mandatory prepayments and optional prepayments and commitment reductions. The Credit Agreement also includes events of default, which are customary for facilities of this type (with customary grace periods, as applicable), including provisions under which, upon the occurrence of an event of default, all amounts outstanding under the credit facilities may be accelerated. The Credit Agreement contains usual and customary limitations on indebtedness, liens, restricted payments, acquisitions and asset sales in the form of affirmative, negative and financial covenants, which are customary for financings of this type, including the maintenance of a minimum interest coverage ratio and a maximum leverage ratio. As of 31 December 2018, ARRIS was in compliance with all covenants under the Credit Agreement.

During 2018 and 2017, the Company made mandatory payments of approximately $87.5 million and $91.7 million, respectively, related to the senior secured credit facilities.

Other

As of 31 December 2018, the scheduled maturities of the contractual debt obligations for the next five years are as follows (in thousands):

2019	$ 87,500
2020	87,500
2021	87,500
2022	1,297,738
2023	5,450
Thereafter	508,212

Note 17. Earnings Per Share

The following is a reconciliation of the numerators and denominators of the basic and diluted earnings (loss) per share computations for the periods indicated (in thousands, except per share data):

	For the Years Ended 31 December,		
	2018	2017	2016
Basic:			
Net income attributable to ARRIS International plc.	$ 113,740	$ 92,027	$ 18,100
Weighted average shares outstanding	180,147	187,133	190,701
Basic earnings per share	$ 0.63	$ 0.49	$ 0.09
Diluted:			
Net income attributable to ARRIS International plc.	$ 113,740	$ 92,027	$ 18,100
Weighted average shares outstanding	180,147	187,133	190,701
Net effect of dilutive shares	1,894	2,483	1,484
Total	182,041	189,616	192,185
Diluted earnings per share	$ 0.62	$ 0.49	$ 0.09

Potential dilutive shares include stock options, unvested restricted and performance awards and warrants.

For the year ended 31 December 2018, 2017 and 2016, approximately 1.5 million, 1.1 million and 0.9 million of the equity-based awards, respectively, were excluded from the computation of diluted earnings per share because their effect would have been anti-dilutive. These exclusions are made if the exercise price of these equity-based awards is in excess of the average market price of the shares for the period, or if the Company has net losses, both of which have an anti-dilutive effect.

During the twelve months ended 31 December 2018, the Company issued 2.7 million shares of its ordinary shares related to the vesting of restricted stock units, as compared to 2.6 million shares for the twelve months ended 31 December 2017.

Warrants have a dilutive effect in those periods in which the average market price of the shares exceeds the current effective exercise price (under the treasury stock method) and are not subject to performance conditions. There was no incremental vesting in the 2018 and 2017. During the fourth quarter of 2016, approximately 2.2 million warrants vested based on the amount of purchases of products and services by the customer from the Company. The dilutive effect of these vested shares was immaterial.

The Company has not paid cash dividends on its stock since its inception. Any future determination to pay dividends will be at the discretion of the Board of Directors and will be dependent on then-existing conditions, including the Company's financial condition, results of operations, capital requirements, contractual and legal restrictions, business prospects and other factors that the Board considers relevant. The Credit Agreement contains restrictions on the Company's ability to pay dividends on its ordinary shares.

Note 18. Warrants

During 2016, the Company entered into two separate Warrant and Registration Rights Agreements (the "Warrants") with certain customers pursuant to which those customers may purchase up to 14.0 million of ARRIS's ordinary shares, (subject to adjustment in accordance with the terms of the Warrants, the "Shares").

The Warrants will vest in tranches based on the amount of purchases of products and services by the customer from the Company. At 31 December 2018 and 31 December 2017, approximately 2.2 million Warrants were vested and outstanding, with a weighted average exercise price of $24.64, which vested based on the amount of purchases of products and services by the customers from the Company in 2016.

For the year ended 31 December 2018 and 2017, there were no adjustments related to the Warrants. For the year ended 31 December 2016, ARRIS recorded $30.2 million as a reduction to net sales in connection with Warrants. This transaction is considered an equity contract and is classified as such.

Note 19. Income Taxes

Income (loss) before income taxes (in thousands):

	Years Ended 31 December,		
	2018	2017	2016
U.K.	$ (82,790)	$ (64,177)	$ (36,300)
U.S.	(97,137)	(159,951)	(149,605)
Other Foreign	262,869	245,331	209,997
Total	$ 82,942	$ 21,203	$ 24,092

Income tax expense (benefit) consisted of the following (in thousands):

	Years Ended 31 December,		
	2018	2017	2016
Current – U.K.	$ 8,167	$ 667	$ 81,822
U.S.	21,611	3,530	47,025
Other Foreign	14,690	25,347	31,552
Total – current	44,468	29,544	160,399
Deferred – U.K.	(20,280)	(22,254)	(23,177)
U.S.	(53,160)	(49,671)	(105,735)
Other Foreign	4,628	(2,540)	(16,356)
Total – non-current	(68,812)	(74,465)	(145,268)
Income tax (benefit) expense	$ (24,344)	$ (44,921)	$ 15,131

A reconciliation of the U.K. statutory income tax rate of 19.00% for 2018, 19.25% for 2017 and 20.00% for 2016 and the effective income tax rates is as follows:

	Years Ended 31 December,		
	2018	2017	2016
Statutory income tax rate	19.00%	19.25%	20.00%
Effects of:			
State income taxes, net of federal benefit	(5.3)	11.0	(16.6)
U.S. domestic manufacturing deduction	—	(0.9)	(12.0)
Transaction costs	—	54.2	22.0
Research and development tax credits	(35.2)	(119.7)	(90.6)
Withholding taxes (U.K. entities)	4.2	12.4	245.5
U.K. stamp duty	0.5	—	9.4
Subpart F income	3.2	—	4.0
Changes in valuation allowance	—	35.1	6.0
Foreign tax credits	9.8	29.5	(14.0)
Non-deductible officer compensation	5.5	4.9	—
Non-U.K. tax rate differential	4.4	26.1	(50.9)
Benefit of other foreign tax regimes	(42.8)	(170.6)	(135.4)
Accrual of outside basis differences	7.9	—	—
Impacts of internal restructuring	(4.6)	—	—
Gain on sale of Taiwan factory	(5.2)	—	—
Change in tax rate	1.8	(105.0)	—
Uncertain tax positions	5.3	(13.1)	88.9
Other, net	2.2	5.0	(13.5)
Effective income tax rate	(29.4)%	(211.85)%	62.8%

On 22 December 2017, the Tax Cuts and Jobs Act of 2017 (the "Act") was signed into law making significant changes to the Internal Revenue Code. Changes include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after 31 December 2017, a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings as of 31 December 2017, a new alternative U.S. tax on certain Base Erosion Anti-Avoidance (BEAT) payments from a U.S. company to any foreign related party, a new U.S. tax on certain off-shore earnings referred to as Global Intangible Low-Taxed Income (GILTI), additional limitations on certain executive compensation, and limitations on interest deductions. The Company has recorded current tax on its global intangible low-taxed income ("GILTI") relative to the 2018 operations and has elected to account for GILTI as period costs when incurred.

The Company was required to recognise the effect of the tax law changes in the period of enactment, such as determining the transition tax, remeasuring its U.S. deferred tax assets and liabilities as well as reassessing the realisability of its deferred tax assets. Due to the timing of the enactment and the complexity in applying the provisions of the Act, the Company made reasonable estimates of the impact of the Act in its 31 December 2017 year end income tax provision in accordance with Staff Accounting Bulletin No. 118, its understanding of the Act and other relevant guidance available. As the Company collected and prepared necessary data, and interpreted the additional guidance issued by the U.S. Treasury Department, the Internal Revenue Service, and other standard-setting bodies, we made certain adjustments, over the course of the year ended 31 December 2018, to the provisional amounts including refinement to deferred taxes and the one-time transition tax. The accounting for the effects of the Act has been completed as of 31 December 2018.

The Act required us to pay U.S. income taxes on accumulated foreign subsidiary earnings not previously subject to U.S. income tax. The provisional amount for one-time transition tax liability was not material as of 31 December 2017. During 2018, this amount was finalised and as of 31 December 2018 our one-time transition tax liability and income tax expense is zero.

Due to the change in the U.S. federal statutory rate from the Act, the Company remeasured the deferred taxes at 31 December 2017 to reflect the reduced rate. The Company recognised a provisional income tax benefit amount of ($22.3) million related to this remeasurement of certain deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future. Due to the finalisation of the effects of the Tax Act the company recorded $1.5 million of income tax expense in the period ended 31 December 2018 related to the remeasurement of these deferred tax amounts.

Deferred income taxes reflect the net tax effects of temporary differences between carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of ARRIS's net deferred income tax assets (liabilities) were as follows (in thousands):

	31 December, 2018	31 December, 2017
Deferred income tax assets		
Inventory costs	$ 21,471	$ 29,453
Property, plant and equipment	12,333	—
Accrued employee benefits	22,595	34,472
Accrued operating expense	42,290	24,904
Reserves	13,144	16,434
Investments	—	8,796
Loss carry forward	68,518	91,832
Research and development credits	181,851	164,841
Capitalised research and development	97,975	83,224
Other	26,157	17,379
Total deferred income tax assets	486,334	471,335
Deferred income tax liabilities:		
Property, plant and equipment	—	(571)
Investments	(1,970)	—
Other liabilities	(3,026)	(7,190)
Goodwill and intangible assets	(262,660)	(325,283)
Total deferred income tax liabilities	(267,656)	(333,044)
Net deferred income tax assets	218,678	138,291
Valuation allowance	(90,057)	(91,743)
Net deferred income tax assets	$ 128,621	$ 46,548

Significant attributes of ARRIS's deferred tax assets related to loss carryforwards and tax credits were as follows: (in thousands):

	2018	2017	Expiration
Net operating loss carryforwards ("NOL"):			
U.S. federal [1]	$ 7,117	$ 27,405	2019 - 2029
Georgia	15,211	15,948	2019 - 2038
Pennsylvania	17,400	17,687	2019 - 2038
Other U.S. states	10,944	12,236	2019 - 2038
Non-U.S.	17,846	18,556	Varies [2]
Total tax effected loss carryforward	$ 68,518	$ 91,832	
Tax credit carryforwards:			
U.S. federal R&D	$ 119,257	$ 103,581	2019 - 2038
Other U.S. federal	—	5,742	
California R&D	40,335	34,208	Indefinite
Other U.S. states R&D	22,259	21,310	2019 - 2038
Total credit carryforward	$ 181,851	$ 164,841	

(1) Gross of tax effect U.S. Federal operating loss carryforwards are $33.9 million for the year ended 31 December 2018 and $130.5 million for the year ended 31 December 2017.

(2) $2.9 million of this amount is located in Mexico and Israel, both of which have an expiration of ten years, Canadian NOLs expire within 16 years and all other foreign NOLs have an indefinite carryforward life.

ARRIS' ability to use U.S. federal, state, and other foreign net operating loss carryforwards to reduce future taxable income, or to use U.S. federal and state research and development tax credits and other carryforwards to reduce future income tax liabilities, is subject to the ability to generate sufficient taxable income of an appropriate characterisation in the appropriate taxing jurisdictions. In some instances, the utilisation is also subject to restrictions attributable to change of ownership during prior tax years as defined by appropriate law in the relevant taxing jurisdiction. These limitations, as noted above, prevent the Company from utilising certain deferred tax assets and were considered in establishing our valuation allowances.

Significant components of ARRIS's valuation allowance were as follows (in thousands):

	2018	2017
U.S. federal R&D	$ (5,239)	$ (8,578)
Other U.S. federal	(1,585)	(4,241)
Georgia NOL	(14,478)	(15,008)
Pennsylvania NOL	(9,887)	(10,068)
Other state NOL	(9,111)	(8,988)
California R&D	(25,994)	(18,773)
Other state R&D	(15,635)	(15,606)
Non-U.S. NOL	(8,128)	(10,481)
Ending balance	$ (90,057)	$ (91,743)

A roll-forward analysis of our deferred tax asset valuation allowances is as follows (in thousands):

	2018	2017	2016
Balance at beginning of fiscal year	$ 91,743	$ 57,772	$ 87,788
Additions	13,082	52,680	17,973
Deductions	(14,768)	(18,709)	(47,989)
Balance at end of fiscal year	$ 90,057	$ 91,743	$ 57,772

During 2018, the Company changed its indefinite reinvestment assertion and therefore recorded deferred income taxes on a portion of the unremitted earnings of certain subsidiaries. As of 31 December 2018, no deferred taxes have been provided for the portion of the unremitted earnings of certain of the Company's subsidiaries. The earnings amount to approximately $20.9 million which if distributed may result in additional taxes. Determination of the amount of additional taxes is not practicable because of the complexities associated with this hypothetical calculation. The remaining unremitted earnings of foreign subsidiaries for which the Company does not assert indefinite reinvestment have a deferred tax liability recorded of $8.7 million.

Tabular Reconciliation of Unrecognised Tax Benefits (in thousands):

	For the Period ended 31 December,		
	2018	2017	2016
Beginning balance	$174,225	$128,053	$ 49,919
Gross increases – tax positions in prior period	7,055	6,783	8,068
Gross decreases – tax positions in prior period	(6,368)	(21,409)	(5,700)
Gross increases – current-period tax positions	24,767	24,551	27,774
Increases (decreases) from acquired businesses	(34,199)	39,420	60,796
Changes related to foreign currency translation adjustment and re-measurement	(2,284)	1,545	(1,087)
Decreases relating to settlements with taxing authorities and other	(202)	(686)	(3,933)
Decreases due to lapse of statute of limitations	(13,122)	(4,032)	(7,784)
Ending balance	$149,872	$174,225	$128,053

The Company and its subsidiaries file income tax returns in the U.S. and U.K. jurisdictions, and various state and other foreign jurisdictions. As of 31 December 2018, the Company and its subsidiaries were under income tax audit in various jurisdictions including the United Kingdom (2013 onwards), the United States (2015 onwards), Hong Kong (2014 onwards), Brazil (2010, 2012 and 2014 onwards) and various states and other foreign countries. ARRIS does not anticipate audit adjustments in excess of its current accrual for uncertain tax positions.

Liabilities related to uncertain tax positions inclusive of interest and penalties were $153.6 million and $178.2 million at 31 December 2018 and 2017, respectively. These liabilities at 31 December 2018 and 2017 were reduced by $34.6 million and $29.6 million, respectively, for offsetting benefits from the corresponding effects of potential transfer pricing adjustments, state income taxes and other unrecognised tax benefits. These offsetting benefits are recorded in other non-current assets and noncurrent deferred income taxes. The net result of $119.0 million and $148.6 million at 31 December 2018 and 2017, respectively, if recognised and released, would favourably affect tax expense.

Included in the net result of $119.0 million as of 31 December 2018, is $5.2 million of net acquired uncertain tax positions related to Ruckus Networks. This amount is fully indemnified and offset by a corresponding indemnification asset recorded in other non-current assets.

The Company reported approximately $3.7 million and $4.0 million, respectively, of interest and penalty accrual related to the anticipated payment of these potential tax liabilities as of 31 December 2018 and 2017. The Company classifies interest and penalties recognised on the liability for uncertain tax positions as income tax expense.

Based on information currently available, the Company anticipates that over the next twelve-month period, statutes of limitations may close and audit settlements will occur relating to existing unrecognised tax benefits of approximately $12.1 million primarily arising from U.K. and U.S. federal and state tax related items.

Note 20. Stock-Based Compensation

ARRIS grants stock awards under its 2016 Stock Incentive Plan ("SIP"). Upon approval of the 2016 SIP, all shares available for grant under the Company's other existing stock incentive plans were no longer available. The Board of Directors approved the SIP and the prior plans to facilitate the retention and continued motivation of key employees, consultants and directors, and to align more closely their interests with those of the Company and its stockholders.

Awards under the SIP may be in the form of stock options, stock grants, stock units, restricted stock, stock appreciation rights, performance shares and units, and dividend equivalent rights. A total of 31,215,000 shares of the Company's shares may be issued pursuant to the SIP. The SIP has been designed to allow for flexibility in the form of awards; however, awards denominated in ordinary shares other than stock options and stock appreciation rights will be counted against the SIP limit as 1.87 shares for every one share covered by such an award. The vesting requirements for issuance under the SIP may vary; however, awards generally are required to have a minimum three-year vesting period or term.

Restricted Stock (Non-Performance) Units

ARRIS grants restricted stock units to certain employees and its non-employee directors. The Company records a fixed compensation expense equal to the fair market value of the underlying shares of restricted stock unit granted on a straight-line basis over the requisite services period for the restricted shares. The Company applies an estimated forfeiture rate based upon historical rates. The fair value is the market price of the underlying ordinary shares on the date of grant.

In connection with the Pace combination, ARRIS accelerated the vesting of the time-based restricted shares that otherwise were scheduled to vest in 2016 for all of its executive officers and additional acceleration of time-based restricted shares for two executives that reached retirement age eligibility that otherwise would vest in 2017, 2018 and 2019.

The following table summarises ARRIS's unvested restricted stock unit (excluding performance-related) transactions during the year ending 31 December 2018:

	Shares	Weighted Average Grant Date Fair Value
Unvested at 31 December 2017	7,360,344	26.18
Granted	3,930,880	26.50
Vested	(2,730,727)	26.38
Forfeited	(854,110)	26.79
Unvested at 31 December 2018	7,706,387	26.20

Restricted Shares — Subject to Comparative Market Performance

ARRIS grants to certain employees restricted shares units, in which the number of shares to be issued is dependent upon the Company's total shareholder return as compared to the shareholder return of the NASDAQ composite over a three-year period. The number of shares which could potentially be issued ranges from zero to 200% of the target award. For the awards granted in 2016, the three-year measurement period ended on 31 December 2018. The Company's total shareholder return underperformed the NASDAQ composite over the three-year period. This resulted in zero achievement of the target award, subject to separate treatment under terms of the Acquisition Agreement with CommScope. The remaining grants outstanding that are subject to market performance are 560,340 shares at target; at 200% performance 1,120,680 would be issued. Compensation expense is recognised on a straight-line basis over the three-year measurement period and is based upon the fair market value of the shares expected to vest. The fair value of the restricted share units is estimated on the date of grant using a Monte Carlo Simulation model.

	Market Performance Shares	Weighted Average Grant Date Fair Value
Unvested at 31 December 2017	1,345,060	$ 22.73
Granted	596,540	27.29
Vested	—	—
Performance adjustment	(820,920)	22.14
Unvested at 31 December 2018	1,120,680	25.58

The total fair value of restricted share units, including both non-performance and performance-related shares, that vested during 2018, 2017 and 2016 was $73.8 million, $76.1 million and $52.3 million, respectively.

Employee Stock Purchase Plan ("ESPP")

ARRIS offers an ESPP to certain employees. The plan complies with Section 423 of the U.S. Internal Revenue Code, which provides that employees will not be immediately taxed on the difference between the market price of the stock and a discounted purchase price if it meets certain requirements. Participants can request that up to 10% of their base compensation be applied toward the purchase of ARRIS ordinary shares under ARRIS's ESPP. Purchases by any one participant are limited to $25,000 (based upon the fair market value) in any one year. The exercise price is the lower of 85% of the fair market value of the ARRIS ordinary shares on either the first day of the purchase period or the last day of the purchase period. A plan provision which allows for the more favourable of two exercise prices is commonly referred to as a "look-back" feature. Any discount offered in excess of five percent generally will be considered compensatory and appropriately is recognised as compensation expense. Additionally, any ESPP offering a look-back feature is considered compensatory. ARRIS uses the Black-Scholes option valuation model to value shares issued under the ESPP. The valuation is comprised of two components; the 15% discount of a share of ordinary shares and 85% of a six-month option held (related to the look-back feature). The weighted average assumptions used to estimate the fair value of purchase rights granted under the ESPP for 2018, 2017 and 2016, were as follows: risk-free interest rates of 2.3%, 1.2% and 0.5%, respectively; a dividend yield of 0%; volatility factor of the expected market price of ARRIS's stock of 0.27, 0.28, and 0.37, respectively; and a weighted average expected life of 0.5 year for each. The Company recorded stock compensation expense related to the ESPP of approximately $5.7 million, $4.8 million and $4.6 million for the years ended 31 December 2018, 2017 and 2016, respectively.

Unrecognised Compensation Cost

As of 31 December 2018, there was approximately $161.9 million of total unrecognised compensation cost related to unvested share-based awards granted under the Company's incentive plans. This compensation cost is expected to be recognised over a weighted-average period of 2.8 years.

Note 21. Employee Benefit Plans

The Company sponsors a qualified and a non-qualified non-contributory defined benefit pension plan that covers certain U.S. and non-U.S. employees. As of 1 January 2000, the Company froze the U.S. qualified defined pension plan benefits for its participants. These participants elected to enrolll in ARRIS's enhanced 401(k) plan.

The U.S. pension plan benefit formulas generally provide for payments to retired employees based upon their length of service and compensation as defined in the plans. ARRIS's investment policy is to fund the qualified plan as required by the Employee Retirement Income Security Act of 1974 ("ERISA") and to the extent that such contributions are tax deductible.

No minimum funding contributions was required in 2018 under the Company's U.S. defined benefit, however the Company made a contribution of $1.8 million for the year ended 31 December 2018 to fully fund the qualified plan termination. For the year ended 31 December 2017, the Company made a voluntary minimum funding contribution of $1.4 million to its U.S defined benefit plan. The Company also made funding contributions of $1.8 million and $1.2 million related to our non-U.S. pension plan in 2018 and 2017, respectively.

The Company established a rabbi trust to fund the pension obligations of the Executive Chairman under his SERP including the benefit under the Company's non-qualified defined benefit plan. In October 2018, the full SERP obligation was distributed to the Executive Chairman and no further obligation exists. In addition, the Company has established a rabbi trust for certain executive officers to fund the Company's pension liability to those officers under the non-qualified plan.

In late 2017, the Company commenced the process of terminating its U.S. defined benefit pension plan. The plan's termination was approved and the Company proceeded with effecting termination, settlement of the plan obligations was completed by 31 December 2018. The plan's deferred actuarial losses of $9.2 million remaining in Accumulated other comprehensive (loss) income were recognised as expense.

ARRIS also provides a non-contributory defined benefit plan which cover employees in Taiwan. Any other benefit plans outside of the U.S. are not material to ARRIS either individually or in the aggregate. As a result of restructuring activities in conjunction with the sale of the Taiwan manufacturing facility, the Company recorded a partial curtailment of the plan and recognised a deferral actuarial gain of $3.5 million as income from Accumulated other comprehensive (loss) income.

The following table summarises the change in projected benefit obligations, fair value of plan assets and the funded status of pension plan for the years ended 31 December 2018 and 2017 (in thousands):

	U.S. Pension Plans		Non-U.S. Pension Plans	
	2018	2017	2018	2017
Change in Projected Benefit Obligation:				
Projected benefit obligation at beginning of year	$ 49,220	$ 45,270	$ 38,136	$ 35,706
Service cost	—	—	615	664
Interest cost	1,382	1,733	393	486
Actuarial (gain) loss	(2,571)	3,868	(139)	121
Benefit payments	(1,766)	(1,651)	—	—
Settlements	(36,585)	—	(31,544)	(1,596)
Foreign currency	—	—	(1,058)	2,755
Projected benefit obligation at end of year	$ 9,680	$ 49,220	$ 6,403	$ 38,136
Change in Plan Assets:				
Fair value of plan assets at beginning of year	$ 19,664	$ 18,509	$ 20,324	$ 19,011
Actual return on plan assets	76	949	689	183
Company contributions	18,611	1,856	1,722	1,259
Expenses and benefits paid from plan assets	(1,766)	(1,651)	—	—
Settlements	(36,585)	—	(19,217)	(1,596)
Foreign currency	—	—	(564)	1,467
Fair value of plan assets at end of year[1]	$ —	$ 19,663	$ 2,954	$ 20,324
Funded Status:				
Funded status of plan	$ (9,680)	$(29,557)	$ (3,449)	$(17,812)
Unrecognised actuarial loss (gain)	1,334	13,981	(592)	(1,857)
Net amount recognised	$ (8,346)	$(15,576)	$ (4,041)	$(19,669)

(1) In addition to the U.S. pension plan assets, ARRIS has established two rabbi trusts to further fund the pension obligations of the Executive Chairman and certain executive officers. The obligation for the Executive Chairman was distributed in the fourth quarter of 2018. The balance in the trusts as of 31 December 2018 and 2017 are $9.7 million and $25.4 million, respectively, and are included in Investments on the Consolidated Balance Sheet.

Amounts recognised in the Consolidated Balance Sheet consist of (in thousands):

	U.S. Pension Plans		Non-U.S. Pension Plans	
	2018	2017	2018	2017
Current liabilities	$ (520)	$(17,670)	$—	$—
Non-current liabilities	(9,160)	(11,887)	(3,449)	(17,812)
Accumulated other comprehensive income (loss)[1]	1,334	13,981	(592)	(1,857)
Total	$ (8,346)	$(15,576)	$ (4,041)	$(19,669)

(1) The Accumulated other comprehensive (loss) income on the Consolidated Balance Sheet as of 31 December 2018 and 2017 is presented net of income tax.

Other changes in plan assets and benefit obligations recognised in other comprehensive income (loss) are as follows (in thousands):

	U.S. Pension Plans			Non-U.S. Pension Plans		
	2018	2017	2016	2018	2017	2016
Net (gain) loss	$ (2,399)	$ 3,814	$ 2,068	$ (562)	$ 261	$ 225
Amortisation of net gain (loss)	(1,012)	(552)	(544)	—	78	248
Adjustments	—	—	—	—	—	1,849
Settlements	(9,236)	—	—	1,776	—	—
Foreign currency	—	—	—	—	—	31
Total recognised in other (loss) comprehensive income	$(12,647)	$ 3,262	$ 1,524	$ 1,214	$ 339	$ 2,353

Information for defined benefit plans with accumulated benefit obligations or projected benefit obligation in excess of plan assets as of 31 December 2018 and 2017 is as follows (in thousands):

	U.S. Pension Plans		Non-U.S. Pension Plans	
	2018	2017	2018	2017
Accumulated benefit obligation in excess of plan assets:				
Accumulated benefit obligation	$ 9,680	$ 49,220	$ 4,374	$ 29,741
Fair value of plan assets	—	19,664	2,954	20,324
Projected benefit obligation in excess of plan assets:				
Projected benefit obligation	$ 9,680	$ 49,220	$ 6,403	$ 38,136
Fair value of plan assets	—	19,664	2,954	20,324

Net periodic pension cost for 2018, 2017 and 2016 for pension and supplemental benefit plans includes the following components (in thousands):

	U.S. Pension Plans			Non-U.S. Pension Plans		
	2018	2017	2016	2018	2017	2016
Service cost	$ —	$ —	$ —	$ 615	$ 664	$ 703
Interest cost	1,382	1,733	1,751	393	486	614
Return on assets (expected)	(248)	(895)	(795)	(266)	(323)	(275)

Amortisation of net actuarial loss(gain)[(1)]	1,012	552	544	—	(78)	(70)
Settlement charge (benefit)	9,236	—	—	(3,571)	—	(178)
Adjustments	—	—	—	—	—	(1,849)
Foreign currency	—	—	—	—	—	(31)
Net periodic pension cost	$ 11,382	$ 1,390	$ 1,500	$ (2,829)	$ 749	$ (1,086)

(1) ARRIS uses the allowable 10% corridor approach to determine the amount of gains/losses subject to amortisation in pension cost. Gains/losses are amortised on a straight-line basis over the average future service of members expected to receive benefits.

Estimated amounts to be amortised from accumulated other comprehensive (loss) income into net periodic benefit costs in the year ending 31 December 2019 based on 31 December 2018 plan measurements are $0.1 million, consisting primarily of amortisation of the net actuarial loss in the U.S. pension plans.

The assumptions used to determine the benefit obligations as of 31 December 2018 and 2017 are as set forth below (in percentage):

	U.S. Pension Plans			Non-U.S. Pension Plans		
	2018	2017	2016	2018	2017	2016
Weighted-average assumptions used to determine benefit obligations:						
Discount rate	4.05%	3.45%	3.90%	1.00%	1.10%	1.30%
Rate of compensation increase	N/A	N/A	N/A	N/A	N/A	N/A
Weighted-average assumptions used to determine net periodic benefit costs:						
Discount rate	3.50%	3.90%	4.15%	1.10%	1.30%	1.70%
Expected long-term rate of return on plan assets	N/A	5.00%	6.00%	1.40%	1.40%	1.60%
Rate of compensation increase[(1)]	N/A	N/A	N/A	4.00%	3.00%	3.00%

(1) Represent an average rate for the non-U.S. pension plans. Rate of compensation increase is 4.00% for indirect labour for 2018, 2017 and 2016, and 2.00% for direct labour for 2017 and 2016.

The expected long-term rate of return on assets is derived using the building block approach which includes assumptions for the long-term inflation rate, real return, and equity risk premiums.

No minimum funding contributions are required for 2019 for the U.S. Pension plan, however the Company may make a voluntary contribution. The Company estimates it will make funding contributions of $0.3 million in 2019 for the non-U.S. plan.

As of 31 December 2018, the expected benefit payments related to the Company's defined benefit pension plans during the next ten years are as follows (in thousands):

	U.S. Pension Plans	Non-U.S. Pension Plans
2019	$ 520	$ 158
2020	520	154
2021	530	553
2022	530	246
2023	640	309
2024 – 2028	3,320	2,309

The investment strategies of the plans place a high priority on benefit security. The plans invest conservatively so as not to expose assets to depreciation in adverse markets. The plans' strategy also places a high priority on earning a rate of return greater than the annual inflation rate along with maintaining average market results. The plan has targeted asset diversification across different asset classes and markets to take advantage of economic environments and to also act as a risk minimiser by dampening the portfolio's volatility. The following table summarises the weighted average pension asset allocations as 31 December 2018 and 2017:

	U.S. Pension Plans			
	Target		Actual	
	2018	2017	2018	2017
Equity securities	—	—	—	—
Debt securities	—	—	—	—
Cash and cash equivalents	—	80% – 100%	—	100%
Total	—	100%	—	100%

Asset allocation for the non-U.S. pension assets is 100% in money market investments.

The following table summarises the Company's U.S. pension plan assets by category and by level (as described in Note 8 *Fair Value Measurements* of the Notes to the Consolidated Financial Statements) as of 31 December 2017 (in thousands):

	31 December 2017			
	Level 1	Level 2	Level 3	Total
Cash and cash equivalents(1)	$ 19,662	$ 2	$ —	$ 19,664
Total	$ 19,662	$ 2	$ —	$ 19,664

(1) Cash and cash equivalents, which are used to pay benefits and administrative expenses, are held in money market and stable value fund.

(2) Equity securities consist of mutual funds and the underlying investments are indexes. Investments in mutual funds are valued at the net asset value per share multiplied by the number of shares held.

(3) Fixed income securities consist of bonds securities in mutual funds and are valued at the net asset value per share multiplied by the number of shares held.

Other Benefit Plans

ARRIS has established defined contribution plans pursuant to the Internal Revenue Code Section 401(k) that cover all eligible U.S. employees. ARRIS contributes to these plans based upon the dollar amount of each participant's contribution. ARRIS made matching contributions to these plans of approximately $22.8 million, $16.5 million and $16.4 million in 2018, 2017 and 2016, respectively.

The Company has a deferred compensation plan that does not qualify under Section 401(k) of the Internal Revenue Code and is available to key executives of the Company and certain other employees. Employee compensation deferrals and matching contributions are held in a rabbi trust. The total of net employee deferrals and matching contributions, which is reflected in other long-term liabilities, was $5.4 million and $5.7 million at 31 December 2018 and 2017, respectively. Total expenses included in continuing operations for the matching contributions were approximately $0.1 million and $0.3 million in 2018 and 2017, respectively.

The Company previously offered a deferred compensation arrangement, which allowed certain employees to defer a portion of their earnings and defer the related income taxes. As of 31 December 2004, the plan was frozen and no further contributions are allowed. The deferred earnings are invested in a rabbi trust. The total of net employee deferral and matching contributions, which is reflected in other long-term liabilities, was $2.0 million and $3.1 million at 31 December 2018 and 2017, respectively.

The Company also has a deferred retirement salary plan, which was limited to certain current or former officers. The present value of the estimated future retirement benefit payments is being accrued over the estimated service period from the date of signed agreements with the employees. The accrued balance of this plan, the majority of which is included in other long-term liabilities, were

$1.9 million and $1.5 million at 31 December 2018 and 2017, respectively. Total expenses (income) included in continuing operations for the deferred retirement salary plan were approximately $0.4 million and $0.2 million for 2018 and 2017, respectively.

Note 22. Accumulated Other Comprehensive Income (Loss)

The following table summarises the changes in accumulated other comprehensive income (loss) by component, net of taxes, for the year ended 31 December 2018 and 2017 (in thousands):

	Available-for sale securities	Derivative instruments	Change related to pension liability	Cumulative translation adjustments	Total	Less AOCI attributable to Non-controlling Interest	Total ARRIS International plc AOCI
Balance as of 31 December 2016	$ 137	$ 671	$ (6,810)	$ 9,281	$ 3,279	$ 12	$ 3,291
Other comprehensive (loss) income before reclassifications	471	3,790	(2,487)	(2,050)	(276)	51	(225)
Amounts reclassified from accumulated other comprehensive (loss) income	54	1,128	304	—	1,486	—	1,486
Net current-period other comprehensive (loss) income	525	4,918	(2,183)	(2,050)	1,210	51	1,261
Balance as of 31 December 2017	$ 662	$ 5,589	$ (8,993)	$ 7,231	$ 4,489	$ 63	$ 4,552
Other comprehensive (loss) income before reclassifications [(1)]	(668)	1,091	2,338	(24,110)	(21,349)	(43)	(21,392)
Amounts reclassified from accumulated other comprehensive (loss) income	6	(2,774)	6,263	—	3,495	—	3,495
Net current-period other comprehensive (loss) income	(662)	(1,683)	8,601	(24,110)	(17,854)	(43)	(17,897)
Balance as of 31 December 2018	$ —	$ 3,906	$ (392)	$ (16,879)	$ (13,365)	$ 20	$ (13,345)

(1) The change in unrealised gains (losses) on available-for-sale securities included a $0.7 million adjustment of net unrealised gain related to marketable equity securities from Accumulated other comprehensive (loss) income to opening Accumulated deficit as a result of the adoption of accounting standard *Recognition and Measurement of Financial Assets and Financial Liabilities* on 1 January 2018.

Note 23. Repurchases of Stock

Upon completing the Pace combination, ARRIS International plc conducted a court-approved process in accordance with section 641(1)(b) of the U.K. Companies Act 2006, pursuant to which the Company reduced its stated share capital and thereby increased its distributable reserves or excess capital out of which ARRIS may legally pay dividends or repurchase shares. Distributable reserves are not linked to a U.S. GAAP reported amount.

In 2016, the Company's Board of Directors approved a $300 million share repurchase authorisation replacing all prior programmes. In early 2017, the Board authorised an additional $300 million for share repurchases. In March 2018, the Board authorised an additional $300 million for repurchases and an additional $375 million again in August 2018.

During 2017, ARRIS repurchased 7.5 million shares of its ordinary shares at an average price of $26.12 per share, for an aggregate consideration of approximately $197.0 million.

During 2018, the Company repurchased 13.9 million of its ordinary shares for $353.1 million at an average stock price of $25.38. The remaining authorised amount for share repurchases was $546.9 million as of 31 December 2018.

Unless terminated earlier by a Board resolution, this new plan will expire when ARRIS has used all authorised funds for repurchase. However, U.K. law also generally prohibits a company from repurchasing its own shares through "off market purchases" without prior approval of shareholders because we are not traded on a recognised investment exchange in the U.K. This shareholder approval lasts for a maximum period of five years. Prior to and in connection with the Pace combination, we obtained approval to purchase our own shares. This authority to repurchase shares terminates in January 2021, unless otherwise reapproved by our shareholders. Under the terms of the Acquisition Agreement, the Company has agreed not to purchase additional shares prior to the closing of the Acquisition without the consent of CommScope.

Note 24. Commitments and Contingencies

General Matters

ARRIS leases office, distribution, and warehouse facilities as well as equipment under long-term leases expiring at various dates through 2027. Included in these operating leases are certain amounts related to restructuring activities; these lease payments and related sublease income are included in restructuring accruals on the Consolidated Balance Sheet. Future minimum operating lease payments under non-cancelable leases at 31 December 2018 were as follows (in thousands):

	Operating Leases
2019	$ 34,495
2020	29,824
2021	27,092
2022	22,207
2023	18,623
Thereafter	27,605
Less sublease income	(3,637)
Total minimum lease payments	$156,209

Total rental expense for all operating leases amounted to approximately $32.1 million, $26.4 million and $34.0 million for the years ended 31 December 2018, 2017 and 2016, respectively.

Additionally, the Company had contractual obligations of approximately $595.4 million under agreements with non-cancelable terms to purchase goods or services over the next year. All contractual obligations outstanding at the end of prior years were satisfied within a 12-month period, and the obligations outstanding as of 31 December 2018 are expected to be satisfied by the end of 2019.

Legal Proceedings

The Company accrues a liability for legal contingencies when it believes that it is both probable that a liability has been incurred and that it can reasonably estimate the amount of the loss. The Company reviews these accruals and adjusts them to reflect ongoing negotiations, settlements, rulings, advice of legal counsel and other relevant information. To the extent new information is obtained and the Company's views on the probable outcomes of claims, suits, assessments, investigations or legal proceedings change, changes in the Company's accrued liabilities would be recorded in the period in which such determinations are made. Unless noted otherwise, the amount of liability is not probable or the amount cannot be reasonably estimated; and therefore, accruals have not been made.

Due to the nature of the Company's business, it is subject to patent infringement claims, including current suits against it or one or more of its wholly-owned subsidiaries, or one or more of our customers who may seek indemnification from us, alleging infringement by various Company products and services. The Company believes that it has meritorious defences to the allegations made in its pending cases and intends to vigorously defend these lawsuits; however, it is currently unable to determine the ultimate outcome of these or similar matters. Accordingly, the Company is currently unable to reasonably estimate the possible loss or range of possible loss for any of the matters identified. The results in litigation are unpredictable and an adverse resolution of one or more of such matters not included in the estimate provided, or if losses are higher than what is currently estimated, it could have a material adverse effect on our business, financial position, results of operations or cash flows. In addition, the Company is a defendant in various litigation matters generally arising out of the normal course of business.

Supplemental U.K. Companies Act 2016 disclosures

Note 25. **Employees — staff numbers and costs**

The average monthly numbers of persons (including directors) employed by the Group during the period, analysed by category, were as follows:

	Year ended 31 December 2018	Year ended 31 December 2017
Research and development	3,021	2,486
Selling, general and administration	2,453	1,525
Manufacturing and operations	3,009	3,177
	8,483	7,188

The total number of persons (including directors) employed by the Group at 31 December 2018 was 7,973 (31 December 2017: 8,626).

The aggregate payroll costs of these persons were as follows (in thousands):

	Year ended 31 December 2018	Year ended 31 December 2017
	$	$
Wages and salaries	866,488	658,600
Social security costs	71,194	53,567
Pension and retirement costs	33,388	21,567
Employee benefits and other	72,509	57,273
Share-based payments	85,233	80,659
Total	1,128,812	871,666

Note 26 Audit and Other Fees

The following table presents fees for professional services rendered by Ernst & Young and its international affiliates during 2018 for the audit of the consolidated financial statements and the separate financial statements of certain subsidiaries and for other services rendered by Ernst & Young and its international affiliates.

Fees billed in currencies other than U.S. Dollars were translated to U.S. Dollars at the average exchange rate in effect during 2018 (in thousands).

	Year ended 31 December 2018	Year ended 31 December 2017
	$	$
Audit fees for these financial statements(1)	6,224	6,910
Audit fees for financial statements of subsidiaries of the Company	1,098	940
Total audit fees	7,322	7,850
Taxation services(2)	839	1,536
Other assurance services(3)	154	209
Total	8,315	9,595

(1) Represents audit fees for the consolidated financial statements, including inseparable internal control and other audit procedures performed during interim reviews.

(2) Includes assistance with certain tax compliance filings and related tax advice.

(3) Primarily relates to due diligence and other assurance services.

Note 27. Property, Plant & Equipment

Property, plant and equipment, at cost and net book value by category, consisted of the following (in thousands):

	Land	Buildings and leasehold improvements	Machinery and equipment	Total
	$	$	$	$
Cost				
At 31 December 2016	68,562	163,333	440,955	672,850
Exchange adjustments	—	1,435	252	1,687
Acquisitions	—	4,066	28,996	33,062
Additions	—	41,898	40,175	82,073
Disposals	—	(5,198)	(44,231)	(49,429)
Other	—	—	178	178
At 31 December 2017	**68,562**	**205,534**	**466,325**	**740,421**
Exchange adjustments	—	(1,445)	(1,320)	(2,765)
Acquisitions	—	(355)	(845)	(1,200)
Additions	—	13,217	50,394	63,611
Disposals	(41,910)	(13,031)	(66,278)	(121,219)
At 31 December 2018	**26,652**	**203,920**	**448,276**	**678,848**
Depreciation				
At 31 December 2016	—	48,389	271,084	319,473
Exchange adjustments	—	523	(16)	507
Provided in the period	—	15,629	72,566	88,195
Disposals	—	(2,631)	(37,476)	(40,107)
Transfers	—	(35)	(79)	(114)
At 31 December 2017	—	**61,875**	**306,079**	**367,954**
Exchange adjustments	—	(416)	(779)	(1,195)
Provided in the period	—	18,281	65,089	83,370
Disposals	—	(4,297)	(54,655)	(58,952)
At 31 December 2018	—	**75,443**	**315,734**	**391,177**
Net book value at 31 December 2017	68,562	**143,659**	**160,246**	372,467
Net book value at 31 December 2018	**26,652**	**128,477**	**132,542**	**287,671**

At 31 December 2018 the net book value of owned assets and leased assets was split as $246.9 million and $40.8 million respectively (31 December 2017: $328.1million and $44.4million).

In the fourth quarter of 2018, the Company completed the sale of land, building and certain manufacturing equipment related to its factory in Taiwan, for an aggregate consideration of $75.9 million. The Company recorded a ($13.3) million gain which is reported in the Consolidated Income Statement under the caption "Integration, acquisition, restructuring and other costs, net". See Note 13 *Property, Plant and Equipment* for further details.

During the year, the Company recorded additional acquisition accounting adjustments of ($1.5) million (31 December 2017: $33.1 million increase) reducing Property, Plant & Equipment related to the Ruckus/ICX acquisition. See Note 5 *Business Acquisitions* for further details.

Note 28. Goodwill and Intangible Assets

Goodwill and intangible assets, at cost and net book value consisted of the following (in thousands):

	Total Goodwill	Customer relationships	Developed technology, patents and licences	Trademarks, trade and domain names	Backlog	Total Intangible assets	Total Goodwill & Intangible Assets
	$	$	$	$	$	$	$
Cost							
At 31 December 2016.........	2,394,825	1,572,947	1,252,819	89,372	16,400	2,931,538	5,326,363
Exchange adjustment..........	(1,175)	(477)	—	—	—	(477)	(1,652)
Acquisitions.....................	318,034	100,000	315,000	22,500	35,000	472,500	790,534
Disposals........................	—	—	—	(20,600)	(16,400)	(37,000)	(37,000)
Other.............................	(3,316)	—	8,174	—	—	8,174	4,858
At 31 December 2017.........	2,708,368	1,672,470	1,575,993	91,272	35,000	3,374,735	6,083,103
Exchange adjustments.........	(6,949)	(6,820)	—	—	—	(6,820)	(13,769)
Acquisitions	(29,061)	97,100	(94,100)	43,700	(18,500)	28,200	(861)
Additions	—	—	307	—	—	307	307
Other.............................	1,540	—	—	—	—	—	1,540
At 31 December 2018...............	**2,673,898**	**1,762,750**	**1,482,200**	**134,972**	**16,500**	**3,396,422**	**6,070,320**
Impairment & amortisation							
At 31 December 2016.........	378,656	624,719	571,808	41,433	16,400	1,254,360	1,633,016
Exchange adjustments.........	—	(203)	—	—	—	(203)	(203)
Disposals........................	—	—	—	(20,600)	(16,400)	(37,000)	(37,000)
Impairment......................	51,200	—	—	3,800	—	3,800	55,000
Provided in the year...........	—	156,139	199,392	21,052	5,833	382,416	382,416
At 31 December 2017.........	429,856	780,655	771,200	45,685	5,833	1,603,373	2,033,229
Exchange adjustments.........	—	(1,684)	—	—	—	(1,684)	(1,684)
Impairment......................	3,400	—	—	—	—	—	3,400
Provided in the period.........	—	173,337	184,812	22,372	10,553	391,074	391,074
At 31 December 2018.........	**433,256**	**952,308**	**956,012**	**68,057**	**16,386**	**1,992,763**	**2,426,019**
Net book value at 31 December 2017	2,278,512	891,815	804,793	45,587	29,167	1,771,362	4,049,874
Net book value at 31 December 2018...............	**2,240,642**	**810,442**	**526,188**	**66,915**	**114**	**1,403,659**	**3,644,301**

During the year, the Company recorded additional acquisition accounting adjustments associated with the Ruckus/ICX acquisition. This resulted in additional intangible assets of $28.2 million being recognised and a reduction in goodwill of $29.1 million in the year. See Note 5 *Business Acquisitions* for further details and Note 6 *Goodwill and Intangible Assets* for further details.

During the year, we recorded partial impairment of goodwill of $3.4 million from our Cloud TV reporting unit, of which $1.2 million is attributable to the noncontrolling interest. This impairment was a result of the indirect effect of a change in accounting principle related to the adoption of new accounting standard *Revenue from Contracts with Customers*, resulting in changes in the composition and carrying amount of the net assets of our Cloud TV reporting unit. See Note 6 *Goodwill and Intangible Assets* for further details.

Note 29. Directors' Remuneration

The aggregate amount of remuneration paid to directors in respect of qualifying services is $4.0 million in the year ended 2018 ($5.1 million for the year ended 2017).

Further details including amounts paid to the highest paid director is included in the Directors' Remuneration Report on pages 65 to 77.

Note 30. Group Undertakings

ARRIS subsidiaries and joint ventures (*) as at 31 December 2018:

Entity	Place of Inc.	Registered Address	Owner Entity	% Holding
ARRIS Global Services, Inc.	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS Enterprises LLC	100.00
ARRIS Solutions, Inc.	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	Ruckus Wireless, Inc.	100.00
ARRIS U.S. Holdings, Inc.	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS International plc	100.00
GIC International Capital, LLC	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS Solutions UK Ltd.	100.00
GIC International Holdco, LLC	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS Solutions UK Ltd.	100.00
ARRIS Technology, Inc.	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS Solutions, Inc.	100.00
Kenati Technologies, Inc.	USA Delaware	c/o United Agent Group 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS Solutions, Inc.	100.00
ARRIS Enterprises LLC	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS Technology, Inc.	100.00
ARRIS Ruckus Government Solutions, Inc.	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS U.S. Holdings, Inc.	100.00
Jerrold DC Radio, Inc.	USA GA	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS Technology, Inc.	100.00
Pace Americas Investments LLC	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS U.S. Holdings, Inc.	100.00
Ruckus Wireless, Inc.	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS U.S. Holdings, Inc.	100.00
Ruckus Wireless International, Inc.	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building	Ruckus Wireless, Inc.	100.00

Entity	Place of Inc.	Registered Address	Owner Entity	% Holding
		#104, Wilmington, New Castle County, DE 19810		
ARRIS de Argentina S.A.	Argentina	Suipacha 1111, Piso 18, Ciudàd Autónoma de Buenos Aires Argentina	ARRIS Technology, Inc.	90.00
			GIC International Capital LLC	10.00
ARRIS Group Australia Pty Ltd	Australia	c/o PwC, Level 17, One International Towers, Bangaroo, Sydney NSW 2000	ARRIS Technology, Inc.	100.00
Ruckus Wireless International, Inc., Australia Branch	Australia	c/o TMF Corporate Services (Aust) Pty Ltd, Level 16, 201 Elizabeth Street, Sydney, NSW, 2000	Ruckus Wireless International, Inc.	100.00
Pace Aus Pty Ltd	Australia	c/o PwC, Level 17, One International Towers, Bangaroo, Sydney NSW 2000	ARRIS Global Ltd.	100.00
ANTEC International Corporation	Barbados	Chancery House, High Street, Bridgetown, Barbados	ARRIS Solutions, Inc	100.00
ARRIS Belgium BVBA	Belguim	c/o SGG, Avenue Louise, 209A, B-1050, Brussels, Belgium	GIC International Holdco LLC	99.00
			GIC International Capital LLC	1.00
ARRIS Telecomunicações do Brasil Ltda.	Brazil	Rodovia SP-340, Km 128,7 Suite H, Jaguariúna, SP, Brazil CEP 13820-000	ARRIS Enterprises LLC	80.60
			ARRIS Technology, Inc.	19.30
			GIC International Capital LLC	0.10
ARRIS Indústria Eletrônica do Brasil Ltda.	Brazil	Avenida Torquato Tapajós, 9475., Bairro tarumã Manaus, Amazonas, CEP 69048-660, Brazil	ARRIS International IP Ltd.	99.99
			ARRIS Solutions UK Ltd	0.01
ARRIS Canada, Inc.	Canada (Ontario)	c/o PwC Law LLP, 18 York Street, Suite 2600-C, Toronto, Ontario M5J 0B2	ARRIS Solutions UK Ltd.	100.00
Ruckus Wireless Technology Ltd.	Cayman	Cayman Corporate Centre, 27 Hospital Road, George Town, Grand Cayman KY1-9008, Cayman Islands	Ruckus Wireless International, Inc.	100.00
ARRIS Telecomunicaciones Chile Ltda.	Chile	Av. Cerro el Plomo 5680 of. 1901, Las Condes, Santiago 7560742 Chile	ARRIS Technology, Inc.	94.58
			ARRIS Enterprises LLC	5.32
			GIC International Capital LLC	0.10
ARRIS Technology (Shenzhen) Co., Ltd.	China	South and East Wing, 4/F, Block 2, VSBP, Shenzhen, P.R. China	ARRIS Enterprises LLC	100.00
ARRIS Technology (Shenzhen) Co. Ltd., Beijing branch	China	1058-1001 10/F, IFC East Tower, No. 8 Jianguomenwai Avenue, Chao Yang District, Beijing, China	ARRIS Technology (Shenzhen) Co., Ltd.	100.00
ARRIS Technology (Shenzhen) Co. Ltd., Shanghai branch	China	5F Building 11 No 1257 Mingyue Road Pudong New District, Shanghai, China	ARRIS Technology (Shenzhen) Co., Ltd.	100.00
Pace Electronic Devices Technology Consulting (Shenzhen) Co., Ltd. (Pace China Operations)	China	Pace China Operations, Rm 646-8 Floor 6 East, Shenzhen Airport Information Building, Airport Entrance Road, Baoan District, Shenzhen City, 518218, China	Pace Asia Pacific Ltd	100.00
Ruckus Wireless Network Technology (Shenzhen) Co. Ltd.	China	Units C&D, 5th Floor, No. 2 Finance Base 8 Ke Fa Road, Shenzhen, Guangdong Province, China	Ruckus Wireless International, Inc.	100.00
ARRIS Technology (Hangzhou) Ltd.	China	2/F Back Area, Building D, No. 68 Eastcom Road, Bin Jiang District, Hangzhou, 310053 China	ARRIS Global Procurement Limited	100.00
ARRIS de Colombia S.A.S	Columbia	Avenida Carrera 9 No. 113-52 Oficina 1606, Edificio Torres Unidas II, Bogotá-Colombia	ARRIS Technology, Inc.	100.00
ARRIS Solutions Denmark ApS	Denmark	c/o PricewaterhouseCoopers Statsautoriseret Revisionspartnerselskab, Strandvejen 44, DK-2900 Hellerup	ARRIS Solutions UK Ltd.	100.00

Entity	Place of Inc.	Registered Address	Owner Entity	% Holding
ARRIS del Ecuador S.A.	Ecuador	Av. Republica de El Salvador No. 1082 y Naciones Unidas, Quito, Ecuador	GIC International Holdco LLC GIC International Capital LLC	99.88 0.12
ARRIS Solutions France	France	5 Boulevard Gallieni, 10 rue Camille Desmoulins, Immeuble DUEO 92130 Issy-les Moulineaux, France	ARRIS Global Ltd.	100.00
ARRIS Group BV France Branch	France	Zi De Netreville, 337 Rue Gay Lussac, 27000 Evreux, France	ARRIS Group B.V.	100.00
ARRIS Solutions Germany GmbH	Germany	Gustav-Stresemann-Ring 1 65189 Wiesbaden Germany	ARRIS Solutions UK Ltd.	100.00
ARRIS de Guatemala, S.A.	Guatemala	c/o Consortium, Diagonal 6, 10-01 zona 10, Centro Gerencial Las Margaritas, Torre II, Oficina 1101, Guatemala, Guatemala	GIC International Holdco LLC GIC International Capital LLC	99.67 0.33
Pace Asia Pacific Ltd	Hong Kong	1607C-09, Block 2, 16/F Two Harbourfront, 22 Tak Fung Street, Hunghom, KL, Hong Kong	ARRIS Global Ltd.	100.00
ARRIS Global Procurement Limited	Hong Kong	1607B-09, Block 2, 16/F Two Harbourfront, 22 Tak Fung Street, Hunghom, KL, Hong Kong	ARRIS Solutions UK Ltd.	100.00
ARRIS Hong Kong Limited 艾銳勢香港有限公司	Hong Kong	1607C-09, Block 2, 16/F Two Harbourfront, 22 Tak Fung Street, Hunghom, KL, Hong Kong	ARRIS Technology, Inc.	100.00
Ruckus Wireless International, Inc., Hong Kong Branch	Hong Kong	Unit 2202, 18 Hysan Avenue, Causeway Bay, Hong Kong	Ruckus Wireless International, Inc.	100.00
ARRIS Hungary Kft. (ARRIS Hungary Korlátolt Felelősségű Társaság)	Hungary	1062 Budapest, Váci út 1-3. Tower "A"., Floor 6	ARRIS Holdings S.à r.L	100.00
ARRIS Group India Private Limited	India	"The Senate", Ground, 1st and 2nd Floor, No. 33/1, Ulsoor Road, Bangalore – 560042 Karnataka, India	ARRIS Global Ltd. ARRIS Solutions UK Ltd	99.98 0.02
C-COR Solutions Pvt. LTD	India	No 55 (old) 42 (New) 2nd Cross, Anubhava Nagar, Nagarabhavi Road, Bangalore 560072	ARRIS Solutions, Inc. Akshoy Rekhi (on behalf of ASI)	99.99 0.01
2Wire Development Centre Private Ltd	India	Flat No 11, Alka Classic, 20/1A Somwar Peth, Next to Union Bank of India, Pune 411011	Kenati Technologies, Inc	100.00
Latens Systems (India) Private Ltd	India	6-2-966/1, Flat No. 101. Salma Arcade, Khairthabad, Hyderabad, Telangana-TG, 500004	Latens Systems Ltd ARRIS Solutions UK Ltd	99.99 0.01
Ruckus Wireless Private Ltd.	India	Ruckus Wireless Private Limited B2, Second Floor, Diamond District, Old Airport Road Bangalore – 560008 Karnataka	Ruckus Wireless International, Inc.	100.00
ARRIS Communications Ireland Limited	Ireland	4300 Cork Airport Business Park, Kinsale Road, Cork, Ireland	ARRIS Enterprises LLC	100.00
ARRIS Ireland Financing Unlimited Company	Ireland	4300 Cork Airport Business Park, Kinsale Road, Cork, Ireland	ARRIS Holdings S.à r.L	100.00
ARRIS Broadband Solutions, Ltd. (Israel)	Israel	32 Hamelacha St. Netanya Israel	ARRIS Solutions, Inc. ARRIS Technology, Inc.	79.13 20.87
Ruckus Wireless IL Ltd.	Israel	32 Hamelacha St. Netanya Israel	Brocade Israel Ltd.	100.00
Brocade Israel Ltd.	Israel	HaHoshlim 6 – Herzlia Pituach 46724 – Israel	Ruckus Wireless, Inc.	100.00
ARRIS Group Japan K.K.	Japan	Shinagawa East One tower 21F 2-16-1 Konan, Minato-ku, Tokyo 108-0075 Japan	ARRIS Enterprises LLC	100.00

Entity	Place of Inc.	Registered Address	Owner Entity	% Holding
Ruckus Wireless Japan GK	Japan	Tokyo Club Building 11F, 3-2-6 Kasumigaseki, Chiyoda-ku, Tokyo	Brocade Communications Systems KK	100.00
Brocade Communications Systems KK	Japan	Shinagawa East One Tower 21F, 2-16-1 Konan, Minato-ku, Tokyo	Ruckus Wireless, Inc.	100.00
ARRIS Group Korea, Inc.	Korea	248, Jeongjail-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, (Jeongja-dong)	ARRIS Technology, Inc.	100.00
ARRIS Holdings S.à r.L	Luxembourg	560A rue de Neudorf L-220 Luxembourg	ARRIS Financing II S.à r.L	100.00
ARRIS Financing II S.à r.L	Luxembourg	5 Rue Heienhaff, 2nd Floor (Wing 2 - Suite 2E) l-1726 Senningerberg, Luxembourg	ARRIS International plc	100.00
Pace Asia Home Networks Sdn BHD	Malaysia	c/o Archer Services, Suite 11.1A Level 11, Menara Weld 76 Jalan Raja Chulan	ARRIS Solutions France	100.00
ARRIS Solutions Malaysia Sdn. Bhd.	Malaysia	c/o Archer Services, Suite 11.1A Level 11, Menara Weld 76 Jalan Raja Chulan	ARRIS Technology, Inc.	100.00
ARRIS Technology, Inc., Malaysia Branch	Malaysia	c/o Archer Services, Suite 11.1A Level 11, Menara Weld 76 Jalan Raja Chulan	ARRIS Technology, Inc.	100.00
ARRIS STB Mexico S.A. de C.V.	Mexico	Blvd Manuel Avila Camacho 126, Piso 2 Colonia Lomas de Chapultepec Delegacion Miguel Hidalgo, CP 11000 Ciudad de Mexico, Mexico	ARRIS Global Ltd. ARRIS Solutions France	99.98 0.02
Worldbridge Broadband Services S de RL de CV	Mexico	Avienda la Pax 2713-D Parque Industrial Pacifico CP. 22670	ARRIS Solutions, Inc.	100.00
ARRIS Group de Mexico S.A. de C.V.	Mexico	Av. De la Paz #11721-B Parque Industrial Pacifico Tijuana, B.C., Mexico	ARRIS Solutions, Inc. ARRIS Enterprises LLC	99.00 1.00
ARRIS de México S.A. de C.V.	Mexico	Blvd Manuel Avila Camacho 126, Piso 2, Colonia Lomas de Chapultepec, Delegacion Miguel Hidalgo, CP 11000, Ciudad de Mexico, Mexico	ARRIS Global Ltd. ARRIS Solutions France	99.00 1.00
ARRIS Group B.V.	Netherlands	Hoogoorddreef 5, 1101 BA Amsterdam Zuidoost, The Netherlands	ARRIS Group Europe Holding BV	100.00
ARRIS Group Europe Holding B.V.	Netherlands	Hoogoorddreef 5, 1101 BA Amsterdam Zuidoost, The Netherlands	ARRIS Solutions, Inc.	100.00
ActiveVideo Networks B.V.(*)	Netherlands	Vestigingsnr. 000019779518, Joop Van Den Endeplein 1, Mediacentrum, 1217WJ, Hilversum	ActiveVideo Networks, LLC(*)	100.00
ARRIS New Zealand Limited	New Zealand	c/o PwC, Level8, PwC Tower, 188 Quay Street, Auckland, 1001, NZ	GIC International Holdco LLC	100.00
ARRIS de Peru S.R.L.	Peru	Lord Nelson 245, Miraflores, Lima, Perú	ARRIS Technology, Inc. GIC International Capital LLC	99.97 0.03
ARRIS Poland sp. z o.o.	Poland	ul. Przemysława Gintrowskiego, 5302-697 Warszawa, PL1080015196	ARRIS Technology, Inc.	100.00
ARRIS Solutions Portugal, Unipessoal LDA	Portugal	Registered Address: Rua 7 de Junho de 1759 no. 1, Lagol, 2760-110, Caxias Portugal Office Address: Av. D. João II, 1.06.2.5B, 4th floor, 1990-095 Lisbon, Portugal	GIC International Holdco LLC	100.00
ARRIS Group Russia Limited Liability Company	Russia	Russian Federation, Moscow, 121099, Smolenskiy square 3, Floor 7, Premises 1, Office 63.	GIC International Holdco LLC GIC International Capital LLC	99.99 0.01

Entity	Place of Inc.	Registered Address	Owner Entity	% Holding
ARRIS Solutions Saudi Arabia Ltd	Saudi Arabia	Riyadh, KSA, Olaya Avenue, 28th Floor1409, Kingdom Centre, PO Box 230888, Riyadh,1 1321, Saudi Arabia	ARRIS Solutions UK Ltd	100.00
ARRIS Singapore Pte. Ltd.	Singapore	300 Beach Road, #20-01/07, The Concourse, Singapore 199555	ARRIS Technology, Inc.	100.00
Ruckus Wireless Singapore Pte. Ltd.	Singapore	300 Beach Road, #20-01/07, The Concourse, Singapore 199555	Brocade Communications Singapore Pte. Ltd.	100.00
Brocade Communications Singapore Pte. Ltd.	Singapore	300 Beach Road, #20-01/07, The Concourse, Singapore 199555	Ruckus Wireless International, Inc.	100.00
ARRIS South Africa (Pty) Ltd	South Africa	Golder House, Maxwell Office Park, Building 1 - Waterfall City, Midrand Gauteng, 1685	Pace Overseas Distribution Ltd	100.00
ARRIS International Iberia S.LU. (Sociedad Unipersonal)	Spain	Martinez Villergas, 52 – Bloque 3, 28027 Madrid, Spain	ARRIS Group Europe Holding, BV	100.00
ARRIS Solutions Spain S.L.U. (Sociedad Unipersonal)	Spain	Martinez Villergas, 52 – Bloque 3, 28027 Madrid, Spain	ARRIS Technology, Inc.	100.00
ARRIS Sweden AB	Sweden	Teknikringen 2, 583 30 Linköping, Sweden	ARRIS Solutions UK Ltd.	100.00
ARRIS Solutions Switzerland GmbH	Switzerland	c/o Linvo Ag Gartenstrasse 23, Zurich, 8002, Switzerland	ARRIS Solutions UK Ltd	100.00
ARRIS Taiwan, Ltd.	Taiwan	No. 1, Lane 232, Baoqiao Rd., Xindian District, New Taipei City 231, Taipei, Taiwan	ARRIS Solutions UK Ltd.	100.00
Ruckus Wireless International, Inc., Taiwan Branch	Taiwan	Neihu District, Taipei City Rui, Road 411, 10th Floor	Ruckus Wireless International, Inc.	100.00
Brocade Communications Systems Taiwan Ltd.	Taiwan	18F., No. 1, Songzhi Road, Xinyi Dist., Taipei	Ruckus Wireless International, Inc.	100.00
ARRIS Global Procurement Ltd., Taiwan Branch	Taiwan	Taipei Xindian District Po Road, No. 1, Lane 232 (4th Floor)	ARRIS Global Procurement Ltd	100.00
ARRIS Turkey Telekomünikasyon Limited Şirketi	Turkey	Astoria İs Merkezi Büyükdere, Cad. A Blok no: 127, Kat: 8-9-10, Esentepe, Istanbul 34394, Turkey	GIC International Holdco LLC GIC International Capital LLC	99.75 0.25
Pace International ME FZE	UAE	Jebel Ali Free Zone, dxb, UAE	Pace East Trading Ltd	100.00
ARRIS Solutions UK Ltd (Dubai Branch)	UAE (Dubai)	Sheikh Zayed Road, H-Business Tower, 25th floor, office 2509. P.O.Box: 128262, Dubai.	ARRIS Solutions UK Ltd.	100.00
ARRIS International IP Ltd	UK England and Wales	Victoria Road, Saltaire, West Yorkshire, BD18 3LF, UK	ARRIS Global Ltd.	100.00
Pace East Trading Ltd	UK England and Wales	Victoria Road, Saltaire, West Yorkshire, BD18 3LF, UK	ARRIS Global Ltd.	100.00
Pace Micro Technology Ltd	UK England and Wales	Victoria Road, Saltaire, West Yorkshire, BD18 3LF, UK	ARRIS Global Ltd.	100.00
Pace Distribution (Overseas) Ltd	UK England and Wales	Victoria Road, Saltaire, West Yorkshire, BD18 3LF, UK	ARRIS Global Ltd. Pace Advanced Consumer Electronics Ltd.	99.71 0.29
ARRIS Solutions UK Ltd.	UK England and Wales	710 Wharfedale Road, Winnersh Wokingham, Berkshire, RG41 5TP, UK	ARRIS International plc	100.00
ARRIS Global Ltd.	UK England and Wales	Victoria Road, Saltaire, West Yorkshire, BD18 3LF, UK	ARRIS International plc	100.00
Pace Overseas Distribution Ltd	UK England and Wales	Victoria Road, Saltaire, West Yorkshire, BD18 3LF, UK	ARRIS Global Ltd.	100.00
Pace Advanced Consumer Electronics Ltd	UK England and Wales	Victoria Road, Saltaire, West Yorkshire, BD18 3LF, UK	ARRIS Global Ltd.	100.00
Ruckus Wireless UK Ltd.	UK England and Wales	Victoria Road, Saltaire, West Yorkshire, BD18 3LF, UK	Ruckus Wireless International, Inc.	100.00

Entity	Place of Inc.	Registered Address	Owner Entity	% Holding
Latens Systems Ltd	UK N. Ireland	Aisling House, Stranmillis Embankment Belfast, Northern Ireland, BT9 5FL United Kingdom	ARRIS Global Ltd.	100.00
Latens Services Ltd	UK N. Ireland	Aisling House, Stranmillis Embankment Belfast, Northern Ireland, BT9 5FL United Kingdom	ARRIS Global Ltd.	100.00
Combined Conditional Access Development & Support, LLC(*)	USA Delaware	Comcast Capital Corporation, 1201 N. Market Street, Suite 1000, Wilmington, DE 19801.	ARRIS Technology, Inc.	50.00
Conditional Access Licensing LLC(*)	USA Delaware	Comcast Capital Corporation, 1201 N. Market Street, Suite 1000, Wilmington, DE 19801.	ARRIS Technology, Inc.	49.00
A-C Atlas Acquisition LLC(*)	USA Delaware	c/o United Agent Group, 3411 Silverside Road Tatnall Building #104, Wilmington, New Castle County, DE 19810	ARRIS Technology, Inc.	65.00
			Charter Communications Holdings, LLC	35.00
ActiveVideo Networks, LLC(*)	USA Delaware	333 W. San Carlos St. Suite 400, San Jose, CA 95110,	A-C Atlas Acquisition LLC(*)	100.00

Company Balance Sheet
As at 31 December 2018

	Note	31 December 2018	31 December 2017
		(in thousands)	
Fixed assets			
Investments	6	$ 5,993,475	$ 6,674,365
		5,993,475	6,674,365
Current assets			
Debtors			
– due within one year	7	38,678	19,428
– due after one year	7	2,373	6,389
Cash at bank and in hand		79,686	58,955
Total current assets		120,737	84,772
Creditors: amounts falling due within one year	8	(65,115)	(128,589)
Net current assets/(liabilities)		55,622	(43,817)
Total assets less current liabilities		6,049,097	6,630,548
Creditors: amounts falling due after more than one year	8	(1,110,316)	(1,165,400)
Provisions for liabilities	9	(297)	(1,670)
Net assets		**4,938,484**	**5,463,478**
Capital and reserves			
Called-up share capital	10	2,623	2,768
Share premium reserve	11	53,224	33,050
Capital contribution reserve	12	15,262	15,262
Capital redemption reserve	12	433	250
Merger reserve	12	1,433,987	1,433,987
Hedging reserve	12	2,185	8,042
Share option and other reserve	12	232,788	156,618
Retained earnings	13	3,197,982	3,813,501
Shareholders' funds		**$ 4,938,484**	**$ 5,463,478**

The Company has taken the exemption from presenting the Income Statement Account as permitted by Section 408 of the Companies Act 2006. Loss for the Company for the year ended 31 December 2018 was $262,440,000 (year ended 31 December 2017: $658,551,000 Loss).

The financial statements of ARRIS International plc were approved by the Board of directors and authorised for issue on 18 March 2018.

They were signed on its behalf by:

B. McClelland
Director

Company Statement of Changes in Equity
For the year-ended 31 December 2018

(in thousands)	Called-up share capital $	Share Premium $	Capital contribution reserve $	Capital redemption reserve $	Merger reserve $	Hedging reserve $	Share option and warrants reserve $	Retained earnings $	Total $
At 31 December 2016	2,831	15,589	15,262	154	1,433,987	7,860	84,950	4,669,017	6,229,650
Profit for the period	—	—	—	—	—	—	—	(658,551)	(658,551)
Other comprehensive income – cash flow hedges	—	—	—	—	—	182	—	—	182
Total comprehensive income	—	—	—	—	—	182	—	(658,551)	(658,369)
Shares issued	33	17,461	—	—	—	—	—	—	17,494
Share repurchases	(96)	—	—	96	—	—	—	(196,965)	(196,965)
Share based payment charge	—	—	—	—	—	—	71,668		71,668
At 31 December 2017 .	2,768	33,050	15,262	250	1,433,987	8,042	156,618	3,813,501	5,463,478
Loss for the period	—	—	—	—	—	—	—	(262,440)	(262,440)
Other comprehensive income – cash flow hedges	—	—	—	—	—	(5,857)	—	—	(5,857)
Total comprehensive income	—	—	—	—	—	(5,857)	—	(262,440)	(268,297)
Shares issued	38	20,174	—	—	—	—	—	—	20,212
Share repurchases	(183)	—	—	183	—	—	—	(353,079)	(353,079)
Share based payment charge	—	—	—	—	—	—	76,170	—	76,170
At 31 December 2018 .	2,623	53,224	15,262	433	1,433,987	2,185	232,788	3,197,982	4,938,484

Please see notes 10 – 13 for explanation of movements.

Notes to the Financial Statements

For the year ended 31 December 2018

1. General Information

The nature of the Company's operations and its principal activities are set out in the consolidated financial statements of ARRIS International plc.

2. Accounting Policies

Summary of significant accounting policies

The principle accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented unless otherwise stated.

Statement of compliance

These financial statements were prepared in accordance with Financial Reporting Standard 102 'The Financial Reporting Standard applicable in the U.K. and Republic of Ireland'.

Basis of accounting

These financial statements have been prepared in accordance with FRS102 "The Financial Reporting Standard applicable in the U.K. and Republic of Ireland" ("FRS102") and the requirements of the Companies Act 2006, including the provision of the Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008, and under historical cost convention. The Company has also taken the exemption from presenting the statement of income account as permitted by section 408 of the Companies Act 2006.

The consolidated financial statements of ARRIS International plc are prepared in accordance with US Generally Accepted Accounting Principles and available to the public and may be obtained from the address in note 14. In these financial statements, the Company is considered to be a qualifying entity (for the purposes of FRS) and has applied the exemptions available under FRS 102 in respect of the following provisions:

(i) the requirements of Section 3 Financial Statement Presentation paragraph 3.17 (d) and the requirements of Section 7 Statement of Cash Flows;

(ii) the requirements of Section 11 Basic Financial Instruments, paragraphs 11.39 to 11.48A and the requirements of Section 12 Other Financial Instruments Issues paragraphs 12.26 to 12.29;

(iii) the requirements of Section 26 Share based Payment, paragraphs 26.18(b), 26.19 to 26.21 and 26.23;

(iv) the requirements of Section 33 Related Party Disclosures, paragraph 33.7.

The presentation currency for the financial statements is United States Dollars. The functional currency of ARRIS International plc is also considered to be United States Dollars because that is the currency of the primary economic environment in which the Company operates.

Going concern

The directors have a reasonable expectation that the Company has adequate resources to continue in operational existence for the foreseeable future. The Company holds net current assets of $55,622,000 at 31 December 2018 and is the parent company of a profitable cash-generative group. The group reported net income attributable to the consolidated ARRIS International plc group (profit after tax) of $113,740,000 and generated $649,002,000 of operating cash flows in the financial year ended 31 December 2018. The ARRIS International plc group expects to be profitable and cash generative in 2019, and for the foreseeable future. Thus, they continue to adopt the going concern basis of accounting in preparing the annual financial statements.

The ARRIS acquisition by CommScope is expected to complete first half of 2019, for further details related to the transaction please refer to *Proposed Transactions with CommScope* on page 1. At acquisition date the Company would become part of the CommScope group and operate within its strategic direction for the foreseeable future. The acquisition does not change the directors expectation in respect of going concern.

Financial assets and liabilities

Financial assets and financial liabilities are recognised when the Company becomes a party to the contractual provisions of the instrument. Financial liabilities and equity instruments are classified according to the substance of the contractual arrangements entered into. An equity instrument is any contract that evidences a residual interest in the assets of the Company after deducting all of its liabilities.

All financial assets and liabilities are initially measured at transaction price (including transaction costs), except for those financial assets classified as at fair value through profit or loss, which are initially measured at fair value (which is normally the transaction price excluding transaction costs), unless the arrangement constitutes a financing transaction. If an arrangement constitutes a finance transaction, the financial asset or financial liability is measured at the present value of the future payments discounted at a market rate of interest for a similar debt instrument.

Financial assets and liabilities are only offset in the statement of financial position when, and only when there exists a legally enforceable right to set off the recognised amounts and the Company intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Debt instruments which meet the following conditions are subsequently measured at amortised cost using the effective interest method:

(a) Returns to the holder are (i) a fixed amount; or (ii) a fixed rate of return over the life of the instrument; or (iii) a variable return that, throughout the life of the instrument, is equal to a single referenced quoted or observable interest rate; or (iv) some combination of such fixed rate and variable rates, providing that both rates are positive.

(b) There is no contractual provision that could, by its terms, result in the holder losing the principal amount or any interest attributable to the current period or prior periods.

(c) Contractual provisions that permit the issuer to prepay a debt instrument or permit the holder to put it back to the issuer before maturity are not contingent on future events, other than to protect the holder against the credit deterioration of the issuer or a change in control of the issuer, or to protect the holder or issuer against changes in relevant taxation or law.

(d) There are no conditional returns or repayment provisions except for the variable rate return described in (a) and prepayment provisions described in (c).

Debt instruments that are classified as payable or receivable within one year and which meet the above conditions are measured at the undiscounted amount of the cash or other consideration expected to be paid or received net of impairment.

Other debt instruments not meeting these conditions are measured at fair value through profit or loss.

Commitments to make and receive loans which meet the conditions mentioned above are measured at cost (which may be nil) less impairment.

Financial assets are derecognised when and only when a) the contractual rights to the cash flows from the financial asset expire or are settled, b) the Company transfers to another party substantially all of the risks and rewards of ownership of the financial asset, or c) the Company, despite having retained some significant risks and rewards of ownership, has transferred control of the asset to another party and the other party has the practical ability to sell the asset in its entirety to an unrelated third party and is able to exercise that ability unilaterally and without needing to impose additional restrictions on the transfer.

Financial liabilities are derecognised only when the obligation specified in the contract is discharged, cancelled or expires.

Financial instruments — derivative contracts

The Company holds derivative contracts in the form of interest rate swaps. Derivative contracts designated as cash flow hedges are held to manage the variability of cash flows in the form of interest payments related to the portion of the variable-rate debt designated as being hedged. The carrying amounts reported in the balance sheet for derivative financial instruments approximate their fair values. The effective portion of changes in the fair value of derivatives designated and that qualify as cash flow hedges is recorded in Accumulated Other Comprehensive Income and is subsequently reclassified into earnings in the period that the hedged forecasted transaction affects earnings. The ineffective portion of the change in fair value of the derivatives is recognised directly in earnings. .

Investments

Investments in subsidiary undertakings are included at cost less any provisions required to recognise impairment.

Impairment of assets

Assets other than those measured at fair value are assessed for indicators of impairment at each balance sheet date. If there is objective evidence of impairment, an impairment loss is recognised in profit or loss as described below.

Non-financial assets — An asset is impaired where there is objective evidence that as a result of one or more events that occurred after initial recognition the estimated recoverable value of the asset has been reduced. The recoverable amount of an asset is the higher of its fair value less costs to sell and its value in use.

Financial assets — For financial assets carried at amortised cost, the amount of an impairment is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate.

For financial assets carried at cost less impairment, the impairment loss is the difference between the asset's carrying amount and the best estimate of the amount that would be received for the asset if it were to be sold at the reporting date.

Where indicators exist for a decrease in impairment loss, and the decrease can be related objectively to an event occurring after the impairment was recognised, the prior impairment loss is tested to determine reversal. An impairment loss is reversed on an individual impaired financial asset to the extent that the revised recoverable value does not lead to a revised carrying amount higher than the carrying value had no impairment been recognised.

Debt issue costs

Costs associated with the arrangement of debt facilities are capitalised and recorded as a reduction against the corresponding debt liability. They are amortised to the Income Statement and recorded as an interest expense over the life of the debt facilities to which they relate.

Loan Notes

Loan notes which are basic financial instruments are initially recorded at the present value of future payments discounted at a market rate of interest for a similar loan. Subsequently, they are measured at amortised cost using the effective interest method. Loan notes that are receivable within one year are not discounted.

Share based payments

The grant date fair value of share based payments awards granted to Directors and subsidiary employees is recognised as an employee expense where the employee is employed by the Company or as an addition to investments (less amounts recharged) where the employee is employed by a subsidiary.

The amount recognised as an expense is adjusted to reflect the number of awards for which the related service and non-market vesting conditions are expected to be met, such that the amount ultimately recognised as an expense is based on the number of awards that meet the related service and non-market performance conditions at the vesting date. For share based payment awards with non-vesting conditions, the grant date fair value of the share based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

Taxation

Current tax, including U.K. corporation tax and foreign tax, is provided at amounts expected to be paid (or recovered) using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is recognised in respect of all timing differences that have originated but not reversed at the balance sheet date where transactions or events that result in an obligation to pay more tax in the future or a right to pay less tax in the future have occurred at the balance sheet date. Timing differences are differences between the Company's taxable profits and its results as stated in the financial statements that arise from the inclusion of gains and losses in tax assessments in periods different from those in which they are recognised in the financial statements.

Unrelieved tax losses and other deferred tax assets are recognised only to the extent that, on the basis of all available evidence, it can be regarded as more likely than not that there will be suitable taxable profits from which the future reversal of the underlying timing differences can be deducted.

When the amount that can be deducted for tax for an asset (other than goodwill) that is recognised in a business combination is less (more) than the value at which it is recognised, a deferred tax liability (asset) is recognised for the additional tax that will be paid (avoided) in respect of that difference. Similarly, a deferred tax asset (liability) is recognised for the additional tax that will be avoided (paid) because of a difference between the value at which a liability is recognised and the amount that will be assessed for tax. The amount attributed to goodwill is adjusted by the amount of deferred tax recognised.

Deferred tax liabilities are recognised for timing differences arising from investments in subsidiaries and associates, except where the Company is able to control the reversal of the timing difference and it is probable that it will not reverse in the foreseeable future.

Deferred tax is measured using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date that are expected to apply to the reversal of the timing difference. Deferred tax relating to property plant and equipment measured using the revaluation model and investment property is measured using the tax rates and allowances that apply to sale of the asset.

Where items recognised in other comprehensive income or equity are chargeable to or deductible for tax purposes, the resulting current or deferred tax expense or income is presented in the same component of comprehensive income or equity as the transaction or other event that resulted in the tax expense or income.

Current tax assets and liabilities are offset only when there is a legally enforceable right to set off the amounts and the Company intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.

Deferred tax assets and liabilities are offset only if: a) the Company has a legally enforceable right to set off current tax assets against current tax liabilities; and b) the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities which intend either to settle current tax liabilities and assets on a net basis, or to realise the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

Foreign currency transactions and balances

Transactions in foreign currencies are initially recorded at the functional currency rate prevailing at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are retranslated into the respective functional currency of the entity at the rates prevailing on the reporting period date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing on the initial transaction dates.

Non-monetary items measured in terms of historical cost in a foreign currency are not retranslated.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand and call deposits and other short term highly liquid investments that are readily convertible to a known amount of cash and are subject to an insignificant risk of change in value.

Share capital

Ordinary shares are classified as equity. Equity instruments are measured at the fair value of the cash or other resources received or receivable, net of the direct costs of issuing the equity instruments. If payment is deferred and the time value of money is material the initial measurement is on a present value basis.

Interest income

Interest income is recognised as interest accrues using the effective interest method.

Dividends

Dividends from subsidiaries are recognised when the Company's right to receive payment is established, which is generally when shareholders approve the dividend.

3. Critical accounting judgements and key sources of estimation uncertainty

In the application of the Company's accounting policies which are described in Note 2, the directors are required to make judgements, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Critical judgements in applying the Company's accounting policies

The Company has no critical judgements in applying accounting policies.

Key sources of estimation uncertainty

Impairment of non-financial assets

Where there are indicators of impairment of individual assets, the Company performs impairment tests based on a value in use calculation. The value in use calculation is based on a discounted cash flow model. The cash flows are derived from Company's short-term budget and longer-term forecasts and do not include restructuring activities that the Company is not yet committed to or significant future investments that will enhance the asset's performance of the cash generating unit being tested. The recoverable amount is most sensitive to the discount rate used for the discounted cash flow model as well as the expected future cash flows and the growth rate used for extrapolation purposes.

Derivatives

The Company records all derivatives on the balance sheet at fair value. The fair value of the derivates is based upon market interest rates and foreign exchange. The accounting for changes in the fair value of derivatives depends on the intended use of the derivative, whether the Company has elected to designate a derivative in a hedging relationship and apply hedge accounting and whether the hedging relationship has satisfied the criteria necessary to apply hedge accounting. Derivatives designated and qualifying as a hedge of the exposure to changes in the fair value of an asset, liability, or firm commitment attributable to a particular risk, such as interest rate risk, are considered fair value hedges. Derivatives designated and qualifying as a hedge of the exposure to variability in expected future cash flows, or other types of forecasted transactions, are considered cash flow hedges. Derivatives also may be designated as hedges of the foreign currency exposure of a net investment in a foreign operation. The Company made an accounting policy election to measure the credit risk of its derivative financial instruments that are subject to master netting agreements on a net basis by counterparty portfolio.

Share based payments

ARRIS grants non-performance based restricted stock units to certain employees and its non-employee directors. The Company applies an estimated forfeiture rate based upon historical rates. The fair value is the market price of the underlying ordinary shares on the date of grant.

ARRIS also grants to certain employees restricted shares units subject to comparative market performance (performance based). The compensation expense is recognised on a straight-line basis over the three-year measurement period and is based upon the fair market value of the shares expected to vest. The fair value of the restricted share units is estimated on the date of grant using a Monte Carlo Simulation model

Finally, ARRIS offers an ESPP to certain employees and uses the Black-Scholes option valuation model to value shares issued under the ESPP.

4. Directors' remuneration

Disclosure of individual directors' remuneration, share interests, share options, long-term incentive schemes, pension contributions and pension entitlements required by the Companies Act 2006 are shown on page 142 of these consolidated financial statements and within the Directors' remuneration report on pages 65 to 77.

5. Staff costs

There were no persons other than the directors employed by the Company during the current year and the prior year and as a result, no staff costs were incurred in either year. Please refer to Note 4 *Directors' remuneration* and Note 25 *Employees — staff numbers and costs.*

6. Fixed asset investments

	2018
	$'000
Investment in subsidiaries.	5,993,475

Subsidiaries	2018
	$'000
Cost	
At 1 January 2018	6,674,365
Additions	18,595
Impairment	(699,485)
At 31 December 2018	5,993,475
Net book value	
At 31 December 2018	5,993,475
At 31 December 2017	6,674,365

Additions	Reference	2018
		$'000
ARRIS U.S. Holdings Inc.	a	16,422
ARRIS Solutions U.K.	a	1,417
ARRIS Global Ltd.	a	756
Total		**18,595**

Impairment	Reference	2018
		$'000
ARRIS U.S. Holdings Inc	b	(441,564)
ARRIS Global Ltd	b	(227,043)
ARRIS Solutions U.K	b	(30,878)
Total		**(699,485)**

(a) In 2018 the Company accounted for $3.8 million of shared based payment expenses and $14.8 million of related payroll tax expenses as an increase in the carrying value of the investment in its employing subsidiaries.

(b) The impairment expense was recorded following an impairment assessment performed on the Company's fixed asset investment balances. The carrying values of the fixed asset investments were compared to the annual external valuation of Group Fair Market Value ("FMV") as at 1 October 2018. The impairment expense represents the shortfall between the carrying value of the total investment balance and the FMV of the group. The impairment charge principally arises as a result of decline in the fair value of our Customer Premises Equipment ("CPE") business segment of the group, and was consistent with the trend in the external valuation of the Group FMV report. The impairment charge has been allocated on a proportional basis between ARRIS U.S. Holdings Inc $441.6m (31 December 2017 : $891.5m), ARRIS Global Ltd $227.0m (31 December 2017: $nil) and ARRIS Solutions UK Ltd $30.1m (31 December 2017: $nil) as the entities impacted by the performance of the CPE business segment.

Details of undertakings

Details of the investments in which the Company holds 20% or more of the nominal value of any class of share capital can be found in Note 30 *Group Undertakings* in the ARRIS International plc consolidated financial statements.

7. Debtors

	2018 $'000	2017 $'000
Amount falling due within one year		
Amounts owed by group undertakings	27,953	15,611
Financial instruments – forward contracts	3,656	255
Other debtors and prepayments	64	—
Financial instruments – interest rate swaps	7,005	3,562
Total	38,678	19,428
Amount falling due after more than one year		
Financial instruments – interest rate swaps	2,279	6,389
Other debtors	94	—
Total	2,373	6,389
Total debtors	**41,051**	**25,817**

8. Creditors

	2018 $'000	2017 $'000
Amount falling due within one year		
Bank borrowings – Term loan A1	60,711	60,858
Amounts owed to group undertakings	3,882	217
Amounts owed to group undertakings – loan note	—	60,000
Social security and other taxes	13	111
Accruals	104	264
Financial instruments – forward contracts	405	7,091
Other creditors	—	48
Total	65,115	128,589
Amount falling due after more than one year		
Financial instruments – forward contracts	6,088	599
Bank borrowings – Term Loan A1	1,104,228	1,164,801
Total	1,110,316	1,165,400
Total creditors	**1,175,431**	**1,293,989**

The Term loan A1 facility bears interest at LIBOR plus 175 basis points. Refer to Note 16 *Indebtedness* in the ARRIS International plc consolidated financial statements for further information.

The company settled the $60 million loan note and any outstanding interest to ARRIS Global Ltd. in full during 2018. The terms of the loan included interest at LIBOR plus 200 basis points and was repayable upon demand.

Amounts falling due within one year

The face value of Bank borrowings — Term loan A1 amounts falling due within one year was $62.5 million (31 December 2017: $62.5 million). The difference between the face value and the carrying value of this term loan represented $1.8 million (31 December 2017: $1.6 million) of arrangement fees which are being amortised over the life of the loan.

Amounts falling due after more than one year

The face value of Bank borrowings — Term loan A1 amounts falling due after more than one year was $1,109.4 million (31 December 2017: $1,171.9 million). The difference between the face value and the carrying value of this term loan represented $5.2 million (31 December 2017:$7.1 million) of arrangement fees which are being amortised over the life of the loan.

9. Provision for liabilities

	Deferred taxation $ 000
At 1 January 2018	(1,670)
Charge to other comprehensive income	1,374
Credit to profit and loss account	(1)
At 31 December 2018	(297)

	2018 $ 000	2017 $ 000
Other timing difference	(297)	(1,670)
Deferred tax liability	**(297)**	**(1,670)**

Other timing difference includes a deferred tax liability of $0.5 million (31 December 2017: $1.9 million) related to interest rate swaps and the deferred tax asset of $0.2 million (31 December 2017: $0.2 million) relating to the Restricted Stock Unit's (RSUs) awarded to non-executive directors. The term of the Company's interest rate swaps is until 31 March 2020. The Company expects the deferred tax asset relating the Restricted Stock Unit's (RSUs) awarded to non-executive directors to unwind upon vesting in 2019.

There are no unrecognised deferred tax assets.

The applicable corporation tax rate used is 19%. This rate has been used in relation to deferred tax as the amounts are expected to unwind before the enacted rate of 17% becomes effective in April 2020.

10. Called up share capital

	2018 Shares	2017 Shares	2018 $'000	2017 $'000
Allotted, called-up and fully paid:				
Ordinary shares of £0.01 ($0.0151) each	174,039,418	185,199,901	2,623	2,768
Total share capital	**174,039,418**	**185,199,901**	**2,623**	**2,768**

In early 2016, our Board of Directors approved a $300 million share repurchase authorisation replacing all prior programmes. In early 2017, the Board authorised an additional $300 million for share repurchases. In March 2018, the Board authorised an additional $300 million for repurchases and an additional $375 million again in August 2018.

During 2018, the Company repurchased 13,913,481 shares of its ordinary share capital for $353 million at an average share price of $25.38.

11. Share premium

	2018
	$'000
At 1 January 2018	33,050
Premium on allotments	20,174
Total	**53,224**

The share premium reserve contains the premium arising on issue of equity shares, net of issue expenses.

Premium on allotments: The movement in the year relates to new shares issued.

12. Other reserves

	Capital contribution reserve	Capital redemption reserve	Merger reserve	Hedging reserve	Share option and warrants reserve
	$'000	$'000	$'000	$'000	$'000
At 1 January 2018	15,262	250	1,433,987	8,042	156,618
Other comprehensive income	—	—	—	(5,857)	—
Share repurchases	—	183	—	—	—
Shared based payment charge	—	—	—	—	76,170
At 31 December 2018	**15,262**	**433**	**1,433,987**	**2,185**	**232,788**

Capital contribution reserve

The capital contribution reserve amounts to payments of $15,261,639 made by ARRIS Group, Inc. to the Company which are not required to be paid back. The capital contributions were made on 30 September 2015 for $13,890,262 and 31 December 2015 for $1,371,377.

Capital redemption reserve

The Capital redemption reserve is used to recognise the repurchase of own shares by the Company.

Merger reserve

The merger reserve is used to recognise the merger relief recognised when acquiring the shares of Pace plc on 4 January 2016.

Hedging reserve

The hedging reserve is used to recognise the fair value of interest rate swaps designated as cash flow hedges.

Share option and warrants reserve

The Share option and warrant reserve is used to recognise the fair value of options, performance shares and restricted stock units granted to employees and warrants granted to customers.

13. Retained earnings

	2018
	$'000
At 1 January 2018	3,813,501
Loss for the year	(262,440)
Share repurchases	(353,079)
Total	3,197,982

In 2016, 2017 and 2018 the Company's Board of Directors approved a total of $1,275 million share repurchase authorisation. During 2018, the Company repurchased 13,913,481 shares of its ordinary share capital for $353 million at an average share price of $25.38..

14. Controlling party

The ordinary shares of the Company trade on the NASDAQ and therefore there is no one controlling party.

ARRIS International, prepares consolidated financial statements which are publicly available and can be obtained from ARRIS International Plc, Victoria Road, Saltaire, West Yorkshire, BD18 3LF, United Kingdom.

15. Subsequent events

Proposed Transaction with CommScope

On 8 November 2018, ARRIS and CommScope Holding Company, Inc. ("CommScope") entered into a Bid Conduct Agreement (the "Acquisition Agreement") whereby CommScope agreed to acquire ARRIS in an all-cash transaction for $31.75 per share or a total purchase price of approximately $7.4 billion, including repayment of debt (the "Acquisition"). In addition, The Carlyle Group, a global alternative asset manager, plans to participate in the acquisition and reestablishes an ownership position in CommScope through a $1 billion minority equity investment as part of CommScope's financing of the transaction. The combined company is expected to drive profitable growth in new markets, shape the future of wired and wireless communications, and position the new company to benefit from key industry trends, including network convergence, fibre and mobility everywhere, 5G, Internet of Things and rapidly changing network and technology architectures.

The consummation of the Acquisition is subject to various closing conditions, including, among other things, (i) the receipt of certain approvals of our shareholders, (ii) the sanction of the Scheme by the High Court of Justice of England and Wales, (iii) the receipt of certain required regulatory approvals or lapse of certain review periods with respect thereto, including those in the U.S. and European Union, Chile, Mexico, Russia and South Africa, (iv) the absence of a Company Material Adverse Effect (as defined in the Acquisition Agreement), (v) the accuracy of representations and warranties (subject, in certain cases, to certain materiality or Company Material Adverse Effect qualifiers, as applicable) and (vi) the absence of legal restraints prohibiting or restraining the Acquisition. Our shareholders approved the Acquisition on 1 February 2019 and regulatory approvals have been received, or the review period has lapsed, in the European Union, United States, Russia and South Africa. The parties expect to complete the Acquisition in the first half of 2019.