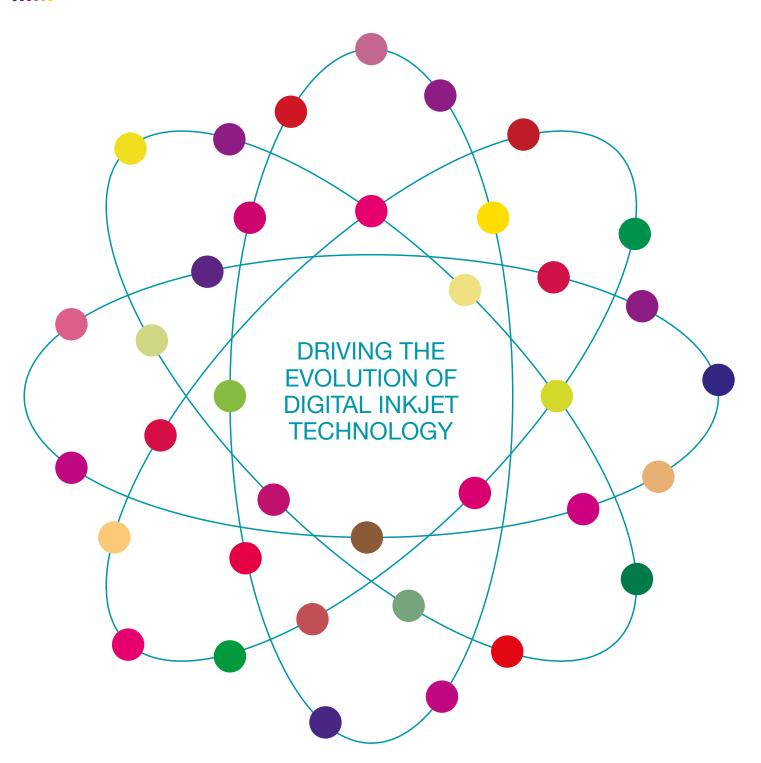


# Xaar plc Annual Report and Financial Statements 2016



# **HIGHLIGHTS**

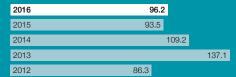
# Financial highlights

- Total revenue grew by 3% in 2016 to £96.2 million (2015: £93.5 million)
- Disappointing sales in ceramic tile printing were offset by revenue from the acquisition of EPS completed on 1 July 2016, strong sales growth in Packaging, and higher license income resulting from royalty audit settlements
- Operating profit margin of 20% achieved for the year (2015: 22%)
- Gross research and development (R&D) investment (before capitalisation of development costs relating to the Thin Film programme) increased to £22.4 million in 2016 (2015: £19.9 million)
- Net cash reduced by £20.4 million to £49.3 million (2015: £69.7 million) through investments in capital expenditure, working capital and the acquisition of EPS.

# Strategic and operational highlights

- Establishment of our vision to grow annual sales to £220 million by 2020
- Two major printhead partnerships have now been announced
- Two Thin Film printheads were launched in 2016
- Acquisition of EPS completed on 1 July 2016
- Investment in 3D confirmed with resources in Nottingham and Copenhagen
- Multiple new Bulk products were launched in the year
- The Sweden facility was closed successfully, as planned.

# Revenue £m £96.2m



# Adjusted profit before tax £m

£19.5m

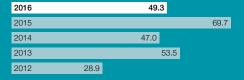
2016	19.5
2015	20.8
2014	
2013	
2012	18.4

# Profit before tax £m



# Net cash¹ balance £m

£49.3m



Xaar is a world leader in the development of digital inkjet technology, the manufacture of piezoelectric dropon-demand industrial printheads and the delivery of product printing solutions.



Read about our performance in 2016 see p04



Get an overview of our strategy see p08



Learn more about our markets see p14



Discover our market leading technology see p16

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Find out more about our risk management see p23

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#### Chairman's report

# PROGRESS AND CHANGE

I am particularly pleased with the progress against our renewed strategy of partnership and acquisition, with the highlights being the Ricoh partnership, the Xerox partnership and the acquisition of EPS.

I was delighted to be appointed Chairman in October 2016, a year in which we continued the transformation of Xaar under the leadership of our Chief Executive Doug Edwards and made good progress towards our strategic vision.

We took significant steps to deliver our strategy of partnership and acquisition, with the highlights being the Ricoh partnership, the Xerox partnership and the acquisition of EPS, a first step for Xaar outside the area of component manufacture. The partnerships with Ricoh and Xerox capitalise on each company's considerable expertise in printhead development. They will deliver substantial benefits through the expansion of market leading technology and enable Xaar to bring to customers a broader range of products. The acquisition of EPS, a leading provider of product printing equipment in North America, extends our reach beyond printheads and provides us with a customer base and footprint in North America, a region Xaar has been targeting for growth.

We announced in December an investment in our 3D printing activity, led by Professor Neil Hopkinson, through the establishment of staff and facilities in Nottingham, UK, and Copenhagen, Denmark, enabling us to deliver 3D printing services and equipment to OEMs. material suppliers and end users.



Robin Williams Chairman 22 March 2017

This was also a very active year for product launches and the commercial development of a new technology platform. We launched multiple new products during the year to support our partner OEMs in both existing and new markets for digital printing. The launch of our first Thin Film piezo printhead, the Xaar 5601, was particularly satisfying. We have made a significant investment in this technology and it is an important element of our 2020 vision.

Our financial performance in 2016 was broadly in line with our expectations set at the start of the year. Revenue increased 3% compared to 2015, including the sales generated by EPS which contributed from the acquisition date of 1 July 2016. In 2016 the Group achieved an adjusted operating profit margin of 20%. Our cash balance remains strong, with almost £50 million as at 31 December 2016, which puts us in a good position to pursue our strategy of partnership and acquisition.

I would like to thank our employees for their hard work and dedication through 2016. Important changes across the business continue, and the support of staff at all levels getting behind those changes is much appreciated. As previously announced we closed our Sweden plant in 2016 following almost 20 years of service as part of Xaar and I would like to thank our Swedish colleagues for their dedication and hard work over the entire period.

# Our technology

We have a market leading portfolio of products

See p16

There have been a number of changes to the Board since 1 January 2016, and these are set out on the next page. The most notable is the departure of Phil Lawler, who stepped down as Chairman in 2016 after nine years of service. I thank Phil for his significant contribution to Xaar and the strong team that he has put together to take the Company forward.

The task remains to bring Xaar to a more broadly based position of leadership in the digital transformation of printing worldwide; 2016 took some important steps in that direction and we aim for the current year to build on this.

Robin Williams Chairman

REW Williams

22 March 2017



# Awards received in 2016



We were delighted to receive two prestigious awards in November 2016

#### Xaar 2001 wins NMI's Product of the Year Award

The NMI Awards are a prestigious annual programme delivered by NMI, a UK industry association for electronic systems, microelectronics and semiconductors; its mission is to increase the quality and quantity of electronic engineering and manufacturing in the UK and Ireland.

# Xaar wins Design & Innovation award at The Manufacturer MX Awards 2016

Xaar won the Design & Innovation Award and was a People & Skills Award finalist at The Manufacturer MX Awards ceremony. In addition, Xaar's Justin Noble was a finalist for the Young Manufacturer of the Year Award. The Manufacturer MX Awards recognises and celebrates the best performing businesses in manufacturing. Winning this year was especially thrilling as 2016 marked the year when Xaar truly branched out into multiple industry sectors, launching a range of new products.

# **Board changes**

- On 4 January 2016 Chris Morgan joined the Board as a Non-Executive Director
- Following a review of the Board structure, Jim Brault stepped down from the Board on 16 March 2016. He continues in his role as Chief Human Resources Officer
- On 1 June 2016 Andrew Herbert joined the Board as a Non-Executive Director
- On 30 September 2016 Phil Lawler retired as Chairman. As a result, Robin Williams was appointed Chairman and Chairman of the Nomination Committee. Margaret Rice-Jones was appointed Senior Independent Director and Andrew Herbert was appointed Chairman of the Audit Committee
- On 21 October 2016 the Company announced that Alex Bevis, Chief Financial Officer and Company Secretary, will leave the Company to pursue other opportunities, effective 29 March 2017
- On 24 January 2017 the Company announced the appointment of Lily Liu as Chief Financial Officer and Company Secretary, effective 2 May 2017.





# Xaar 3D Printing using High Speed Sintering

In March 2016 we appointed Professor Neil Hopkinson, the original inventor of High Speed Sintering technology

Professor Hopkinson joined Xaar to develop the Company's 3D business. High Speed Sintering is a revolutionary Additive Manufacturing/3D printing technology which uses inkjet printheads and infrared heaters to manufacture products layer by layer from polymer powder materials at much higher speeds than other additive manufacturing processes. This technology is therefore of interest to companies looking to use in volume manufacturing.

In December we announced that our new Xaar 3D Centre and 3D team in Nottingham, UK, would open in 2017 to deliver 3D printing services and equipment to OEMs, material suppliers and end users.

There is no doubt that High Speed Sintering can transform 3D printing from low volume prototyping to high volume manufacturing.

Neil Hopkinson Director of 3D Printing

#### Chief Executive Officer's report

# ACHIEVEMENT AND TRANSFORMATION

Looking nearer term, our achievements in 2016 on a number of fronts position us well for growth.



Doug Edwards Chief Executive Officer 22 March 2017

Our 2020 vision

To lead the Digital Inkjet Revolution with annual sales of £220 million by 2020.

I am pleased to report on another exciting year of achievement. In 2016 we made further progress in our transformation to an externally focussed market led business. We have continued to improve our understanding of our markets and our customers, we have developed and successfully launched multiple new products, we have pursued and signed strategic partnerships and we have secured and integrated our first acquisition.

In 2015 we performed a thorough review of our strategy. As a result we committed to expand our horizons through transformation from an internally focused product company to a market and customer focused business. We undertook to expand our offering beyond the printhead in carefully selected applications, and to access new products and new technology through partnership and acquisition. We identified packaging as a key market for growth, and the US as a region with untapped potential. I am pleased with our progress in 2016 against all of these elements.

In 2016 we established four strategic pillars to support our 2020 vision; Ceramics; Product Printing and Packaging; Thin Film; Acquisitions and Partnerships. Progress within each of these pillars is described in this report.

#### **Ceramics**

Ceramics remained our largest application segment in 2016, where we retain a strong market position. It is a market which is maturing in terms of digital conversion, although opportunities to convert established analogue processes do still remain. As anticipated we have seen increased competition from other printhead suppliers in this application segment. We responded with two important product launches in 2016. The Xaar 1003, launched in March 2016, provided an improvement in the all-round performance of the wellestablished and market leading Xaar 1002, and also achieved the longest maintenance-free production runs in the industry. In September 2016 we launched the Xaar 2001+ family of printheads, a high performing and extremely versatile product range which enables tile manufacturers to easily implement new designs to respond to changing fashions and tastes, efficiently manage production changes from one day to the next and benefit from low maintenance production runs.

Overall sales performance in ceramics was disappointing in 2016, through a combination of lower overall printer sales in the market, increased competition and a slower take-up of new products. Initial demand for the 2001+ printheads was strong following the launch of those products in September, however, longer than expected customer printer re-designs and manufacturing ramp-up resulted in lower than expected sales in the second half of 2016. The products launched in 2016 position the Company well in terms of maintaining Xaar's market leading position and supporting our OEM partners in 2017 and beyond.

### **Product Printing & Packaging**

Through our strategic review we identified the potential to extend our business model beyond printheads in carefully selected applications. In 2016 we selected two areas to focus on; product printing and 3D printing, and we have made good progress on both.

The product printing market is served by multiple print processes today and the fastest growing is inkjet. Here, just as with other industry sectors, there is great potential to accelerate the adoption of inkjet. On 1 July 2016 we acquired EPS, a leader in product printing equipment based in the US, to increase our influence and financial returns from this sector. EPS successfully established itself through supplying customised and bespoke printing solutions to a wide variety of market sectors including promotional, packaging, medical, automotive, apparel, appliances, sports equipment and toys. One of its achievements has been to develop flexible and cost effective digital inkiet solutions. Through the acquisition. Xaar gained a well-established and successful business, a customer base and a footprint in North America, a region Xaar has been targeting for growth. I am delighted with the success of the integration and subsequent performance of the business since the acquisition.

In December 2016 we announced an investment in 3D printing, led by Professor Neil Hopkinson, through the establishment of staff and facilities in Nottingham, UK, and Copenhagen, Denmark. We will be opening a Xaar 3D Centre in Nottingham, UK, to deliver 3D printing services and equipment to OEMs, material suppliers and end users. In addition to the investment in Nottingham, Neil's team has recently been expanded through the

Xaar plc
Annual Report and Financial Statements 2016

acquisition of an experienced group of talented engineers working in Copenhagen, Denmark. The Copenhagen team will provide design and process development expertise to help our partners commercialise equipment, enhancing Xaar's ability to secure further revenues in this fast growing sector. Our investments in Nottingham and Copenhagen will significantly expand our capability in this sector, helping us to achieve our growth plans.

In the various established and developing packaging applications outside of product printing, our focus remains our core business of selling printheads, and I am pleased to report good sales performance in 2016, with all areas of Packaging (Coding and Marking, Primary Labels and Direct-to-shape) delivering growth over 2015.

#### Thin Film

2016 was an exciting year for Thin Film printhead technology, with two important announcements.

We have made a significant investment in the development of Thin Film printhead technology, with the objective of producing a printhead which unlocks the digital conversion of very large and established analogue industrial printing markets such as commercial printing, textiles, brochures, magazines and high-volume packaging. This development is an important part of our 2020 vision which pushes the boundaries of inkjet technology. In May 2016 we were delighted to announce the launch of the Xaar 5601, our first product based on this technology platform, which has been successfully demonstrated to a number of our partners. We had originally targeted to begin commercial sales of this product in early 2017, however, our manufacturing partner experienced a processing issue as they began to increase production levels. The impact of this issue has limited production output of the Xaar 5601, which has delayed commercial sales volumes. The root cause of the issue has been identified and resolution is in progress.

We are working closely with our manufacturing partner to minimise the impact of delays on our customers, and we expect to get back on-track during the second quarter of 2017 with commercial sales anticipated from the middle of the year.

The second announcement on Thin Film resulted from a strategic collaboration with Ricoh, which yielded a new printhead, the Xaar 1201, targeted at the already well-established digital printing market of outdoor advertising and soft signage in Asia.

Initial demand is high from our partner OEMs. Production output is building and this printhead is expected to provide a material revenue contribution from the second half of 2017.

#### Acquisitions and Partnerships

In 2016 we were delighted to report our first acquisition. EPS, acquired on 1 July 2016, has been successfully integrated and is performing well. It has helped extend our business model and improve our market knowledge. We will continue to explore acquisition opportunities in the Product Printing space and in other carefully selected target markets.

We made excellent progress with partnerships in 2016. In May 2016 we announced our Thin Film piezo printhead partnership with Ricoh, and in January 2017 we announced our Bulk piezo printhead partnership with Xerox. These partnerships are important for three reasons; they extend our product range, they produce better products more efficiently, and they expand our market access. As noted above, the Ricoh partnership signed last year quickly vielded a first product, the Xaar 1201, which will contribute in 2017. The first product from the Xerox partnership announced in January, the Xaar 5501, is already in development and is expected to be introduced in the middle of this year.

In 2016 we also made progress on our partnership with GIS on electronics, Megnajet on fluid supply systems, and with a number of ink companies. Success with printhead adoption is reliant on the creation of an ecosystem of technology, products and partners; launching a stand-alone printhead without the necessary supporting elements will not be successful. Our external focus is therefore very important and we will continue to look for opportunities to partner.

### Product and technology development

2016 was another busy year for our product development and delivery teams. In addition to the printheads mentioned above, the Xaar 1003 and Xaar 2001+ for ceramics, and the Xaar 5601 and Xaar 1201 Thin Film products, we achieved a number of other printhead launches.

In February 2016 we announced the launch of the Xaar 1002 GS40 for UV applications, perfect for a range of high build varnish and textured effects for labels, packaging, graphics and wood laminate.

In November 2016 we announced the launch of the Xaar 502 product family of high-performance greyscale piezoelectric drop-ondemand printheads designed for a wide variety of applications, including the well-established Coding and Marking application.

We also transferred production of the enduring Xaar 128 from Sweden to Huntingdon and achieved a successful closure of the Sweden facility, on plan and on budget.

#### Our people

I would like to thank all of our staff for their efforts during 2016; an important year in the long term development and progression of the Company. We have overcome a number of challenges, and together we will need to continue to challenge ourselves, and to change, to achieve our goals. In 2017 we have a change of CFO, as Alex Bevis departs after six years of service to join Frontier Developments plc, and Lily Liu joins us from Smiths Group plc. I'd like to thank Alex for his contribution to Xaar; particularly the last two years whilst we have been working together. I look forward to working with Lily to continue Xaar's transformation.

### Summary and outlook

We remain focused on our long term opportunity; the conversion of well-established analogue manufacturing techniques to digital inkjet solutions. Our vision is to grow annual revenues to £220 million by 2020. Looking nearer term, our achievements in 2016 on a number of fronts position us well for growth. Whilst our strengthened product portfolio expands our market opportunities, execution risks remain. The expected growth of new product revenues over the course of 2017 reduces our visibility for the current year, with revenues expected to be more second half weighted than usual. Our objective is simple; to take the necessary steps in terms of product developments, partnerships and financial performance to reach our 2020 target.



Doug Edwards Chief Executive Officer 22 March 2017

Who we are

# LEADING THE DIGITAL INKJET REVOLUTION

#### **About Xaar**

Xaar is a world leader in the development of digital inkjet technology. We are a designer and manufacturer of piezoelectric drop-on-demand industrial inkiet printheads; the key component in a digital printing system. Unlike analogue printing, digital printing requires no physical master image to copy from, and hence enables economic short run, variable data printing. The printhead is the device which converts the electronic image data into the physical image on the substrate. To achieve this, Xaar technology is a combination of high speed mixed signal electronics, micro-mechanics, and fluid dynamics. In addition to technology development, we drive the adoption of digital inkjet through acquisitions and partnerships.



#### Xaar designs

Xaar invests a substantial proportion of sales (over 20% in 2016) in Research and Development (R&D) to remain a world leader in inkjet technology. Xaar has more than 250 patents and patent applications and continues to add to its Intellectual Property (IP) portfolio. At 31 December 2016 R&D staff totalled 129 representing 20% of the total workforce.



# Xaar sells

Xaar sells direct to OEMs around the world through its global sales team. Xaar's highly skilled application engineers offer the highest level of technical support to assist OEMs in the successful design, build, commissioning, and ongoing maintenance of printing systems. Europe, Asia and North America are the primary locations of our current OEM partners. Xaar also sells printing equipment, services and consumables via EPS, a leading provider of product printing solutions based in the US.

### Our business model

Xaar sells its technology in component form (the printhead) to Original Equipment Manufacturers (OEMs) who produce and sell the complete digital printing solutions to the end market. Our full range of printheads are used in delivering solutions for numerous applications. In addition to our close engagement with OEMs we also actively partner and codevelop with fluid suppliers, hardware and software integrators, and substrate suppliers to deliver a robust and attractive total solution to the end user. Our core business is the design, manufacture, marketing and sale of printheads, printhead systems and associated products. Through its recently acquired company, Engineered Printing Solutions (EPS), Xaar also provides customised printing equipment for the product printing market. Xaar receives licensee royalty income from its legacy technology licensing model.



#### Xaar manufactures

Xaar manufactures its printheads in Huntingdon, UK, Xaar's manufacturing is relatively capital intensive; the Group has invested over £60 million in assets and production facilities in Huntingdon since the plant opened in 2007. We export over 95% of our production to customers around the world. EPS, a Xaar company, manufactures customised and bespoke printing solutions in Vermont, US.



Xaar offers a wide range of industrial inkjet printheads and printhead systems which are designed and produced to meet the customer-driven requirements of a range of manufacturing applications. Primary markets include wide-format graphics, ceramic tiles, labels, packaging, coding and marking, 3D printing, advanced manufacturing and decorative laminates.

### Xaar in 2016

# Xaar strengthens 3D printing business with new appointment

Professor Neil Hopkinson, the original inventor of the transformational High Speed Sintering (HSS) technology, joins Xaar, bringing 19 years' experience in additive manufacturing technology.

### Xaar and Ricoh announce strategic Thin Film partnership at drupa

The partnership will maximise the benefits from each company's considerable expertise in Thin Film piezo printhead development. The collaboration will also deliver superior technology and a broader range of printheads which will provide substantial benefits to the customers of both companies.

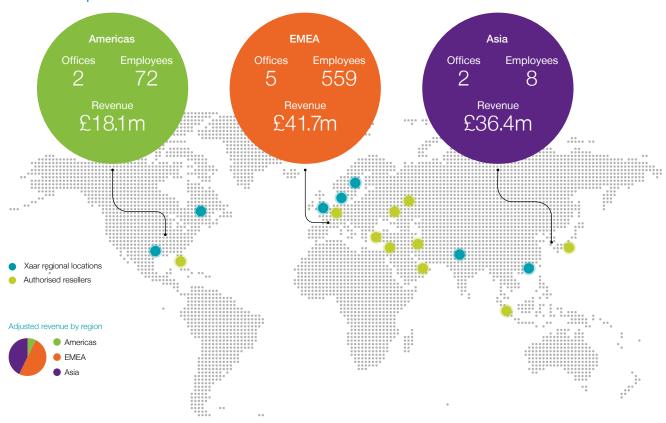
### The Xaar 5601 Thin Film silicon mems high resolution printhead family is launched

The Xaar 5601 incorporates a number of innovative technologies, very high resolution (over 5,600 nozzles), and is capable of jetting up to six litres of fluid per hour. New innovations such as  $AcuDrp Technologv^{TM}$ allow control over drop ejection for perfect image quality.

### Xaar announces **Engineered Printing** Solutions as first acquisition

Engineered Printing Solutions, a leading provider of product printing equipment in North America, is Xaar's first acquisition as part of the Company's strategic vision to achieve £220 million of annual sales by 2020.

# Where we operate



### Launch of the first Xaar 1201 printers in China

Guangzhou Xucheng Electronic Technology Ltd is the first OEM partner to develop and launch wideformat inkjet printers based on the innovative new Xaar 1201 Thin Film piezo printhead.

### Xaar 1003 printhead dramatically improves output at Oscar Ceramics, Italy

The Xaar 1003 printhead has played an important part in the Oscar Ceramics efficiency drive by helping to dramatically improve production uptime and throughput, whilst delivering a high quality print onto their tiles.

### The new Xaar 502 delivers high levels of quality and flexibility

The first release from this printhead family is the Xaar 502 GS15 O optimised for Coding and Marking applications. This printhead delivers a step change in product identification technology by combining binary and greyscale capabilities in one.

### Xaar 2001 Printhead Wins NMI Product of the Year Award

The innovative Xaar 2001 printhead has won the 'Product of the Year Award' at the 20" NMI Awards. "We took an innovative approach to the design and development of this new printhead which allowed us to bring it to a very successful market launch in a record time earlier this year." said Ted Wiggans, Xaar's Chief Operations Officer.

# 22020

Leading the Digital Inkjet Revolution with annual sales of £220 million by 2020

Read more at www.xaar.com

#### Our strategy

# OUR MISSION, VISION AND STRATEGY

Our mission
Leading the digital inkjet revolution

Our vision £220 million of annual sales by 2020







See our strategy in detail on the following pages



# New products and new technology

We manage our product development programmes across three horizons: short term by delivering updates and improvements; medium term by developing new products or derivatives using existing technologies; and longer term through research and development of leading edge technologies. Alongside our internal development programmes we seek opportunities to access, through acquisition or partnership, products and technology developed by third parties.

To create and maintain competitive advantage over the short to medium term, it is critical that we continue to improve existing products as well as developing new products. Over the medium to long term, in order to access a greater proportion of the substantial industrial print market, we must continue to develop new technology which can open up opportunities for the application of digital inkjet in established analogue markets.

We develop and maintain the different sets of skills and processes needed to execute the programmes in each of the three horizons successfully, and we balance our portfolio to achieve our short, medium and long term objectives targeted at achieving sustained profitable growth.

Products developed to date use our patented Xaar bulk piezo technology. Our Thin Film piezo technology programme will enable us to target an even wider range of applications, which will significantly increase Xaar's addressable market. Products resulting from acquisition or partnership enable us to seek new opportunities bevond our current markets.

Inkjet is a heavily patented area and managing our Intellectual Property (IP) is critical to our success, both in terms of protecting our position and avoiding infringing other parties' IP. Xaar has more than 250 patents and patent applications and continues to add to its IP portfolio.

We allocate significant resources to research and development to enable the successful completion of programmes which will generate future sales.



# Building the eco-system

To penetrate any market successfully, an eco-system of technical and commercial partnerships must be formed to drive and support market conversion.

Xaar's direct customers are mainly OEMs, who manufacture equipment for patterning, decorating, finishing or printing products in a number of different market sectors. We provide our OEM partners with the know-how and ability to incorporate our innovative range of printheads, printhead systems, systems components and electronics into their equipment to increase the value and functionality of their own products, and minimise the time required to bring products to market.

In addition to our close engagement with OEMs we also actively partner and co-develop with fluid suppliers, hardware and software integrators, and substrate suppliers to deliver a robust and attractive total solution to the end user. We work in partnership with the world's leading ink manufacturers to develop and approve a wide range of inks which are optimised for our printheads and the end application.

Given the complexity of the final integrated solution, it is typical that our partners' development cycles are measured in years rather than months, with successful solutions then benefiting from long commercial lifecycles. To support these developments we deploy sales and technical support staff globally ensuring a local presence in each of the key geographical regions.

#### Our strategy continued



### Converting multiple markets

The markets and applications that use Xaar's printheads are diverse but can be grouped to have similar characteristics and general imaging requirements

Xaar's products are designed to provide benefits across multiple applications. This strategy means we can offer solutions across various markets through efficiency in development and implementation. We also continuously enhance product performance which allows our OEMs to take advantage of upgrades with minimal changes at the system level.

The Xaar 1003 range of products, with high resolution greyscale (variable drop size) and TF Technology® (fluid recirculation); this ensures an exceptional quality of print in one single pass of the substrate under the printhead, which maximises productivity and delivers significant quality and cost advantages over traditional analogue methods in ceramics and other industrial applications. Although the Xaar 100x series (Xaar 1001/2/3) is the market leading printhead range in the ceramics sector, it is also used for printing primary labels, decorative laminates and packaging

To date we have focused on three main sectors: Industrial, which covers ceramics, decorative laminates, product printing, 3D printing and advanced/additive manufacturing; Packaging, which includes product labelling, Direct-to-Shape (printing directly onto bottles and containers) and coding and marking (printing bar codes and data); and Graphic Arts, which includes wide-format graphics (typically outdoor advertising, posters and banners), commercial print, and varnishing. The wide-format graphics sector was the first to adopt industrial inkjet and is, therefore, the most mature. The ceramics market has been moving into digital inkjet decoration over the last ten years. However, the pace of change accelerated significantly in 2009 following the launch of the Xaar 1001 in 2007.



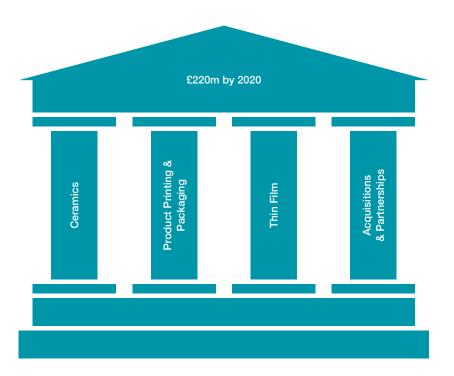
# Enhancing our capability

In order to develop new products and new technology successfully, and to sustain or grow sales in multiple end markets, we must constantly develop our capability in terms of our people and other resources, specifically both our R&D and manufacturing capacity and capability, and the structure of our organisation. External opportunities will also be identified and evaluated to support the expansion of our capability.

The success of our business depends on our people so we recruit only the best. We offer competitive salary and benefits packages as well as share incentive plans and our employees benefit from extensive training and development opportunities. We aim to build long term relationships with all our employees by helping them grow and develop and by making Xaar a great place to work and a great Company to be involved with.

Our state-of-the-art printhead manufacturing facility is located in Huntingdon, UK (5,000 m²). Manufacturing is cleanroom based with 24/7 demands for complex facilities' requirements including climate control, gases and chemicals. The cleanrooms contain islands of processing automation, with custom-made or specially modified processing and test equipment. Operation is multi-shift and runs with small processing windows and micron scale tolerances. Production involves multiple non-reworkable processing steps, resulting in a highly sensitive cumulative yield; unit cost and throughput are in turn highly dependent upon yield.

# OUR STRATEGIC PILLARS



In 2016 we defined four strategic pillars which support our 2020 vision to grow annual sales to £220m:

Ceramics (the digital decoration of ceramic tiles)

Product Printing and Packaging (including 3D and Direct-to-Shape)

Thin Film printhead technology

Acquisitions & Partnerships



#### Our strategy continued

# **OUR STRATEGY IN ACTION**

We made good progress against our strategic goals in 2016, and we have exciting plans for 2017. The highlights are set out below:

### Our 2020 strategic pillars Our areas of strategic focus **Product Printing** In 2016 we launched the Xaar 1003 and the Xaar In early 2016 we launched the Xaar 1002 GS40 for UV 2001+ family of printhead families to secure our market inks (used in many packaging applications), and the leadership position. Although the Xaar 2001+ has been Xaar 502 product family for multiple applications, including slower to ramp-up than expected in 2016, it is anticipated Coding and Marking. New products and to be an important product for Xaar in 2017. new technology We continue to work with multiple OEMs and ink suppliers In December 2016 we announced an investment in to bring the most effective printing solutions to market. 3D printing. This will enable us to work more effectively The players in this sector are now well-established. with our partners to begin to generate sales and returns from this important and strategic application. **Building the** eco-system Although the ceramics market is relatively mature, The EPS acquisition is helping us in the product printing and Direct-to-Shape market by giving us access to new substantial opportunities remain to convert additional customers and helps to position Xaar as a key player in analogue processes to digital. In January 2017 we announced a new partnership with Italian ink manufacturer the packaging sector. Our investment in 3D printing will Converting Metco Srl to deliver Xaar-approved Solvent Soluble inks, help to establish sales in a market which has good future multiple markets to help convert the polished tile market to digital. potential. Our partnership with Xerox, announced in January The acquisition of EPS has enhanced our knowledge 2017, enhances our position within the ceramics in building and customising machines for the product market since it broadens the product range we can printing markets. offer to our customers. Enhancing our capability



In 2016 we launched the Xaar 5601, based on our own significant R&D investment; we also launched the Xaar 1201 as a result of our partnership with Ricoh.

Our Ricoh partnership produced the Xaar 1201 in 2016. We gained a product printing equipment portfolio from the acquisition of EPS in July 2016. The Xerox partnership is expected to deliver at least one new product in 2017.

Following the successful launch of the Xaar 5601 and the Xaar 1201 in 2016 we have engaged with multiple OEM partners to ensure that these products generate the significant revenue goals for 2017.

In May 2016 we announced an important partnership with GIS to support Xaar printheads with the provision of electronics and system components. The EPS acquisition in July has provided invaluable experience of the manufacture of full digital printing solutions.

The specification of the Xaar 5601 provides us with enormous opportunity to convert very large markets which today remain analogue. The Xaar 1201 enables rapid access to a significant existing digital market in Asia. The Ricoh partnership has given us access to new markets with the Xaar 1201. The acquisition of EPS will enable us to accelerate the digital conversion of the product printing market.

Following over eight years of investment in our Thin Film technology development, the Xaar 5601 is a significant step forward in our product portfolio, enabling us to provide our customers with a step change in printhead productivity. Together with the Xaar 1201 we can now offer an aqueous solution which opens up new markets.

The partnerships with Ricoh and Xerox, and the acquisition of EPS, have a expanded our product range which in turn gives us access to more markets and more opportunities for conversion to digital.

#### Our markets

# EVOLVING IN A CHALLENGING ENVIRONMENT

Most things we come into contact with on a daily basis are patterned, decorated, printed or finished in some way. In fact, even after excluding printing in the office or the home, over 3 trillion m² of material is printed, patterned, decorated or finished each year – that's a monthly output equivalent to the surface area of the United Kingdom.

These items can be broadly split into four areas: products, packaging, promotion and publishing. Products include things like ceramic tiles and laminate flooring. Packaging includes labels on bottles and bar codes on boxes. Promotion includes advertising banners and posters. Publishing includes books and newspapers.

Perhaps surprisingly around 97% of production processes used in the manufacture of these items still use traditional analogue technology. Analogue (sometimes referred to as 'fixed image') solutions can be very effective when the same image is replicated many, many times. However, where frequent changes are required or run lengths are shorter, then digital (also known as 'variable image') processes can provide significant cost and inventory reductions whilst improving time-to-market versus analogue techniques.

Over the last 20 years digital imaging technologies, including digital inkjet, have emerged for applying images, patterns or finishes in more efficient, flexible and cost-effective ways. Because of its ability to work with a variety of jetting fluids and substrates, and in difficult environments, inkjet has the unique ability to potentially replace all current printing techniques.

The pace of inkjet's adoption and the rate it displaces existing technologies is driven by some key factors, including cost, speed and image quality, which must be met in order for the adoption to take place. Because of these characteristics the adoption of inkjet has typically occurred through 'waves of conversion' in distinct market sections, as the developing technology meets the individual conversion requirements of particular applications.

Xaar, a world leader in industrial inkjet, has successfully developed digital technology and manufactured and sold inkjet products, predominantly printheads, into a number of sectors. The printhead is the heart of the digital process, depositing fluids, including inks and coatings, in precisely the right quantity and in the right place on the substrate, without even touching the surface.

To date Xaar has driven, and benefited from, 'waves of conversion' in two particular applications: outdoor advertising (including billboards, posters and banners) and ceramic tile decoration, which have both adopted digital inkjet technology. These two applications presently use inkjet to annually produce over 7 billion m², but represent only 0.2% of the 3 trillion m² entire global print production.

Xaar's challenge is to expand its existing digital inkjet printhead technology into new markets and to develop new technology to maximise the opportunity that exists from the conversion of much larger applications to digital inkjet.

Looking forward, the opportunities for digital print continue to accelerate. Industry forecasts project the digital print market to double over the next ten years.



# EPS acquisition adds a new dimension to Xaar's portfolio

Engineered Printing Solutions (EPS) is a leading provider of product printing equipment in North America. The acquisition, completed on 1 July 2016, is Xaar's first as part of the Company's strategic vision to achieve £220 million of annual sales by 2020.

EPS has built a successful business through supplying customised and bespoke printing solutions to a wide variety of market sectors including promotional, packaging, medical, automotive, apparel, appliances, sports equipment and toys. One of its achievements has been to develop flexible and cost effective digital inkjet solutions. In 2015 EPS generated \$14 million of revenue and today employs 60 staff.



### Market sectors

#### Industrial

The Industrial market presently includes ceramic tile decoration, decorative laminate, and advanced/additive manufacturing processes.

### Ceramic tile production

Ceramics is a 12.1 billion m<sup>2</sup> market currently and digital conversion was estimated to be over 70% at the end of 2016. There are c.10,000 production lines around the world, with almost half of these in China. The creative design is the key feature which sells a tile. Xaar's digital inkjet solution provides an end result which is superior in terms of image quality, at a lower cost, plus with the advantages of flexibility, inventory reduction, and larger tile size capability. Tile manufacturing operates in a harsh industrial environment with high reliability/duty cycle requirements; hence any technology deployed needs to be appropriately robust. The market has been moving to digital inkjet decoration over the last ten years with the pace of change accelerating after the launch of the Xaar 1001 which achieved volume sales from 2009 onwards. Today the Xaar 1003 family of printheads with TF Technology™ continue to deliver both quality and cost advantages over traditional analogue methods within a robust architecture suitable to this harsh environment. giving rise to maximum production uptime.

#### **Decorative laminates**

Decorative laminates is estimated to be at 7.8 billion m<sup>2</sup> of annual output with c.1,600 production lines around the world supplying simulated wood materials to the furniture and building industries. Realistic wood finishes or creative design are the key features which sell the board/plank/finished item and the digital quality that is now being demonstrated with Xaar printheads matches the analogue process, thereby offering the opportunity for more economic short run work to be undertaken whilst reducing inventories and improving time to market. Inkjet is the only digital solution which meets the high reliability and high duty cycle requirements needed within this industry. Digital adoption is still at the very early stages in this application, and the rate of adoption is expected to grow over the next few years.

#### **Product Printing**

Product printing is the practice of printing onto all kinds of industrial objects, including promotional items, packaging, medical, automotive, apparel, appliances, sports equipment and toys. The product printing market is served by multiple print processes today and the fastest growing is inkjet. As with other industry sectors, there is great potential to accelerate the adoption of inkjet in this market, through the delivery of bespoke or highly customised printing solutions. In July 2016 Xaar acquired EPS, a leading provider of product printing equipment for this sector based in North America.

#### Advanced/additive manufacturing

Applications include demand for the fine coating, patterning and printing of functional fluids onto numerous substrates in numerous industries. Applications are challenging and push inkjet to its known limits and beyond in fields such as nano imprinting, solar cell manufacturing and display screen production. Xaar has been working with multiple partners in laboratories all over the world exploring what may be possible in the future. Technical progress is promising but the commercial implementation of many of these applications is still believed to be some years into the future.

# **Packaging**

The Packaging sectors presently includes coding and marking, primary labels, and Direct-to-Shape printing.

#### Coding and marking

Coding and marking is an application of printing predominantly monochrome bar codes and logos on outer case/secondary packaging of consumer goods. This is an established and stable business based on bulk piezo technology which competes with alternative technologies including laser and thermal inkjet.

# Primary label

Primary label printing is estimated to be a market producing over 57 billion m² annually, with only 9% of this market converted to digital printing to date. The change driver is the delivery of lower cost per copy on run lengths up to 100,000 impressions (versus

only 50,000 impressions three years ago). There is a large range of substrates and inks in this application which adds complication to the conversion process.

#### Direct-to-Shape

Direct-to-Shape is a new application where bottles and containers have the image printed directly onto their surface without the need for a label. The solution is aimed at shortening time to market whilst simultaneously reducing inventory and unit costs versus existing methods. This approach also enables mass customised marketing and event targeting.

# **Graphic Arts**

The Graphic Arts segment presently includes Grand/Wide-format graphics.

#### Grand/Wide-format graphics

Grand/Wide-format graphics (GWFG) includes both internal and external signage and advertising, including billboards, posters and point of sale advertising. It is the most mature industrial inkjet market, active for over 15 years. Xaar's growth to date has been based on its original set of bulk piezo products, which delivered annual growth from 2003 to 2007. To stimulate further material growth for Xaar in this end market new product developments are required to enhance the portfolio.

#### Market revenue



#### Our technology

# INNOVATIVE INKJET TECHNOLOGY

The new Xaar 2001+ is the most versatile family of printheads available for ceramic tile decoration offering unrivalled production flexibility, market leading print quality and industrial reliability.



- The Xaar 2001+ family of printheads is ideal for printing an extensive range of ceramic tile designs and patterns.
   Tile printers enabled with the Xaar 2001+ can respond more quickly and cost effectively to design changes.
- Able to jet one colour at 720 dpi or two colours at 360 dpi each, enabling ink configuration changes to respond to design trends; available in three drop sizes.

#### **Production flexibility**

- Market leading print quality, with up to 720 dpi and eight grey levels, means that tile manufacturers can produce a wide range of designs for floor and wall tiles.
- Fast line speed of 50m/min for high production throughput or high link laydown for tile designs with intense effects.

#### Industrial reliability

Xaar's TF Technology®

- The XaarGuard<sup>™</sup> nozzle plate for highly effective protection from mechanical impact to minimise production interruptions.
- Xaar's Tuned Actuator Manufacturing process for consistent print.
- XaarSMART<sup>TM</sup> technology to report ink temperature and printhead status in real time.







Xaar 502 printheads are designed to deliver industrial reliability and robustness resulting in increased production up-time, particularly in harsh environments.

#### **Exceptional print quality**

The Xaar 502 family of printheads and the revolutionary PrecisionPlus architecture deliver smooth graduations and excellent edge definition for printing text, bar codes and graphics.

#### Flexible and easy integration

The Xaar 502 printheads offer a flexible range of ink supply options and easy printhead integration for maximum versatility, fast manufacturing and minimum servicing time.



The Xaar 128 has maintained its position as the leading 17mm piezoelectric Drop-ondemand printhead of choice for the Coding and Marking and Wide-Format Graphics print sectors.

#### Light and powerful

With a compact footprint and light carriage weight of only 16 grams, the agile Xaar 128 printhead is ideal for applications where weight and size are a key factor in machine design.

#### Easy to integrate

Specifically engineered with a simple electronic interface, the Xaar 128 promotes quick and easy integration into printers making it the ideal choice for a variety of markets.







The Xaar 1003 is the benchmark against which all other single-pass printheads are compared and has an all-round superior performance.

#### Ultimate versatility

Xaar's new Tuned Actuator Manufacturing process ensures full scalability – long print bars with multiple printheads are simple and even quicker to set up, and printhead replacement is streamlined.

### **Outstanding print quality**

Exceptionally smooth print tones and solid areas, perfect for printing amazing life-like images, pin-sharp text and bold colours. Excellent print uniformity for even colour density across the printhead and the entire print width.

#### Highest productivity

With TF Technology® and XaarGuard™, this printhead delivers maximum production uptime with minimum operator intervention to ensure high production output and a fast return on investment.

#### Our technology continued



This thin film piezo silicon MEMS printhead offers compelling advantages over competitor printheads for Wide-Format Graphics and low productivity dye sublimation textile printing.

#### High versatility

This is an extremely versatile printhead for banners and Point of Sale (POS) applications. It can be configured to print four colours at 300npi or two colours at 600npi depending on the pricepoint and end user profile that OEMs wish to target.

### Easy to integrate

A single head can serve a complete four colour (CMYK) printer – making it easy to integrate mechanically, electrically and fluidically.





The Xaar 5601 3p0 is a high resolution inkjet printhead which delivers a market leading combination of total cost of ownership, print quality and usability. Its small drop and outstanding performance make it ideal for textiles, laminates, commercial print, carton printing and many more applications.

# Market-leading total cost of ownership

The print width of the Xaar 5601 family is such that OEMs need fewer printheads for a print bar compared to other printheads in the same class. Therefore fewer electrical and fluid connections are required, which makes integration simpler and lower in cost.

#### Best-in-class print quality

The 1200 nozzles per inch, eight greyscale levels and a drop size of 3pl drop produce an apparent resolution greater than 2440 dpi with high levels of productivity. In addition, AcuDrp Technology minimises drop volume and drop speed variation, whilst TF Technology® ensures excellent print quality.

#### Unparalleled usability

Plug'n'Print features enable quick and easy printhead installation and replacement, and a special nozzle overlap configured by software means no mechanical alignment is needed.





# SPECIALISED PRODUCT PRINTING SOLUTIONS FROM XAAR COMPANY EPS



'High Speed Direct-to-Shape' inkjet printer for higher throughput and better resolution.

- Continuous multi-colour printing in a single pass with printing speeds up to 15 inches per second
- Optional custom automation for parts handling, in-line pretreatment and vision systems.



#### Custom inkjet system

The high-volume industrial ink jet printer can be customised to include in-line automation and part handling options. Excellent for variable image data on short or long production runs with high-resolution print quality using a single-pass variable dot size grey scale technology. Powered by Xaar printheads delivering high-quality drop formation.







#### Chief Financial Officer's report

# SOLID FINANCIAL PERFORMANCE

A disappointing performance in ceramics was offset by strong growth in packaging, the addition of sales from the acquired EPS business, and higher royalty income.



Alex Bevis Chief Financial Officer 22 March 2017

Revenue £m £96.2m

Adjusted operating margin % 20%

#### Revenue

The Group achieved total revenue for the year of £96.2 million (2015: £93.5 million) which was broadly in line with the Board's expectations going into 2016. A disappointing performance in ceramics was offset by strong growth in packaging, the addition of sales from the acquired EPS business, and higher royalty income.

The majority of Xaar's revenue is generated by product sales, commissions and fees (£82.9 million or 86% of total sales in 2016, £87.3 million or 93% of total sales in 2015), with 14% of revenue in 2016 (2015: 7%) derived from licensee royalty income. The significantly higher level of licensee royalty income in 2016 compared to previous years is the result of the resolution of royalty audits during the year.

Industrial applications (associated with the production of physical end products) continue to be the largest sector for Xaar's technology, and represented 55% of Group revenue in 2016 at £53.3 million, compared to 66% in 2015 (£62.2 million).

The largest revenue contributor in Industrial continues to be ceramic tile decoration. The development and sale of printing equipment by our OEM partners continues to drive the conversion from analogue rotary systems to superior digital inkjet processes, but this sector is maturing and the replacement cycles for both printers and printheads are becoming more important.

Revenues from the acquired EPS business have been included in the Industrial sector and accounted for £6.7 million in 2016 (from the acquisition date of 1 July 2016). Total sales into other Industrial applications such as advanced manufacturing, decorative laminates (artificial wood), and product printing (industrial Direct-to-Shape) grew 19%.

Sales into the Packaging market grew 40% in the year, and accounted for 23% of revenue in 2016 at £21.7 million (2015: 17%, £15.5 million). All three of the main sub-sectors; Coding and Marking, Primary Labels, and Direct-to-Shape delivered growth over 2015. Sales into the Coding and Marking application were boosted by some one-off last-time-buy arrangements for products previously manufactured in Sweden.

Sales into Graphic Arts, typically the printing of outdoor advertising and soft signage, accounted for £7.9 million for the year (2015: £9.6 million). The Xaar 1201 printhead launched in 2016 will be an important product to enable a return to more substantial sales in this sector in 2017.

As a supplier of technology to OEM partners, our geographic sales split reflects where our products are integrated into the manufacturing equipment, which is not necessarily the enduser location.

In 2016, Europe, Middle East and Africa (EMEA) remained the Company's largest sales region at £41.7 million (2015: £47.1 million), representing 43% of Group sales. The year on year reduction in revenue is mainly the result of falling European OEM sales into ceramics. Europe will continue to be a very important market for us, and so we are keen that efficient trading arrangements continue with the EU as the UK prepares for Brexit.

Sales into Asia were also impacted by the lower sale into ceramics, but benefited from the royalty audit settlements. Overall sales into Asia reduced to £36.4 million (2015: £39.9 million) representing 38% of total revenue.

The Americas remained the lowest region by sales but increased substantially following the EPS acquisition. Revenue increased to £18.1 million from the £6.5 million recorded in 2015, representing 19% of total revenue.

#### **Profitability**

Overall profitability was slightly down year on year, with an adjusted operating margin in 2016 of 20%, versus the 22% recorded in 2015. The reduction was mainly due to a lower gross profit margin, which reduced from 47.8% in 2015 to 46.4% in 2016, despite the more significant contribution provided by license income arising from the resolution of two significant royalty audits. Gross profit margin in 2016 excluding all license related income was 37.8% compared to 44.1% recorded in 2015. The reduction reflected lower output from the Sweden manufacturing facility in the first half of 2016, competition related pricing pressures and lower than planned production levels in the second half of the year of new products, including a slower than expected increase in the Xaar 2001+.

#### Summary of financials

	2016	2015	2014	2013	2012
Revenue £m	£96.2m	£93.5m	£109.2m	£137.1m	£86.3m
Gross margin %	46.4%	47.8%	44.5%	54.0%	47.4%
Gross research and development expenses £m	£22.4m	£19.9m	£19.2m	£16.4m	£8.0m
Adjusted operating margin %	19.8%	21.8%	22.2%	30.4%	21.1%
Operating margin %	18.1%	14.1%	20.8%	29.0%	18.0%
Adjusted profit before tax £m	£19.5m	£20.8m	£24.6m	£41.1m	£18.4m
Profit before tax £m	£17.9m	£13.6m	£23.1m	£40.1m	£15.7m
Adjusted diluted earnings per share	21.2p	24.5p	26.4p	43.2p	20.1p
Diluted earnings per share	18.9p	16.1p	24.4p	41.6p	16.9p
Net cash balance £m	£49.3m	£69.7m	£47.0m	£53.5m	£28.9m
Net cash flow £m	(£20.4m)	£22.7m	(£6.5m)	£24.6m	£11.5m

Adjusted measures exclude items from the IFRS operating profit and profit before tax, such as share-based payment charges, exchange differences on intra-group transactions, unrealised gains/losses on derivative financial instruments, restructuring costs, R&D expenditure credit, impairment on trade investments, commercial agreement costs, and non-recurring royalty income (also excluded from IFRS revenue and gross profit), per the reconciliation of adjusted financial measures on page 88. Net cash includes cash and cash equivalents, treasury deposits, less obligations under loan and finance lease liabilities.

Gross expenditure on R&D (before cost capitalisation) increased by 13% from £19.9 million in 2015 to £22.4 million in 2016. Development expenditure on the Thin Film programme of £10.2 million was capitalised in 2016 (2015: £8.4 million) as required under International Financial Reporting Standards (specifically IAS 38). We are currently working with our manufacturing partner to resolve an issue on our first Thin Film product, the Xaar 5601, in order to increase production volumes and achieve commercial sales. The delay of this milestone means that in 2017 we will continue to capitalise costs associated with the Thin Film platform development programme. This position will be reviewed in the middle of the year, at which time we expect to commence commercial sales.

Sales, marketing and general administrative costs increased to £13.4 million (2015: £12.7 million) on an adjusted basis, partly as a result of the acquisition of EPS.

Adjusted profit before tax of £19.5 million was recorded for 2016 (2015: £20.8 million). Profit before tax as reported under IFRS was £17.9 million (2015: £13.6 million).

The tax charge on adjusted profit before tax was £2.9 million (2015: £1.8 million), representing an effective tax rate of 15% (2015: 9%) which compares to the UK corporation tax rate for 2016 of 20%. Xaar benefits from favourable intellectual property and R&D tax incentive schemes in the UK as a result of our continued investment in R&D. The effective tax rate for 2015 was particularly low due to prior year adjustments. The tax charge on IFRS profit before tax was £3.1 million (2015: £1.0 million) representing an effective tax rate of 17% (2015: 8%).

Adjusted profit after tax for 2016 was £16.6 million (2015: £19.0 million) and adjusted diluted earnings per share was 21.2 pence (2015: 24.5 pence).

#### Financial position

The Group maintains a strong cash position, with £49.3 million of cash and treasury deposits at 31 December 2016, which is a decrease of £20.4 million compared to balances held at 31 December 2015. Operating cash inflow, being adjusted profit before tax after adding back depreciation and amortisation, was £28.1 million. The change in working capital during the year represented a net cash outflow of £8.5 million. An increase in receivables was the biggest change in working capital, which resulted from the phasing of revenue in the year, the establishment of terms with new customers, last-time-buy credit arrangements for products previously manufactured in Sweden, and increased receivables from sales recorded by the acquired EPS business in the latter part of 2016. The acquisition of EPS in July 2016 accounted for an outflow of £8.0 million. Total cash outflow relating to intangible and tangible assets was £21.1 million in the year, including £10.2 million of capitalised development expenditure. Dividends accounted for £7.3 million of cash outflow in 2016.

#### Dividend

As announced in 2014, the Company employs a progressive and sustainable dividend policy which takes into account the Group's future prospects, its underlying profitability and the future cash requirements of the business. The Board will recommend a final dividend of 6.7 pence for 2016 (2015: 6.3p) at the forthcoming Annual General Meeting (AGM), giving a total dividend for the year of 10.0 pence, a 5.8% increase over 2015 (9.45 pence). An interim dividend of 3.3 pence was paid during the year (2015: 3.15 pence). Subject to approval by shareholders at the AGM the final dividend will be paid on 26 June 2017, with an ex-dividend date of 25 May 2017, to shareholders on the register at close of business on 26 May 2017.

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Alex Bevis Chief Financial Officer 22 March 2017

#### Key performance indicators

# MEASURING OUR PERFORMANCE

We measure our performance through key performance indicators (KPIs) that are closely aligned to our strategy.





Disappointing sales into ceramic tile printing were offset by revenue from the acquisition of EPS completed on 1 July 2016, strong sales growth in Packaging, and exceptionally high license income resulting from royalty audit settlements.

■ EMEA ■ Asia ■ Americas

Adjusted operating margin % 19.8%

2016	19.8	
2015	22.0	
2014	22.2	
2013		30.4
2012	21.1	

Adjusted profit before tax  $\mathfrak{L}^{m}$ 

2016 19.	5
2015 2	8.C
2014	24.6
2013	
2012 18.4	

Gross R&D investment £m £22.4M

2016						22.4
2015				19.9	9	
2014				19.2		
2013			16.4			
2012	8.0					

Profitability reduced compared to 2015 as a result of increased competition and costs associated with new products.

R&D investment is key to our strategy.

Operating margin % 18.1%



Profit before tax £m £17.9m

2016	17.9	
2015 13.6	<b>;</b>	
2014		23.1
2013		
2012	15.7	

Net cash balance £m £49.3m



We have consistently maintained a strong cash position.

#### Risk management

# PRUDENT RISK MANAGEMENT

# Key risk areas

The risks around our existing business are set out in more detail on pages 24 and 25 but the key risk areas can be identified as being associated with the following:

Opportunity identification and selection Choosing appropriate end applications for conversion at the right time, and defining correctly the market requirements.

#### **Development**

Successfully developing products with the characteristics that meet market requirements within the necessary timescale.

#### Adoption

Working with OEMs and other partners to achieve adoption of the technology in the target application.

#### Competition

Maximising returns over the long term in the target application through early adoption to achieve a market leading position and then retention of that position.

#### **Operations**

Having the appropriate staff, systems, manufacturing arrangements and other operational structures in place.

#### Partnerships and acquisitions

Working with the right companies, at the right time and on the right terms to deliver long term value.

Effective risk management is key to our success against the dynamics of the industry that we operate in and the characteristics of our chosen business model. The printing industry in which we operate is, in general, declining in terms of total output, tends to be capital intensive, is slow to react to change and is resistant to the adoption of new technology. Product lifecycles tend to be long. Our business model is reliant on us first driving the conversion of wellestablished processes to our technology, then maintaining our market position to maximise sales through both the initial conversion and replacement cycles in order to generate profits to enable us to invest in new technology and open up new applications.

The first approach to managing these risks is to have high quality individuals within the necessary functions that these risks tend to fall into. Other examples of the effective day to day management of these risks include operating multi-functional teams to share knowledge across the business, having regular stage gates in the management of development programmes, and the regular assessment of manufacturing capacity against future potential needs. In addition to day to day processes the Group's risk register is formally reviewed twice per year at senior management and Board level, including the assessment of the performance of risk management during the preceding period.

The Board has applied principle C.2 of the UK Corporate Governance Code by establishing a continuous process for identifying, evaluating, and managing the significant risks the Group faces which has operated throughout the year and up to the date of this report. Such a system is designed to manage rather than eliminate the risk of failure to achieve business objectives and can only provide reasonable and not absolute assurance with respect to the preparation of financial information and the safeguarding of assets against material misstatement or loss.

In compliance with provision C.2.1 of the UK Corporate Governance Code, the Board regularly reviews the effectiveness of the Group's system of internal control. The Board's monitoring covers all controls, including financial, operational and compliance controls and risk management systems. It is based principally on reviewing reports from management to consider whether significant risks are identified, evaluated, managed and controlled and whether any significant weaknesses are promptly remedied and indicate a need for more extensive monitoring. The Board has also performed a specific assessment for the purpose of this Annual Report. This assessment considers all significant aspects of internal control arising during the period covered by the report. The Audit Committee assists the Board in discharging its review responsibilities.

In 2016 we launched a number of new products, including the Xaar 5601 from our major Thin Film development, and the Xaar 1201 from our partnership with Ricoh. We also launched the Xaar 2001+ family of Bulk printheads for ceramics. These product launches position us well for the future. but they also create more risk around the reliance on those new products delivering growth, and this has been reflected in the table of principal risks and uncertainties.

Following our strategic review in 2015 we identified Partnerships and Acquisitions as an essential element of our vision of £220 million of annual sales by 2020, and in 2016 we completed our first acquisition, as well as securing two important partnerships; with Ricoh and Xerox. Risks around M&A has been added to the table of principal risks and uncertainties as a consequence of our renewed external focus.

### Risk management continued

### A reminder of our strategy

New products and new technology Building the eco-system Converting multiple markets Enhancing our capability



Principal risk and uncertainty	Link to strategy and pillars	Impact	Mitigation	Likelihood	Magnitude	Change
Product sales into established applications fail to deliver sustained revenue due to competitor activity (market share loss and/or price reductions), macroeconomic factors (such as changes in trades agreements resulting from Brexit or political/economic changes in China), market maturity or other changes.	1 2	Lower than anticipated revenues are achieved resulting in excess production capacity and lower levels of profit. Since fixed factory costs are significant, relatively small reductions in production/sales volume may result in substantially lower profit margins.	Competitive pricing policies are employed.  The product portfolios and pricing of competitors are constantly monitored.  Manufacturing cost reduction programmes are established to ensure that products remain competitive.  Close customer relationships are maintained with supply agreements in place where appropriate.  New product variants are developed to constantly improve the product portfolio on offer.  Macro-economic indicators and data is regularly reviewed to improve forecasting.  Information from customers, partners, market reports and other sources is collected, consolidated and reviewed to improve forecasting.	Possible	High	
Product sales into new applications fail to achieve their targets.	1 2	Lower than anticipated revenues are achieved resulting in excess production capacity and lower levels of profit. Since fixed factory costs are significant, relatively small reductions in production/sales volume may result in substantially lower profit margins.	Regular reviews of OEM partners are held to ensure that appropriate and extensive market coverage is achieved together with a focus on new equipment manufacture.  New products and product variants are developed to meet market requirements.  Competitive pricing policies are employed.  Manufacturing cost reduction programmes are established to ensure that products remain competitive.  Information from customers, partners, market reports and other sources is collected, consolidated and reviewed to improve forecasting.	Possible	High	<b>(1)</b>
New products fail to achieve their targets through either a failure to identify the appropriate products to meet future market requirements, or the products are identified but are not successfully required specification.	1 2 3 4	Longer term revenue and profit is impacted.	Regular, specific and detailed reviews are held to assess current and anticipated market requirements. These reviews include input from customers and other external sources. Product developments are selected on appropriate criteria. Product development activity is properly managed with regular reviews of progress against project plans, and gated milestone reviews. Appropriate resource is applied to product development activity.	Possible	High	<b>(1)</b>

A reminder of our strate	gic pillars					
1 Ceramics	2 Prod	uct Printing & Packaging	g 3 Thin Film 4	Acquisition	ons and Pari	nerships
Principal risk and uncertainty	Link to strategy and pillars	Impact	Mitigation	Likelihood	Magnitude	Change
Manufacturing output fails to meet demand due to supplier issues, an event at one of the manufacturing facilities, delays or problems associated with production equipment, a lack of manufacturing capacity, or for other reasons.	1 2 3	Demand is not satisfied resulting in lower levels of revenue and profit.  Customers may start purchasing (or increase their level of purchasing) with Xaar's competitors, leading to a longer term reduction in market share, revenue and profit.	Detailed sales forecasts are prepared and reviewed regularly to minimise unexpected changes in short term demand. Suppliers are managed carefully. Appropriate sourcing, inspection and inventory holding policies are applied to ensure continuity and consistency of product supply. Appropriate contingency factors are applied to capacity planning. Manufacturing facilities are fitted with the appropriate safety and security systems. Staff are properly trained.	Possible	Medium	$\bigcirc$
Significant and sustained quality problems are identified with products which have been sold or which are held in inventory.	1 2	Lower levels of revenue in the short term whilst the issues are resolved. Unexpected costs associated with resolving the issues, which may include product scrap, warranty costs and/or customer compensation. Potentially longer term revenue loss if customers start purchasing (or increase their level of purchasing) from Xaar's competitors.	Standard operating procedures are in place for all products. Staff are properly trained. The quality of supplies is constantly monitored. Quality performance is regularly reviewed by senior management who apply appropriate resources to systematically address recurrent problems. New products are thoroughly tested before launch.  Xaar's manufacturing facilities are ISO 9001 accredited. Customer returns are reviewed quickly using a consistent and thorough investigation process.	Remote	Medium	$\Rightarrow$
Potential M&A opportunities are either not identified or not managed effectively, leading to loss of revenue or increased costs. Alternatively, unsuitable M&A projects are undertaken, leading to a loss of shareholder value and profit.	2 4	Lost growth opportunity from suitable transactions not being identified. Alternatively the business may be impacted by a transaction which is unsuitable, or by an appropriate project which is not correctly managed, leading to adverse financial performance.	Following our strategy review in 2015 we have identified partnerships and acquisitions as an essential element of our vision of £220 million by 2020. As a result we have increased our focus on external opportunities, with a formal register of ideas and potential targets, and regular M&A reviews in our Board meetings. We also regularly review the landscape with assistance from external advisors. We benefit from industry specific experience on the Board and Executive teams. We successfully completed our first acquisition in 2016.	Possible	Medium	New risk

#### Sustainable and responsible business

# DEVELOPING A SUSTAINABLE BUSINESS

The Group strongly believes that corporate responsibility is integral to business success. The Group is compliant with all relevant regulation and legislation whilst enhancing the working environment for our employees and minimising the environmental impact of our manufacturing processes. There is internal reporting of key metrics throughout the business, and each member of staff is expected to take individual responsibility for their performance and to work together to achieve shared goals.

#### Social responsibility

- Xaar employees raised money during the year for a number of charities, including taking part in various activities for Comic Relief on Red Nose Day, for Macmillan Cancer Support by hosting a coffee morning, for the Royal British Legion Poppy Appeal and for the East Anglia's Children's Hospices.
- Charitable donations were made through the Xaar charitable giving programme, whereby employees nominate and vote for four charities to each receive a £2,000 donation. The chosen charities in 2016 were Alzheimer's Society, Cancer Research UK, Macmillan Cancer Support and Great Ormond Street Hospital Charity.
- Xaar has sponsored a number of employees and their families engaging in events throughout the year, including charity golf days, a charity quiz night and cycling events. In total, the Group made charitable contributions to local and national charities during the year totalling £11,767 (2015: £21,174). No political donations were made in the year (2015: £nil).
- The social club, which is aimed at encouraging staff to have fun and get to know each other socially, held several events throughout the year including theatre trips, comedy nights, family fun days, sporting events including a trip to watch cricket and rugby, gliding, meals and nights at the races.
- Xaar continues to sponsor an Imagineering Foundation club at a Huntingdon Primary School. The Foundation introduces 8-16 year olds to the fascinating world of engineering and technology through fun, hands-on activities. We are working with Year Six pupils building engineering-related projects such as a Morse code buzzer, balloon-powered car, aero-glider, magnetic compass and micrometer. The scientific principles are explained and explored through the hands-on activities.
- In 2013 Xaar invested £1 million in bonds to support the Future Business Centre in Cambridge. The centre provides affordable workspace with support and shared services to new social and environmental enterprises.

#### Human rights

The Group respects all human rights and in conducting its business the Group regards those rights relating to non-discrimination, fair treatment and respect for privacy to be the most relevant and to have the greatest potential impact on its key stakeholder groups of customers, employees and suppliers.

The Board has overall responsibility for ensuring that the Group upholds and promotes respect for human rights. The Group seeks to anticipate, prevent and mitigate any potential negative human rights impacts as well as enhance positive impacts through its policies and procedures and, in particular, through its policies regarding employment, equality and diversity, treating customers fairly and information security. Group policies seek both to ensure that employees comply with the relevant legislation and regulations in place in the UK and other operating locations and to promote good practice. The Group's policies are formulated and kept up to date by the relevant business area, authorised by the Board and communicated to all employees.

The Group undertakes extensive monitoring of the implementation of all of its policies and has not been made aware of any incident in which the organisation's activities have resulted in an abuse of human rights.

#### **Equality and diversity**

The Group is committed to providing a working environment in which employees feel valued and respected and are able to contribute to the success of the business. Employees are requested to co-operate with the Group's efforts to ensure that the policy is fully implemented.

The Group's aim is that its employees should be able to work in an environment free from discrimination, harassment and bullying, and that employees, job applicants, customers, retailers, business introducers and suppliers should be treated fairly regardless of:

- Race, colour, nationality (including citizenship), ethnic or national origins
- Gender, gender reassignment, sexual orientation, marital or civil partnership status
- Religious or political beliefs or affiliations
- · Disability, impairment or age
- Real or suspected infection with HIV/AIDS
- Membership of a trade union
- Pregnancy and maternity

and that they should not be disadvantaged by unjust or unfair conditions or requirements.

The Group aims to ensure that applications for employment from people with disabilities, and other under-represented groups, are given full and fair consideration and that such people are given the same training, development and job opportunities as other employees. Every effort is also made to retrain and support employees who suffer from disabilities during their employment, including the provision of flexible working to assist their re-entry into the workplace.

Human Resources policies are reviewed regularly to ensure that they are non-discriminatory and promote equality of opportunity. In particular, recruitment, selection, promotion, training and development policies and practices are monitored to ensure that all employees have the opportunity to train and develop according to their abilities.

The Group places considerable value on the involvement of its employees and has continued to keep them informed of the various factors affecting the performance of the Group. This is achieved through written communications shared through the Company intranet and email, and formal and informal meetings. All employees participate in a bonus scheme based on individual performance and Group business targets and, in the UK, have the opportunity to participate in an HMRC approved Share Save Scheme and Share Incentive Plan.

#### Formal directives and certification

The Group undertakes R&D and manufactures products in the UK. The Group complies with all local and European legislation. The Groups manufacturing facilities in Huntingdon is both ISO 9001 and ISO 14001 certified. It is the Group's policy to maintain this level of certification for its manufacturing facilities and to comply at all times with all relevant environmental and other legislation in the territories in which the Group operates. The Group is compliant with REACH (Registration, Evaluation, Authorisation and restriction of Chemicals). WEEE (Waste Electrical and Electronic Equipment) and RoHS (Restriction of the Use of Certain Hazardous Substances) directives, as required under European legislation.

The Group has a proactive Health and Safety System modelled on OHSAS 18001/HSG65 in Cambridge, Huntingdon.

#### Health, safety and environment

Xaar has a manufacturing site in Huntingdon, UK, along with R&D and head office functions in Cambridge, UK, plus sales offices worldwide.

It is always Xaar's intention to conduct business in a manner that protects the public, the environment, and employee safety. Xaar's Environmental and Health & Safety policies provide a framework for setting and reviewing of Occupational Health, Safety and Environmental Objectives. This demonstrates Xaar's commitment to the prevention of injury and ill health and also the continual improvement in Environmental and Occupational Health & Safety Performance. Xaar recognises that the combination of a safe place of work and safe working practices, together with a productive and innovative environment, are critical to the continued success of the Company.

The management of Xaar is committed to achieving and maintaining full compliance with environmental, health and safety legislation. Although certain responsibilities under this policy can be attributed to specific roles within the organisation, and in particular with different levels of management, each and every Xaar employee shares the core basic duty to understand their responsibilities to observe instructions put in place and, where necessary, to draw these to the attention of others.

To achieve our Environmental and Health & Safety policies. Xaar will ensure that the organisation is led by example; systems are in place to engage, train, develop and maintain competent, informed personnel; resources are allocated to enable safety standards to be maintained; employee involvement and open communication are actively encouraged; plant, equipment and facilities are safe and without risk to the health and welfare of all persons who could be affected by their use or maintenance; substances required and used in the workplace are handled and disposed of safely; a comprehensive risk assessment programme is maintained covering all activities and processes, with control measures implemented to minimise risk where applicable; adequate welfare facilities are provided: where accidents or 'near misses' occur, they are reported, investigated and treated as the source of learning for on-going working practices; and that best practice is shared across the Group.

The Group is committed to minimising its impact on the environment through the reduction and recycling of waste and by operating its facilities as efficiently as is practicable. Our printhead technology improves process efficiency and reduces wastage in our end user markets.

Based on the closing headcount at 31 December the split of staff by gender was as follows:

as ioliows.		
	31 December 2016 male/female	31 December 2015 male/female
All employees	512/127	483/130
Directors	5/1	6/1
Senior Managers	87/15	48/9
Employees excluding Directors and		
Senior Managers	420/111	429/120

#### Sustainable and responsible business continued

# GREENHOUSE GAS EMISSIONS STATEMENT

Xaar plc has calculated its global greenhouse gas (GHG) emissions statement using an operational control consolidation approach as described in the Greenhouse Gas: Protocol: A Corporate Accounting and Reporting Standard (Revised Edition, 2004), which reflects the Defra Environmental Reporting Guidelines (Revised October 2013).

#### Scope 1 emissions

Scope 1 emissions occur from sources that are owned or where Xaar plc has operational control. This includes direct emissions from gas combustion in our buildings and fuel used in leased company vehicles. Actual and estimated gas consumption data has been collected from each of the leased properties under the control of the Xaar Group, from data sources including direct meter readings, meter readings from suppliers included on invoices and estimations where required based on available information from property management suppliers and other sources. Actual mileage data has been collected from the leased company vehicle fleet.

#### Scope 2 emissions

Scope 2 refers to indirect emissions from the consumption of purchased electricity (also including any purchased heat, steam or cooling) from facilities owned or under the operational control of Xaar plc. Actual and estimated data has been collected from each of the leased properties under the control of the Xaar Group, from data sources including direct meter readings, meter readings from suppliers included on invoices and estimations where required based on available information from property management suppliers and other sources.

#### Assessment parameters

Baseline year	1 January 2013 to 31 December 2013
Consolidation approach	Operational control
Boundary summary	All entities and all facilities under operational control included subject to the materiality threshold applied
Consistency with the financial statements	The only variation is that leased properties deemed to be under operational control have been included in scope 1 and 2 emissions
Materiality threshold	Materiality has been set at Group level at 5%*
Assessment methodology	Greenhouse Gas Protocol and ISO 14064-1 (2006)
Intensity ratio	Emissions per £m turnover excluding royalties

<sup>\*</sup> The total of any excluded emission sources are estimated to be less than 5% of Xaar plc's total reported emissions.

	2016		2015	
GHG emission source	(tCO <sub>2</sub> e)	(tCO <sub>2</sub> e/£m)	(tCO <sub>2</sub> e)	(tCO <sub>2</sub> e/£m)
Scope 1 Scope 2	167	2	162	2
Scope 2	4,432	47	4,475	51
Statutory total (scope 1 and 2)	4,599	49	4,637	53

The GHG emissions statement includes emissions data from leased assets that are not included in the rest of the consolidated financial statements, other than in note 31 Operating lease arrangements.

STRATEGIC REPORT

#### Board approval of the Strategic and Annual Reports

# DARD APPROVAL

The Strategic Report, Annual Report and Financial Statements, taken as a whole, are fair, balanced and understandable and provide the information necessary for shareholders to assess the Company's performance, business model and strategy.

Robin Williams Chairman

PGW Williams

**Doug Edwards** Chief Executive Officer Alex Bevis Chief Financial Officer and Company Secretary (until 29 March 2017)

**Ted Wiggans** Chief Operations Officer

**Andrew Herbert** Non-Executive Director

Margaret Rice-Jones Non-Executive Director Chris Morgan Non-Executive Director

#### **Board of Directors**

# TRUSTED LEADERSHIP

#### Robin Williams Chairman

Appointed: 2010 (Chairman: 2016)

Committee membership:









#### **Experience:**

Robin spent ten years as a corporate advisor before co-founding Britton Group plc in 1992. As CEO of Britton, he grew the business to £250 million revenues within six years, before selling to a competitor. He was then an Executive Director of Hepworth plc, with a leading role in the rationalisation and subsequent sale of the group. He has subsequently held various public and private company directorships across a range of industries including business services, healthcare, outsourcing, contracting, and manufacturing.

# Current external appointments:

Robin is currently Chairman of NHS Professionals Ltd and a Non-Executive Director of Nanoco Group plc.

# Doug Edwards Chief Executive Officer

Appointed: 2015

Committee membership:



#### Qualifications:

BSc Chemistry PhD in Conducting Organic Materials, London University



#### Experience:

Doug joined the Company from Kodak (Eastman Kodak Company) where most recently he was President, Digital Printing and Enterprise and had been a member of the Executive Board since 2006. He started his career in the UK in a variety of technical roles with Ilford Limited, ICI, Zeneca and International Paper before moving to the US 14 years ago with Kodak Polychrome Graphics (a joint venture company between Sun Chemical Corporation and Kodak).

### Alex Bevis Chief Financial Officer and Company Secretary (until 29 March 2017)

Appointed: 2011

Qualifications: Chartered Accountant, BA Economics



#### xperience:

Alex joined Xaar in February 2011 after ten years at CSR plc (Cambridge Silicon Radio). He held a variety of key finance roles at CSR, supporting the growth of the business including the IPO in 2004 and multiple acquisitions. He was most recently employed as Vice President of Finance. He qualified as a Chartered Accountant with Deloitte in Cambridge prior to joining CSR in 2000.

Alex leaves Xaar on 29 March 2017 to join Frontier Developments plc, a leading independent creator of video games based in Cambridge.

### Lily Liu Chief Financial Officer and Company Secretary (from 2 May 2017)

Appointed: 2017

Qualifications: Chartered Management Accountant, MBA



#### Experience:

Lily will join Xaar on 2 May 2017. Lily has spent the past four years at FTSE 100 Smiths Group PLC, where she has held a number of senior financial and management roles. Most recently, from 2014 to 2016, Lily was CFO of the Smiths Detection Division, with reported revenues of £526 million for financial year 2016. Prior to this, Lily was Director of Financial Planning and Performance Analysis at the Group level, reporting to the Group Chief Financial Officer. Before joining Smiths Lily was with Edwards Ltd. Edwards, the world leader in the manufacture and supply of industrial vacuum systems, was part of the FTSE 100 BOC Group Plc until 2007, when it was acquired by private equity firm, CCMP.

Lily has an MBA from the Australian Graduate School of Management.

#### **Key to Committees**

A – Audit R – Remuneration N – Nomination





**Ted Wiggans Chief Operations** Officer

Appointed:

Qualifications: Chartered Engineer



#### **Experience:**

Ted joined Xaar in January 2011, with over 30 years' experience in high technology operations. Immediately prior to joining Xaar he was Chief Operating Officer at Cambridge Semiconductor Ltd (CamSemi). Before joining CamSemi in 2006, he was Operations Director at Zetex Semiconductors with overall responsibility for its multi-site, multi-national manufacturing activities and a global team of 500. In addition, he has held senior-level manufacturing, engineering and quality roles with Motorola and Philips.

#### **Andrew Herbert** Non-Executive Director

Appointed: 2016

Committee membership:





Qualifications: Chartered Management Accountant, BA (Hons) in **Business Studies** 



#### Experience:

Andrew joined Xaar in June 2016. He has extensive experience in the global digital printing industry following a 30-year career with Domino Printing Sciences plc. working both in the UK and the US. Andrew holds a BA (Hons) in Business Studies and is a Chartered Management Accountant, He was Group Finance Director/Chief Financial Officer of Domino Printing Sciences plc from 1998 to 2015 during which time he played an instrumental role in expanding the business geographically through acquisition and creation of sales channels, and in broadening the product range via acquisition of technology based businesses. He previously held a number of line director roles in Finance, Operations, Planning and Business Development.

#### Current external appointments:

Andrew is the Non-Executive Chairman of Midwich Group plc and is a Governor at Cambridge Regional College.

#### **Margaret Rice-Jones** Senior Independent Director

Appointed: 2015

Committee membership:







#### Experience:

Margaret joined Xaar in August 2015. She has over 25 years' experience within innovative technology businesses. She has an engineering background and has operated at Board level in various executive and non-executive roles for the last ten years. Previously, Margaret was CEO of Aircom International, a global software and services company, and Corporate Vice President of Motorola Inc. Margaret has had P&L responsibility for over \$1 billion revenue, and has worked with both business turnaround situations and high growth companies including Skyscanner where she was Chairman. Margaret has previously served on listed company boards including Psion plc and Abacus Polar plc.

### Current external appointments:

Margaret is currently Chairman at Openet Ltd.

#### **Chris Morgan** Non-Executive Director

Appointed:

Committee membership:









#### **Experience:**

Chris brings with him a wealth of expertise in managing complex international technology businesses, having spent 25 years at HP, Inc. He has a strong background in global marketing, sales and general management senior executive roles including global accountability for HP's multibillion dollar graphics/industrial portfolio of digital 2D and 3D printing businesses from 2009-2012. Chris also has extensive experience in Asia and Japan having spent more than a decade in senior APJ leadership roles. He has led strategic investments in key growth markets and has been involved in a number of mergers and acquisitions at both the strategic and operational levels. He recently served as Chief Marketing Officer for Stratasys, Ltd, until June 2015, where he was responsible for marketing 3D printing and additive manufacturing solutions globally.

#### **Board of Directors**

# **OUR GOVERNANCE**

### **Board structure**

### **Board of Directors**

# Management Committee

# **Principal Committees**

Audit Nomination Remuneration

### **Audit Committee**

The Audit Committee is responsible for monitoring and reviewing the integrity of the financial reporting process, including the appropriateness and effectiveness of the Internal Controls and Risk Management procedures of the Group.

#### Chairman Andrew Herbert



See p42

# **Nomination Committee**

The Nomination Committee is responsible for reviewing the size, structure and composition of the Board and provide advice to the Board on Board and senior management appointments and succession planning; monitoring of the composition of the Board and its Committees.

#### Chairman Robin Williams



See p44

### **Remuneration Committee**

The Remuneration Committee is responsible for the development and implementation of the Group's remuneration framework and policies for Directors including all incentives and bonuses.

#### Chairman Margaret Rice-Jones



See p45

# Directors' report

# REPORT ON THE AFFAIRS OF THE GROUP

The Directors present their Annual Report on the affairs of the Group together with the financial statements and auditor's report for the year ended 31 December 2016. The corporate governance statement set out on pages 39 to 45 forms part of this report.

An indication of likely future developments in the business of the Company and details of research and development activities are included in the Strategic Report. The Group's policies relating to equality, diversity and employee consultation can be found in the 'Sustainable and responsible business' section of the Strategic Report on pages 26 to 28.

Details of the proposed dividend are set out on page 21.

The Greenhouse gas emissions statement can be found on page 28.

#### Capital structure

Details of the issued share capital, together with details of the movements in the Company's issued share capital during the year, are shown in note 25. The Company has one class of ordinary shares which carries no right to fixed income. Each share carries the right to one vote at general meetings of the Company.

There are no specific restrictions on the size of a holding nor on the transfer of shares, which are both governed by the general provisions of the Articles of Association and prevailing legislation. The Directors are not aware of any agreements between holders of the Company's shares that may result in restrictions on the transfer of securities or on voting rights.

Details of employee share schemes are set out in note 32.

No person has any special rights of control over the Company's share capital and all issued shares are fully paid.

With regard to the appointment and replacement of Directors, the Company is governed by its Articles of Association, the UK Corporate Governance Code, the Companies Act and related legislation. The Articles themselves may be amended by Special Resolution of the shareholders. The powers of Directors are described in the Main Board terms of reference, copies of which are available on request, and the corporate governance statement on page 39.

#### Treasury

The Group's policy enables it to use financial instruments to hedge foreign currency exposures. The main trading currency of the Group is UK pounds. The Group's use of financial instruments and the related risks are discussed further in notes 19, 20 and 23.

At the 2016 AGM held on 16 May 2016, the Company's shareholders granted the Company authority to make one or more market purchases (within the meaning of section 693(4) of the Companies Act 2006) of ordinary shares of 10 pence each in the capital of the Company.

The Company did not purchase any shares for cancellation or to be held as treasury in 2015 or 2016.

#### Directors and their interests

The Directors who served during the year, and subsequent to the year-end, unless otherwise stated, were as follows:

Robin Williams - Chairman (appointed chairman from 1 October 2016)

Phil Lawler – (stepped down as Chairman on 30 September 2016)

Doug Edwards - Chief Executive Officer

Alex Bevis – Chief Financial Officer and Company Secretary (resigns as of 29 March 2017)

Ted Wiggans - Chief Operations Officer

Margaret Rice-Jones - Non-Executive Director

Chris Morgan – Non-Executive Director (appointed 4 January 2016)

Andrew Herbert Non-Executive Director (appointed 1 June 2016).

Brief biographical descriptions of the Directors are set out on pages 30 and 31. Full details of their interests in shares of the Company and its subsidiary undertakings are included in the Directors' Remuneration report on pages 46 to 69.

#### **Directors' report** continued

# REPORT ON THE AFFAIRS OF THE GROUP CONTINUED

#### Shareholdings in the Company

The interests of the Directors in the shares of the Company and its subsidiaries (all of which are beneficial) as at 31 December 2016 are as follows:

	Number of ordinary shares of 10p each 31 December 2016	Number of ordinary shares of 10p each 31 December 2015
Doug Edwards	32,913	26,085
Alex Bevis	58,558	57,822
Ted Wiggans	71,239	71,239
Robin Williams	4,000	4,000
Margaret Rice-Jones	5,700	_
Chris Morgan	_	_
Andrew Herbert	-	-

There have been no changes in the Directors' interests in shares of the Company between 31 December 2016 and 22 March 2017. Directors' interests in options over shares in the Company are shown in the Directors' Remuneration report.

#### Directors' liabilities

The Company has granted an indemnity to all of its Directors against liability in respect of any potential proceedings that may be brought by third parties, subject to the conditions set out in the Companies Act 2006. Such qualifying third party indemnity provision remains in force as at the date of approving the Directors' Report.

#### Share capital

As at 31 December 2016 the Company had been notified in accordance with Chapter 5 of the Financial Conduct Authority's (FCA's) Disclosure and Transparency Rules of the following material interests in its share capital:

	Number of ordinary shares held	Percentage of issued share capital
AXA Framlington Investment Managers	10,867,785	14.0%
Legal & General Investment Management	7,059,522	9.1%
Schroder Investment Management	5,566,586	7.2%
M&G Investment Management	4,810,823	6.2%
Aberdeen Asset Management	4,253,162	5.5%
Oppenheimer Funds	4,000,000	5.2%
Baillie Gifford	3,829,439	4.9%
Generation Investment Management	3,586,998	4.6%
T Rowe Price Global Investments	3,493,607	4.5%
Standard Life Investments	2,084,754	2.7%

During the period 31 December 2016 to 22 March 2017, the Company did not receive any notifications pursuant to chapter five of the FCA's Disclosure and Transparency Rules.

#### **Annual General Meeting**

The notice convening the Annual General Meeting is set out on pages 119 to 122. Resolutions 1 to 12 set out in the notice of the meeting deal with the ordinary business to be transacted at the meeting. The special business to be transacted at the meeting is set out in Resolutions 13 to 18.

#### Re-election of Directors

#### Resolutions 5 to 11

The Company's Articles of Association require the Directors to retire by rotation at least once every three years, with the number to retire by rotation at each Annual General Meeting being the number nearest to but not exceeding one third of the Board. However, the UK Corporate Governance Code provides that all Directors of FTSE 350 companies should be subject to re-election by their shareholders every year. In accordance with this provision of the UK Corporate Governance Code and in keeping with the Board's aim of following best corporate governance practice, the Board has decided that, as at the previous Annual General Meeting of the Company in 2016, all Directors should retire at each Annual General Meeting offer themselves for re-election.

### Directors' Remuneration report

#### Resolutions 12 and 13

These Resolutions seek shareholder approval for the Directors' Remuneration report, which includes the remuneration policy. The Directors' Remuneration report can be found on pages 46 to 69 (inclusive) of the Annual Report and Financial Statements.

As at the previous Annual General Meeting of the Company in 2016, in accordance with regulations which came into force on 1 October 2013 in this area, the Company is offering shareholders: (i) an advisory vote on the implementation of the Company's existing remuneration policy, and (ii) a binding vote on the Company's forward-looking Directors' Remuneration Policy.

Resolution 12 contains the advisory resolution relating to the Directors' Remuneration Report, and Resolution 13 contains the binding resolution in relation to the Directors' Remuneration Policy.

The Directors' Remuneration Policy sets out the Company's future policy on Directors' remuneration. If Resolution 13 is approved, the effective date of the remuneration policy will be the date of the Annual General Meeting (16 May 2017).

#### Authority to purchase own shares

#### Resolution 14

It is proposed by Resolution 14, by Special Resolution, to authorise the Company generally and unconditionally to purchase its own shares at a price of not less than the par value of the shares and not more than the higher of:

- (i) 5% above the average of the middle market quotations of the shares as derived from the London Stock Exchange Daily Official List for the five dealing days immediately preceding the day on which the purchase is made; and
- (ii) the amount stipulated by article 5(1) of the Buy-back and Stabilisation Regulation 2003 (in each case exclusive of any expenses payable by the Company).

The authority will be for a maximum of 14.9% of the Company's issued share capital and will expire at the earlier of the next Annual General Meeting of the Company or within 15 months from the date of the passing of this resolution. The Directors currently have no intention to exercise the authority and will only purchase shares if it is in the best interests of shareholders as a whole.

The total number of options to subscribe for ordinary shares outstanding at 31 December 2016 (including options awarded under LTIP which may be satisfied by subscription of new shares) was 2,761,447. This represents 4% of the issued ordinary share capital at that date. If Xaar plc was to buy back the maximum number of ordinary shares permitted pursuant to the passing of this resolution, then the total number of options to subscribe for ordinary shares outstanding at 31 December 2016 would represent 4% of the reduced issued ordinary share capital.

#### Power to issue securities

#### Resolution 15

Under the Companies Act 2006 the Directors of the Company may only allot shares (whether for cash or otherwise) with the authority of shareholders given at a general meeting of the Company. In accordance with institutional guidelines, under Resolution 15, to be proposed as an Ordinary Resolution, authority is sought to allot shares:

- (i) in relation to a pre-emptive rights issue only, up to an aggregate nominal amount of £5,187,834.40, which represented two thirds of the Company's ordinary share capital as at 22 March 2017; and
- (ii) in any other case, up to an aggregate nominal amount of £2,593,917.20, which represented one third of the Company's ordinary share capital as at 22 March 2017.

The Directors do not currently have an intention to exercise the authority.

#### Resolution 16

This resolution, to be proposed as a Special Resolution, will give the Directors power to allot shares:

- (i) up to an aggregate nominal amount of £5,187,834.40 (representing approximately 66% of the Company's issued share capital) on an offer to existing shareholders on a preemptive basis (subject to any adjustments, such as for fractional entitlements and overseas shareholders, as the Directors see fit): and
- (ii) for cash up to a maximum aggregate nominal value of £778,175.10, representing 10% of the ordinary share capital of the Company as at 22 March 2017, otherwise than in connection with an offer to existing shareholders.

# **Directors' report** continued

# REPORT ON THE AFFAIRS OF THE GROUP CONTINUED

In previous years, the Directors have sought, and been granted, power to allot equity securities for cash free from pre-emption rights (otherwise than in connection with a rights issue or similar pre-emptive issue) up to a maximum nominal amount representing approximately 5% of the Company's issued ordinary share capital. Such power has given the Directors the ability to allot equity securities for cash non preemptively in any circumstances. The limitation of the disapplication power to a maximum of 5% of the Company's issued ordinary share capital accorded with best practice as set out in The Pre-Emption Group's Statement of Principles on the Disapplication of Pre-Emption Rights (July 2008).

In March 2015, The Pre-Emption Group published a revision of its Statement of Principles. In addition to restating the existing 5% disapplication limit, the 2015 Statement of Principles introduced greater flexibility for companies to undertake non pre-emptive issues for cash in connection with acquisitions and specified capital investments. This relaxation is intended to allow companies the opportunity to finance expansion opportunities as and when they arise.

Accordingly, the 2015 Statement of Principles provides that a company may now seek power to issue on a non pre-emptive basis for cash equity securities representing (i) no more than 5% of the company's issued ordinary share capital in any one year; and (ii) no more than an additional 5% of the company's issued ordinary share capital provided that such additional power is only used in connection with an acquisition or specified capital investment.

Accordingly, this year, in line with the 2015 Statement of Principles (which have been endorsed by The Investment Association), the Directors are seeking power to allot equity securities for cash (otherwise than in connection with a rights issue or similar pre-emptive issue) up to a maximum nominal amount of £778,175.10, representing approximately 10% of the Company's issued ordinary share capital as at 22 March 2017 (being the latest practicable date prior to publication of this document). Whilst the Directors may use up to one half of this amount to issue equity securities for cash non pre-emptively in any circumstances, they confirm that they would only use the other half in connection with an acquisition or a specified capital investment which is announced contemporaneously with the issue, or which has taken place in the preceding six-month period and is disclosed in the announcement of the issue.

The Directors also confirm their intention to adhere to the provisions of the 2015 Statement of Principles regarding cumulative use of authorities within a rolling three-year period. Those Principles provide that equity securities should not be allotted for cash on a non pre-emptive basis (other than pursuant to a rights issue or pre-emptive offer) in excess of an amount equal to 7.5% of the total issued ordinary share capital of the Company in any rolling three-year period, without prior consultation with the Company's shareholders. This limit excludes any equity securities issued pursuant to a specific disapplication of pre-emption rights and any equity securities issued pursuant to a general disapplication of pre-emption rights in connection with an acquisition or specified capital investment.

The Directors do not currently have an intention to exercise any power given to them by shareholders to allot shares for cash on a non pre-emptive basis.

The authorities contained in Resolutions 15 and 16 will expire no later than 15 months after the passing of those resolutions.

# Xaar 2017 Long Term Incentive Plan and authority to establish similar international plans

#### Resolutions 17 and 18

The Company's existing long term incentive plan, which was established in 2007, expires in 2017. The Board is proposing the adoption of a new long term incentive plan, the Xaar 2017 Long Term Incentive Plan, to replace the 2007 plan and is asking for shareholder approval of the new plan.

The new plan is very similar to the 2007 plan but it has been updated to bring the plan into line with current market practice, including, in particular, by removing the possibility of deferred bonus matching awards as mentioned in the Directors' Remuneration report for 2015. In addition, to reflect best practice, a holding period can be applied to shares received under the new plan and the remuneration

committee of the Board intends that awards granted to Executive Directors will be subject to a holding period as set out in the Directors' Remuneration Policy.

Shareholder approval is also being sought to establish plans based on the LTIP outside of the UK to give the Company flexibility to set up local plans should this be necessary or desirable to take account of local tax, legal or regulatory requirements or local market practice.

#### Sharesave Plan

#### Resolution 19

The Directors are supportive of the principle of extending share ownership amongst the Company's employees and wish to offer them opportunities to acquire shares, including, where appropriate and as permitted by relevant legislation, on a tax-favoured basis. It is proposed to introduce a new all-employee tax-advantaged sharesave plan (the 'Sharesave Plan'). The Company has operated an all employee sharesave plan since 2007. The existing sharesave plan will expire in May 2017 and the purpose of the new plan is simply to replace the plan that is expiring. Under the Sharesave Plan, all eligible employees are invited to participate on the same basis by entering into an approved savings contract for a period of three or five years and are granted an option to acquire ordinary shares in the Company at the end of that period using the proceeds of their savings contract. The exercise price of an option is fixed at the time the invitation to apply for an option is issued and will not be less than 80% of the market value of a share at that time.

The Sharesave Plan is intended to qualify for tax advantages (under Schedule 3 to the Income Tax (Earnings & Pensions) Act 2003). There will be power to scale back awards and limit the maximum monthly saving at the Remuneration Committee's discretion, to preserve balance and protect the overall sustainability of the Company's incentive scheme structure.

Resolution 19 seeks shareholder approval of the proposed Sharesave Plan. A copy of the draft rules of the Sharesave Plan will be available for inspection at the registered office of the Company during usual business hours on any weekday (Saturdays, Sundays and public holidays excluded) from the date of the notice until the date of the Annual General Meeting and at the place of the Annual General Meeting from at least 15 minutes prior to, and until the conclusion of, the Annual General Meeting. A summary of the main provisions is set out in Appendix 2 of the notice on pages 125 to 126.

#### Additional information for shareholders

The following provides the additional information required for shareholders as a result of the implementation of the Takeovers Directive into UK law.

The structure of the Company's issued share capital is shown in note 25.

Details of ordinary shares held in trust owned by the Company can be found in note 27.

The Company is not aware of any agreements between shareholders that may result in restrictions on the transfer of securities and/or voting rights.

The Directors are authorised to issue and allot shares and to undertake purchases of the Company's shares. Appropriate resolutions to renew these authorities are proposed to be passed at the AGM as detailed above and notice of which is on pages 119 to 126.

#### **Ordinary shares**

On a show of hands at a general meeting of the Company every holder of ordinary shares present in person and entitled to vote shall have one vote for every ordinary share held and, on a poll, every member present in person or by proxy and entitled to vote shall have one vote for every ordinary share held. The notice of the AGM on pages 119 to 126 specifies deadlines for exercising voting rights either by proxy notice or present in person or by proxy in relation to resolutions to be passed at the AGM. All proxy votes are counted and the numbers for, against or withheld in relation to each resolution are made available at the AGM and are published on the Company's website after the meeting. No person holds securities carrying special rights with regard to control of the Company.

#### Restrictions

There are no restrictions on the transfer of ordinary shares in the Company other than:

- Certain restrictions may from time to time be imposed by laws and regulations (for example, insider trading laws and market requirements relating to close periods)
- Pursuant to the Listing Rules of the FCA whereby all employees of the Company require the approval of the Company to deal in the Company's securities.

The Company's Articles of Association may only be amended by a Special Resolution at a general meeting of the shareholders. Directors are reappointed by Ordinary Resolution at a general meeting of the shareholders.

#### Appointment of Directors

The Board can appoint a Director but anyone so appointed must be elected by an Ordinary Resolution at the next general meeting.

All Directors are required to submit themselves for reappointment every year at the AGM.

#### Significant interests

Directors' interests in the share capital of the Company are shown in the table on page 34. Major interests (i.e. those greater than 3%) of which the Company has been notified are shown on page 34.

#### Company share schemes

The Xaar plc ESOP Trust holds 1.8% of the issued share capital of the Company in trust for the benefit of employees of the Group and their dependants. The voting rights in relation to these shares are exercised by the Trustees.

#### Change of control

The Company is not party to any agreements which take effect, alter or terminate upon a change of control of the Company following a takeover bid. There are no agreements between the Company and its Directors or employees providing for compensation for loss of office or employment (whether through resignation, purported redundancy or otherwise) that occurs because of a takeover bid. Depending on the achievement of performance conditions, share-based payment arrangements may vest on change of control but this is subject to the approval and exercise of the discretion of the Remuneration Committee.

### Going concern

The Group's business activities, together with the factors likely to affect its future development, performance and position are set out in the Strategic Report on pages 8 to 13. Notes 19, 20 and 23 include a description of the Group's objectives, policies and processes for managing its capital; its financial risk management objectives; details of its financial instruments and hedging activities; and its exposure to credit risk and liquidity risk.

The Group has considerable financial resources and through a diverse customer base is exposed not only to the Western economies but also to China, India and Latin America. As a consequence, the Directors believe that the Group is well placed to manage its business risks successfully.

After making enquiries, the Directors have a reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future, based on the Group's forecasts and projections for the next three years, taking account of reasonably possible changes in trading performance. For this reason, we continue to adopt the going concern basis in preparing the financial statements.

### Viability statement

The long term viability of the Company is assessed by the Directors as part of the risk management process and regular strategic reviews. As well as continually monitoring and managing risk the Directors lead a comprehensive review of the principal risks to the company at least annually. This review, which also involves key individuals from all areas of the business, was last performed in January 2017. The Company's strategy is regularly discussed by the Board and is biannually subject to a full review.

# Directors' report continued

# REPORT ON THE AFFAIRS OF THE GROUP CONTINUED

The Directors' assessment of the Company's viability has been made with reference to the strategic planning documented on pages 8 to 13. The Company's strategic plans are based on the four strategic pillars which underpin the Company's vision for 2020. Strategic plans for the whole Company and each of the pillars are updated taking into consideration assumptions concerning existing and future products and technology, customer engagements, business relationships, partnership opportunities and the commercial, technological and macroeconomic risks. The strategic plan for the Company is approved by the Executive Committee who then track both current and forecast performance against this plan.

The Company is aware that it operates in an uncertain environment and faces risks both internally and externally that could potentially impact on the Company's ability to achieve its strategy. The principal risks and uncertainties faced by the Company are included on pages 23 to 25. As part of the process of reviewing these risks, and other potential risks, the Board assigns responsibility for these to members of the Executive Committee. It is the responsibility of the Executive Committee members to manage the risk and the mitigating actions. This process is supplemented with strong internal controls and processes. This combination ensures that the Company manages the risks it face appropriately and that these are considered in all of the financial models.

Taking account of the Company's current financial position, operating performance, and the principal risks and uncertainties, the Directors have assessed the prospects of the Company, and confirm that they have a reasonable expectation that the Company will be able to continue in operation and meet its liabilities as they fall due for the next four years, to December 2020.

#### Auditor

Deloitte LLP have expressed their willingness to continue in office as auditor and a resolution to reappoint them will be proposed at the forthcoming AGM.

# Directors' statement as to disclosure of information to auditor

The Directors who were members of the Board at the time of approving the Directors' report are listed on page 29.

Having made enquiries of fellow Directors, each of these Directors confirm that:

- To the best of each Director's knowledge and belief, there is no information relevant to the preparation of their report of which the Group's auditor is unaware
- Each Director has taken all the steps a
   Director might reasonably be expected to
   have taken to be aware of relevant audit
   information and to establish that the Group's
   auditor is aware of that information.

This confirmation is given and should be interpreted in accordance with the provisions of section 418 of the Companies Act 2006.

#### **Approval**

The Director's report was approved by the Board on 22 March 2017 and is signed on its behalf by:

Alex Bevis

Chief Financial Officer and Company Secretary

# Governance

# CORPORATE GOVERNANCE STATEMENT

The Company is committed to the principles of corporate governance contained in the 2014 UK Corporate Governance Code which was issued in 2014 by the Financial Reporting Council ('the Code') for which the Board is accountable to shareholders.

#### Statement of compliance with the Code

Throughout the year ended 31 December 2016 the Company has followed the provisions set out in the Code.

During 2016, the Company implemented provision B.1.2 of the Code relating to the composition of the Board. Following the appointment of Chris Morgan on 4 January 2016 and Andrew Herbert on 1 June 2016, the Board is comprised of three executive roles and four non-executive roles, including the Chairman, thus now complying with provision B.1.2 of the Code. The previous weighting towards executive roles reflected the need for operational focus at the most senior level in the Company to achieve success in Xaar's highly demanding end markets.

The Board confirms that the 2016 Annual Report and Financial Statements, taken as a whole, is fair, balanced and understandable, and provides the information necessary for shareholders to assess the performance, strategy, and business model of the Company, in accordance with C.1.1 of the Code.

# Statement about applying the principles of the Code

The Company has applied the principles of the Code, including both the Main Principles and the supporting principles, by complying with the Code as reported above. Further explanation of how the Main Principles have been applied is set out below and, in connection with Directors' remuneration, in the Directors' Remuneration report.

#### **Board of Directors**

Following the appointment of Chris Morgan on 4 January 2016 and Andrew Herbert on 1 June 2016, the Board of Directors comprises the Chairman, three Executive Directors and three Non-Executive Directors. Brief biographical details of all members of the Board are set out on pages 30 and 31.

The Board considers Margaret Rice-Jones, Chris Morgan and Andrew Herbert to be independent within the meaning of the Code, in compliance with Code provision B.1.1. To be considered as independent each Non-Executive Director is sufficiently separate to management and free from any business or other relationships which could affect their judgement, impartiality or objectivity.

The Board is responsible for the formulation of strategy; the monitoring of financial and non-financial performance and the approval of major transactions; financial statements; other formal communications with shareholders; and operating and capital expenditure budgets. Comprehensive Board papers, dealing with all aspects of the business, are distributed by the Company Secretary typically one week in advance of each Board meeting. The Board met nine times during 2016.

The Non-Executive Directors attend the Board meetings, and form the Audit, Remuneration and Nomination Committees. They are responsible for scrutinising the performance of management and determining appropriate levels of remuneration of Executive Directors, and have a key role in appointing and, where required, removing Executive Directors.

There exists a clear division of responsibilities between the Chairman and the Chief Executive. The Chairman's primary role includes ensuring that the Board functions properly, that it meets its obligations and responsibilities, and that its organisation and mechanisms are in place and are working effectively. The Chief Executive's primary role is to provide overall leadership and vision in developing, with the Board, the strategic direction of the Company. Additionally, the Chief Executive is responsible for the management of the overall business to ensure that strategic and business plans are effectively implemented, the results are monitored and reported to the Board, and financial and operational objectives are attained.

The Board delegates management of the business to the Executive Committee, headed by the Chief Executive Officer. The Executive Committee meets weekly and is responsible for implementing Group strategy, monitoring business performance, preparing the operating and capital expenditure budgets for recommendation to the Board, and ensuring efficient management of the Group.

The committee has formally identified the COO as Director responsible for health and safety and the CFO Director responsible for risk assessment.

# CORPORATE GOVERNANCE STATEMENT CONTINUED

#### Summary of Board meeting attendance in 2016

Nine Board meetings were held in 2016.

Name	Meetings attended
Phil Lawler	6 (6)
Robin Williams	9 (9)
Margaret Rice-Jones	9 (9)
Doug Edwards	9 (9)
Alex Bevis	9 (9)
Ted Wiggans	9 (9)
Jim Brault	2 (2)
Chris Morgan	8 (9)
Andrew Herbert	6 (6)

Figures in brackets denote the maximum number of meetings that could have been attended.

# **Board committees**

Summary of committee membership:

Name	Audit Committee	Remuneration Committee	Nomination Committee
Robin Williams	Yes	Yes	Chairman
Margaret Rice-Jones	Yes	Chairman	Yes
Chris Morgan	Yes	Yes	Yes
Andrew Herbert	Chairman	Yes	Yes
Doug Edwards	No	No	Yes

Summary of committee meeting attendance in 2016:

Name	Audit Committee	Remuneration Committee	Nomination Committee
Number of meetings held	4	8	6
Phil Lawler	3 (3)	5 (6)	4 (4)
Robin Williams	4 (4)	8 (8)	6 (6)
Margaret Rice-Jones	4 (4)	8 (8)	6 (6)
Chris Morgan	4 (4)	8 (8)	5 (6)
Andrew Herbert	1 (1)	4 (4)	3 (3)
Doug Edwards	N/A	N/A	6 (6)

Figures in brackets denote the maximum number of meetings that could have been attended.

#### Conflicts of interest

Following the changes made to the Company's Articles of Association to incorporate the provisions of section 175 of the Companies Act 2006 which gave Boards the statutory power to authorise conflicts of interest, any potential conflict of interest is approved by the Board in advance of any action or appointment that could result in a conflict of interest arising. Each member of the Board is familiar with the procedure to follow in relation to conflicts of interest and the process is operated efficiently.

#### Performance evaluation

The Board's policy for individual Executive Director performance review is for a formal and rigorous appraisal process based on performance by the individual Director against specific targets. Individual Director performance is reviewed at least annually. The Senior Independent Director, in consultation with the other Non-Executive Directors and taking into account the views of the other Directors, appraises the performance of the Chairman. The Executive Directors, in consultation with the Chairman, appraise the performance of the Non-Executive Directors.

When new Directors are appointed, they receive a complete and specifically bespoke induction and training, aimed at introducing and familiarising them to the management team, the Group's activities and processes, and to give them the knowledge required to effectively execute their role.

The Board reviewed both its own performance and the performance of the Board committees once during the year through a questionnaire issued to all members of the Board. The results were reviewed by the Board as a whole and it was concluded that individual Board members are satisfied that the Board works well and operates effectively in an environment where there is constructive challenge from the Non-Executive Directors. They are also satisfied with the contribution made by their colleagues and that Board committees operate properly and effectively. It is the Board's intention to review its own performance, and that of its committees, at least once a year.

#### Group structure

The Group has three main locations. The head office functions, R&D, EMEA sales, marketing, human resources and enterprise solutions are based in Cambridge, UK. The Group also has two manufacturing facilities: one in Huntingdon, UK, and the other in Vermont, USA. The Swedish manufacturing facility closed during 2016. The Group also has representatives in other global locations including India, Hong Kong and the USA.

Refer to page 6 for the Xaar business model.

#### Dialogue with institutional shareholders

The Directors seek to build on a mutual understanding of objectives between the Group and its institutional shareholders by meeting at least twice per year, following interim and annual results, to provide an update on trading and obtain feedback. Additionally, the Group has hosted institutional investors at Cambridge and its Huntingdon facility during the year.

The Group's financial public relations advisors and lead brokers give all investors and potential investors who have met with the Group's investor relations team, the opportunity to provide feedback on the meetings. Additionally, the Chief Executive Officer and Chief Financial Officer provide feedback to the Board at the meeting following shareholder meetings to ensure that the Board, and in particular the Non-Executive Directors, possess an understanding of the views of the Company's major shareholders. Both the Chairman and the Senior Independent Director are available to meet with shareholders as required.

Shareholders can access up-to-date Company information from the Investor Relations section of the Xaar website at www.xaar.com.

# Constructive use of the Annual General Meeting

The Board uses the AGM to communicate with investors and to encourage their participation.

#### Risk management and internal control

The Group's policies relating to risk management and internal control can be found in the 'Risk management' section of the Strategic Report on pages 23 to 25.

# Whistle-blowing, and anti-bribery and corruption policies

The Company conducts its business with the highest standards of integrity and honesty at all times and expects its employees to maintain the same standards in everything they do. Employees are therefore required to report any wrongdoing by Xaar or its members of staff that falls short of these principles. The whistle-blowing, and anti-bribery and corruption policies are available and communicated to all employees via the Company intranet, and all employees confirm in writing that they have read and comply with the whistle-blowing and anti-bribery and corruption policies. All reported incidences of actual or suspected bribery or corruption will be promptly and thoroughly investigated and dealt with appropriately. The purpose of the anti-bribery and corruption policy is to protect Xaar and its employees from breaches of anti-bribery and corruption laws. Xaar does not tolerate any employee or third party being involved in any level of bribery or corruption. Xaar is committed to complying with applicable anti-bribery and corruption laws in all countries in which it conducts business.

#### Approval

The Corporate governance statement was approved by the Board on 22 March 2017 and is signed on its behalf by:

Ans

Alex Bevis

Chief Financial Officer and Company Secretary

# CORPORATE GOVERNANCE STATEMENT CONTINUED



Andrew Herbert
Chairman of the Audit Committee

# **Audit Committee**

#### Governance

The Audit Committee is appointed by the Board from the Non-Executive Directors of the Company. The Chairman of the committee, Andrew Herbert, is deemed by the Board to have recent and relevant financial experience as he is a qualified Chartered Accountant.

The Audit Committee's terms of reference include all matters indicated by Disclosure and Transparency Rule 7.1 and the UK Corporate Governance Code. The written terms of reference of the committee are available on request from the Company Secretary.

Please see the tables on page 40 for details of the Audit Committee members in the year and the number of Audit Committee meetings attended. The committee meetings are also attended, by invitation, by the Group Chief Executive Officer, the Chief Financial Officer and other senior financial management as appropriate, as well as by the external auditor for specific parts of the meeting.

#### Responsibilities

The Audit Committee's primary responsibilities are:

- To monitor the integrity of the financial statements and announcements and review significant financial reporting judgements contained therein, as well as financial and accounting policies and practices
- To keep under review the adequacy and effectiveness of internal controls
- To review procedures, systems and controls for whistle blowing, fraud detection and bribery prevention
- To review, approve and monitor internal audit activities
- To monitor and review the Group's external auditor's independence, objectivity and effectiveness
- To make recommendations to the Board on the appointment, remuneration and terms of engagement of the external auditor.

The Audit Committee is not responsible for the identification of key risks or the review of the adequacy of arrangements to mitigate those risks, which remains the responsibility of the main Board.

The Audit Committee is required to report its findings to the Board at least annually, identifying any matters on which it considers that action or improvement is needed, to make recommendations on the steps to be taken, and to ensure that the required actions are taken.

#### Significant issues

The Audit Committee has a set agenda for each of its regular meetings, which is then augmented by specific matters concerning the Company and in assessing the appropriateness of the financial statements. Key areas of focus during the year included:

# Royalty audits

The results of completed and ongoing royalty audits were monitored and discussed by the Audit Committee. Additional actions relating on-going and future royalty audits were agreed.

#### Process and system audits

The Group is bringing internal process reviews and systems audits (internal auditing) inhouse and the committee reviewed potential issues and new procedures and policies to be updated, as part of this resource switch. Planned procedures to be undertaken going forward in 2017 were proposed and agreed by the Audit Committee.

# Tax areas

The Audit Committee considered the tax related affairs of the Group together with projects that impact the Group, including capital allowances, patent box, R&D expenditure credit and developments in relation to Transfer Pricing and BEPS Action Point of the OECD. Updates and progress in these areas were discussed by the Audit Committee. The requirements of each area were reviewed, planned and actions agreed and taken.

#### Significant issues considered

Significant issues that have been considered by the Audit Committee include revenue recognition, provisions, inventory valuation, finalising the restructure and closure of the Swedish facility and capitalisation of development costs and the acquisition and integration of EPS into the Group, during the year. These are also areas of focus for the external auditor, who report on these matters to the Audit Committee.

#### Key activities

As a result of its work during the year, the Audit Committee has concluded that it has acted in accordance with its terms of reference, which were last updated in 2013. New terms of reference for the Audit Committee were adopted on 16 March 2017. The Chairman of the Audit Committee will be available at the AGM to answer any questions about the work of the committee. The Audit Committee has performed actions to discharge its responsibilities during 2016, and its effectiveness was reviewed as part of the overall annual Board effectiveness review. The committee has carried out the activities described as follows:

#### Financial statements and reports

- Reviewed the Annual Report and financial statements, the half-yearly financial report and as part of this review the Audit Committee received a report from the external auditor on their audit and review performed
- Reviewed the effectiveness of the Group's internal controls and disclosures made in the Annual Report and financial statements.

# Internal controls and compliance

 Reviewed fraud detection and the systems and controls for the prevention of bribery.

### Internal audit

- Agreed a schedule of the internally and externally resourced internal audit activities, and reviewed the results of internal audit activities performed
- Reviewed the internal financial controls and risk management systems
- Reviewed the results of system processes reviews completed in the year.

### External audit

- Reviewed and agreed the scope of the audit work to be undertaken by the auditor, and reviewed non-audit services provided and the level of this compared with the audit services provided
- Agreed the fees to be paid to the external auditor relating to their services rendered for the annual audit and interim review
- Reviewed audit work performed on significant risk areas, including those areas identified and discussed by the external auditor in their report, and ensured the independence and objectivity of the external auditor.

#### External auditor

Deloitte LLP have been the Company's auditor since 2009 and there has been no tender held for audit services during that time. The committee considers that the auditor's knowledge of the Group's business and systems gained through experience has contributed to the effectiveness of the audit process. The committee intends the Company to continue to comply fully with the FRC Audit Committees Guidance regarding the frequency of audit tender. Under the standard rotation process, a new audit engagement partner was appointed from 2014.

The Audit Committee has noted that there are no contractual obligations to restrict the choice of external auditor and has considered the likelihood of a withdrawal of the auditor from the market. The committee meets with the Company's auditor at least twice a year. The Chief Executive Officer and Chief Financial Officer, and other relevant managers as required, attend by invitation, except for a period of each meeting where the committee members may meet with the auditor without any member of the Group management present.

The committee is required to assess the qualifications, expertise, resources, and independence of the external auditor, and the objectivity and effectiveness of the audit process. The committee reviews the type of work, effectiveness of, and level of fees charged by the auditor on an annual basis and recommends to the Board the appointment. reappointment, term, remuneration, and terms of engagement of the external auditor. Auditor objectivity and independence is safeguarded by the committee monitoring fees paid to the auditor in respect of both audit and nonaudit work, and approving all additional work performed by the external auditor. Non-audit services include remuneration services, tax and audit advisory.

Note 7 to the consolidated financial statements includes disclosures of the auditor's remuneration for the year, including an analysis of audit services, audit related services, and other non-audit services under those headings prescribed by law. The committee monitors the level of non-audit fees in relation to the audit fee for its bearing on external auditor independence.

The independence and objectivity of the auditor is regularly considered by the committee taking into consideration relevant UK professional and regulatory requirements. The committee receives an annual statement from the auditor detailing their independence policies and safeguards and confirming their independence, taking into account relevant ethical guidance regarding the provision of non-audit services by the external auditor. Under the standard rotation process, a new audit engagement partner was appointed from 2014.

The committee considers the effectiveness of the external audit and the Group's relationship with the external auditor, Deloitte LLP, on an on-going basis, and have conducted a review of the effectiveness of the annual audit. This review consisted of considering a number of key points together with the senior financial management of the Group, without the external auditor present, and then discussing the evaluation with the auditor. The committee was able to conclude, on the basis of this exercise and its experience over the year, that the external audit process remained effective.

A further review will be carried out following the completion of audit procedures on all Group companies and reported on in next year's Annual Report.



Andrew Herbert
Chairman of the Audit Committee

# CORPORATE GOVERNANCE STATEMENT CONTINUED



Robin Williams
Chairman of the Nomination Committee

## **Nomination Committee**

### Governance

The Nomination Committee is appointed by the Board from the Non-Executive Directors of the Company and the Chief Executive Officer. The Chairman of the committee is Robin Williams. The committee meets as required. The written terms of reference of the committee are available on request from the Company Secretary.

#### Responsibilities

The Nomination Committee's primary responsibilities are:

- Reviewing the size, structure, skills, knowledge and composition of the Board
- Formulating plans for succession for both Executive and Non-Executive Directors
- Making recommendations to the Board on the appointment of new Executive and Non-Executive Directors and their reappointment following retirement by rotation.

#### Boardroom diversity

Recruitment of Board candidates is conducted, and appointments made, on merit and suitability against objective selection criteria with consideration of, amongst other things, the benefits of diversity on the Board, including gender. The Board has not set a diversity quota, however the Board encourages applications for roles being recruited from women subject to the selection criteria being met. Following the appointment of Lily Liu to the Board on 2 May 2017, the gender ratio will be 29% female versus 71% male.

# Key issues and activities

The process adopted by the committee to identify a candidate for a specific vacancy is, in the first instance, to determine whether any individuals known to the committee would be suitable for the role. If no candidates can be identified through this process then an external search consultancy will be approached.

Shortlisted candidates are interviewed by members of the committee and other Executive and Non-Executive Directors as the committee deems appropriate. Once a suitable candidate has been identified, the Chairman of the committee will recommend to the Board that the Company make a formal offer of employment to the candidate.

During the year, the Nominations Committee has been engaged in recruiting one new Non-Executive Director to join the Board; Andrew Herbert joined the Board during the year on 1 June 2016 and the appointment of Lily Liu as new CFO and Company Secretary to join the Board from 2 May 2017.

All Directors are required to submit themselves for reappointment every year at the AGM.

Robin Williams

Chairman of the Nomination Committee

KEW Williams



Margaret Rice-Jones
Chairman of the Remuneration Committee

## **Remuneration Committee**

### Governance

The Remuneration Committee is appointed by the Board from the Non-Executive Directors of the Company. The Chairman of the committee is Margaret Rice-Jones. The Chief Executive Officer and Chief Human Resources Officer attend meetings by invitation, except when their own remuneration package is being discussed. The written terms of reference of the committee are available on request from the Company Secretary.

#### Responsibilities

The Remuneration Committee's primary responsibilities are:

- To make recommendations to the Board on the Group's policy for executive remuneration, and review the on-going appropriateness and relevance of the policy
- To review the design of all share incentive plans and oversee any major changes in employee benefit structures
- To monitor the level and structure of remuneration for senior managers
- To determine the individual remuneration packages on behalf of the Board for the Executive Directors of the Group.

#### Key issues and activities

The committee has access to professional advice, both inside and outside the Company, in the furtherance of its duties. The committee has received guidance on best practice for Directors' remuneration from Deloitte LLP, Mercer Limited and Willis Towers Watson during the year, and has reviewed and approved executive remuneration, equity budgets, share incentive schemes and grants, and bonus schemes.

During 2016 the Remuneration Committee undertook an extensive review of the operation of the Remuneration Policy. The main principle applied by the Committee in its review was that rewards should be aligned with Company strategy, and that the incentive targets should be directly linked to the 2020 Vision laid out by CEO Doug Edwards.

As a result of the review the committee, after consultation with shareholders, a new proposed policy is laid out in the Directors' Remuneration report and will be subject to a binding vote at the AGM in May. The proposed changes will not affect the outstanding LTIP grants which are due to mature in 2017, 2018 and 2019.

The Directors' Remuneration report sets out in more detail the committee's policies and practices on executive remuneration.

Margaret Rice-Jones

Mw-Jone

Chairman of the Remuneration Committee

# DIRECTORS' REMUNERATION REPORT

# Statement from the Chairman of the Remuneration Committee

#### Dear Shareholder

On behalf of the Board, I am pleased to present the 2016 Remuneration report. This covers our proposed new policy on pay, benefits and incentives for the Directors and the actual amounts earned for the year ended 31 December 2016.

The Committee's goals are to support the drive to deliver the 2020 vision by:

- Attracting and retaining management of the highest calibre
- Providing incentives that reward near and longer term achievement that are clearly linked to performance
- Offering competitive packages comparable to those offered by companies similar to Xaar in terms of size and complexity
- Being considerate to the climate for pay restraint, with awards biased towards delivery of sustainable long term growth
- Taking into account the views of our shareholders.

#### Remuneration for 2016

For the 2015 Annual Report we recognised that a significant shortfall existed in certain Executive and Non-Executive Director base salaries compared to companies of a similar size and complexity. We further described various revisions to the LTIP, in light of concerns that these are not achieving the policy goals listed above. At the same time we sought to simplify arrangements by removing the bonus matching shares. An underpin provision was introduced for the 2016 LTIP grants. The salaries of the CFO and NED's were adjusted as the first part of a two-step move to address the aforementioned shortfalls.

These moves also recognised the growing importance of the US market along with growth in emerging and highly innovative market areas such as 3D printing and Direct-to-Shape. Acquisitions and other investments in these areas reinforced the need for strong leadership with global experience.

#### **Annual Bonus payments**

The bonus payments outlined on page 49 reflect both the delivery against Company targets and the performance of each Director against their specific individual objectives. The profit measure used for the determination of Company performance is adjusted profit before tax excluding any impact of IAS 38 (capitalisation/amortisation of development costs). Adjusted profit before tax excluding IAS 38 of £9.3 million in 2016 was above the minimum threshold of £9.05 million at which level payments against financial targets were triggered for Executive Directors. The Company performance component provided a payment 25% against the on-target bonus opportunity for each individual as a result of the on-target bonus being set at £12.8 million. The Committee undertook a rigorous review of the achievement against financial and individual objectives to ensure the level of bonus payment was appropriate and fair given the overall performance of the business. The highest bonus payment was made to Doug Edwards, being 12.5% of salary (25% of target bonus) at 31 December 2016. This was based on a personal performance multiplier of 1.0 reflecting strong progress in the development of the five year strategy for the Company, including our first acquisition of EPS in July, and the launch of new products, such as the Xaar 5601, to support future growth.

# **Existing LTIP Grants**

The LTIP granted in 2013 did not vest in 2016 and it is our current expectation that the LTIP granted in 2014 will also not vest in 2017. All terms of the 2015 and 2016 grants remain unchanged.

#### Leading remuneration decisions for 2017

The policy is now due for renewal with a binding vote at the AGM in May 2017. The Remuneration Committee has undertaken a comprehensive and detailed review of the operation of the whole awards policy with support from our consultants. The Remuneration Committee Chairman has also consulted extensively with Xaar's largest shareholders and key shareholder bodies.

# Summary of proposed remuneration changes

Element	Current arrangements	Proposed arrangements	Rationale
Base Salary			
Base Salary	<ul><li>CEO £315,000.</li><li>CFO £194,350.</li><li>COO £230,000.</li></ul>	<ul> <li>Increase CEO to £345,000 on 1 July 2017</li> <li>Newly appointed CFO to £230,000</li> <li>No change considered until 2018</li> <li>No change to COO in 2017.</li> </ul>	Continue re-alignment of salaries as described in 2015 annual report to take into account continued performance of the business and the individual along with increased experience and heightened complexity of role reflecting
	Salary levels below median.	Maintains salary levels below median benchmark.	increasing business and geographic diversity.
Annual Bonus			
Annual Bonus Performance Measures	Single metric of adjusted profit before tax (excl. IAS 38).	Two metrics of adjusted profit before tax (excl. IAS 38) (60%) and revenue (40%).	To increase the focus on additional financial measures that align with the transformation strategy.
Annual Bonus Maximum	Maximum of 133% of salary.	Reduction to maximum of 125% of salary for CEO, and 100% for CFO and COO.	Simplifies the current plan and biases remuneration towards the LTIP scheme and delivery of long term vision.
Long-Term Incentive F	Plan ('LTIP')		
LTIP Performance Conditions	67% – three year cumulative EPS and 33% – three year TSR against FTSE TechMARK All Share Index.	60% – three year cumulative EPS; 40% – revenue growth (2019 versus 2016).  Supplemented by a TSR outperformance multiplier – see below.	Direct linkage to Company performance and delivery of the 2020 vision.
TSR outperformance multiplier	Not used.	Multiplier determined by comparison to the FTSE Small Cap index. For the CEO a performance multiplier of between 116.7% (for upper quartile performance) and 200% (for upper decile performance) applies. For the CFO and COO the multipliers are 116.7% and 150%. Straight line vesting between these thresholds.	Ensures that Xaar must outperform the FTSE Small Cap index to achieve maximum vesting; the additional gains can only be earned for significant outperformance of the index and delivery of superior returns to shareholders.
Annual LTIP Grant value	Up to 175% of salary.	300% of salary for the CEO and 150% for the CFO and COO, including the TSR outperformance multiplier.	The increase in the maximum opportunity for the CEO reflects the challenge and complexity of Xaar's transformational strategic vision. This will only be achieved through outstanding Company performance against revenue and profit targets and outperformance against the FTSE small cap index.
Vesting	At minimum threshold performance, vesting is 25%. Vesting is then straight line up to maximum.	Excluding the outperformance multiplier, at minimum threshold performance, vesting is 25%. Vesting is then straight line up to maximum.	No change, excluding the impact of the TSR outperformance multiplier.

# DIRECTORS' REMUNERATION REPORT CONTINUED

Element	Current arrangements	Proposed arrangements	Rationale
Long-Term Incentive	Plan ('LTIP') continued		
EPS Targets – three year cumulative adjusted basic EPS (excluding IAS 38).	Maximum – 56 pence. Threshold – 38 pence.	Maximum – 61 pence. Threshold – 39 pence.	Maximum target is set by achievement of very significant improvement and a trend that would deliver the 2020 vision.  Minimum target is set by achievement of clear progress and growth over the 2016 results.
Revenue growth targets.	Not used.	Achievement of revenue growth over three years:  • Maximum – £180 million in 2019 (23% equivalent annual growth)  • Threshold – £128 million in 2019 (10% equivalent annual growth).	Maximum target represents achievement of a 23% annual growth rate over 2016, a track to deliver £220 million in 2020.  Minimum target represents achievement of a 10% annual growth rate over 2016, a significant transformation from the 2014-16 period.
Annual LTIP Vesting/hold period.	3 years with no further holding period.	Vesting after three years with 33% released immediately, 33% held until the end of four years and 33% held until the end of five years.	Introduction of post vest holding period to align with best practice and transformation timeline.
Share Ownership Rec	quirements		
Share Ownership Requirements.	100% of base salary over five years.	Move to 200% of base salary.	To drive long-term shareholder alignment.

Margaret Rice-Jones

Chairman of the Remuneration Committee

22 March 2017

#### Annual report on remuneration

This part of the report sets out the actual payments made by the Company to its Directors with respect to the year ended 31 December 2016.

The Remuneration Committee's policy is to attract and retain individuals of the highest calibre by offering remuneration competitive with comparable publicly listed companies, and to drive Company performance by providing arrangements which fairly and responsibly reward individuals for their contribution to the success of the Group. Performance related bonuses and equity-based remuneration represent a substantial proportion of Executive Directors' potential remuneration.

## Single figure table

The aggregate remuneration provided to Directors who have served as Directors in the year ended 31 December 2016 is set out below, along with the aggregate remuneration provided to such Directors for the financial year ended 31 December 2015.

Director	Salary/fees <sup>(a)</sup> £'000	Benefits <sup>(b)</sup> £'000	Bonus <sup>(a)</sup> £'000	Long term incentives <sup>(d)</sup> £'000	Pension <sup>(e)</sup> £'000	Total remuneration £'000
Year ended 31 December 2016						
Executive						
Doug Edwards	307	50	39	2	31	429
Jim Brault	36	5	5	-	2	48
Alex Bevis	182	21	24	2	18	247
Ted Wiggans	230	24	29	_	23	306
Non-Executive						
Phil Lawler (Chairman) <sup>1</sup>	59	-	-	-	-	59
Margaret Rice-Jones	44	-	-	-	-	44
Chris Morgan	42	_	_	_	_	42
Andrew Herbert <sup>2</sup>	25	_	_	_	_	25
Robin Williams (Chairman) <sup>1</sup>	57	-	-	_	-	57
Year ended 31 December 2015						
Executive						
Doug Edwards	298	43	190	10	30	571
Jim Brault	141	35	90	10	14	290
Alex Bevis	169	21	98	_	17	305
Ted Wiggans	183	21	111	_	18	333
Ian Dinwoodie	130	10	_	_	10	150
Richard Barham	174	20	_	_	18	212
Edmund Creutzmann	57	15	_	_	6	78
Non-Executive						
Phil Lawler (Chairman)	90	_	_	_	_	90
Margaret Rice-Jones	18	_	_	_	_	18
David Cheesman	18	_	_	_	_	18
Robin Williams	42	-	-	_	_	42

- 1 Phil Lawler stepped down from the Board on 30 September 2016, and Robin Williams was appointed Chairman.
- 2 Andrew Herbert joined the Board on 1 June 2016.
- 3 Jim Brault stepped down from the Board on 16 March 2016.

# DIRECTORS' REMUNERATION REPORT CONTINUED

The figures in the single figure table on the left are derived from the following:

(a) Salary/fees	The amount of base salary/fees received in the year.
(b) Benefits	This is the taxable value of benefits and the flexible benefits allowance received in the year. This includes any relocation allowance claimed in 2016.
(c) Bonus	The value of the bonus earned in respect of the year, including any part of the bonus invested into bonus investment shares for a period of three years. Performance against the targets which applied for the financial year is provided on page 47.
(d) Long Term Incentives	The value of performance related incentives vesting in respect of the financial year (including any Matching Share Awards granted under the LTIP) and the value of SAYE options and Matching Shares under the HMRC approved Share Incentive Plan (SIP) granted based on the fair value of the options/shares at grant.
	The performance condition for the Performance Share Awards and Matching Share Awards granted under the LTIP on 2 April 2014 was EPS growth against RPI over the three-year performance period ending 31 December 2016.
	For the year ended 31 December 2016, the Company's EPS declined over the three year performance period commencing 1 January 2014 and ending 31 December 2016, and therefore none of the Performance Share Awards and Matching Share Awards in respect of the year ending 31 December 2016 will vest.
	For the year ended 31 December 2015 comparative figures, none of the Performance Share Awards and Matching Share Awards in respect of the year ending 31 December 2015 vested.
	Also included in the long term incentives figure are:
	SAYE options granted in the year, valued at the accounting value on date of grant.
(e) Pension	The value of the employer contribution to the defined contribution pension plan (or the value of a salary supplement paid in lieu of a contribution to this pension plan).

### Individual elements of remuneration

#### Base salary and fees

Base salaries for Executive Directors were reviewed by the Remuneration Committee prior to the beginning of each year and when an individual changes position or responsibility. From 2016, the annual review was effective from 1 July. In deciding appropriate levels, the Remuneration Committee considers the role, responsibility, and experience of the individual, corporate and individual performance, market conditions, and the range of salary increases awarded across the Group.

The remuneration policy for the Non-Executive Directors is reviewed periodically.

#### Benefits

Benefits principally comprise a car allowance, private medical insurance and basic levels of other insurances (such as Income protection cover). In addition, Executive Directors are provided with an allowance of 5% of base salary which they can apply to a range of benefits such as life insurance, critical illness insurance etc.

#### Pension

The Company operates a self-administered, defined contribution, HMRC approved pension scheme. All current Executive Directors participate in this scheme. In appropriate circumstances, Executive Directors may take a salary supplement instead of contributions into a pension plan. This salary supplement does not form part of salary for the purposes of calculating any other entitlement under the policy. Non-Executive Directors do not receive pension contributions.

#### Annual bonus

For the year ended 31 December 2016 the annual bonus was based on performance against a Group profit target, which was achieved for 2016. Group profit is defined as Group adjusted profit before tax excluding any impact of IAS 38 capitalisation of development costs, which for 2016 was £9.3 million.

	Achievement against							
Executive Director	Salary (at 31 December 2016)	Achievement against profit target	performance target (range 0-1.33)	Resulting bonus as a % of salary	Resulting bonus			
Doug Edwards	£315,000	25%	1.0	12.5%	£39,375			
Alex Bevis	£194,350	25%	1.0	12.5%	£24,294			
Ted Wiggans	£230,000	25%	1.0	12.5%	£28,750			

The Board considers the Group profit target to be a matter that is commercially sensitive. The Board believes that the advance disclosure of this commercially sensitive information could negatively impact the Company's competitive position by providing our competitors with insight into our business plans, expectations and, in the case of individual performance, our strategic actions resulting in significant risk to future profitability and shareholder value. It will however disclose targets retrospectively. For 2016 adjusted profit before tax at £9.3 million was above the minimum threshold at which level payments against financial targets were triggered for Executive Directors of £9.05 million. The Company performance component provided a 12.5% payment against the maximum bonus opportunity for each individual as a result of the on target bonus being set at £12.8 million, and threshold performance being set at £9.05 million. The maximum bonus would of been achieved £16.55 million. Straight line vesting was applied between threshold and target and between target and maximum.

For 2016 the Remuneration Committee assessed the personal performance multiplier for each Director at 1.0. For the CEO this reflects strong progress in the development of the five year strategy for the Company, including our first acquisition and the launch of new products, such as the Xaar 5601, to support future growth. The CFO achieved two significant royalty audit resolutions and drove the completion of the acquisition of EPS. The COO led the R&D and manufacturing teams to achieve a significant number of new product launches including the Xaar 5601.

Executive Directors may choose to invest the bonus earned relating to 2016 in the HMRC approved Share Incentive Plan.

# DIRECTORS' REMUNERATION REPORT CONTINUED

# Long term incentives awarded during the financial year

The table below outlines awards made under the LTIP to Executive Directors in 2016:

		Award basis	Performance condition	Number of shares	Face value of the award £'000	Vesting at EPS threshold/ TSR Median	Performance period	Vesting date
1 April 2016	Doug Edwards		EPS	41,026	200			1 April 2019
			TSR	20,513	100			1 April 2019
25 August 2016	Doug Edwards		EPS	31,706	158			25 August 2019
			TSR	15,853	79			25 August 2019
1 April 2016	Alex Bevis	Performance	EPS	23,111	113	25% of award	1 January 2016 to	1 April 2019
		Share plan	TSR	11,556	56		31 December 2018	1 April 2019
25 August 2016	Alex Bevis	Awards	EPS	13,041	65			25 August 2019
			TSR	6,521	32			25 August 2019
1 April 2016	Ted Wiggans		EPS	31,453	153			1 April 2019
			TSR	15,726	77			1 April 2019
1 April 2016	Doug Edwards	Bonus	EPS	7,663	38			1 April 2019
		Matching	TSR	3,831	19	25% of award	f award 1 January 2016 to 31 December 2018	1 April 2019
1 April 2016	Alex Bevis	Share plan	EPS	11,367	56			1 April 2019
		Awards	TSR	5,683	28			1 April 2019

The share prices used to calculate the face value of the Performance Share award was £4.875 for the 1 April 2016 and £4.9675 for the 25 August 2016 award, being the mid-market prices on the days prior to award dates.

The share price used for the Bonus Matching award was £4.93, being the mid-market price on the days prior to award date.

The performance conditions for the LTIP and bonus matching awards are described in full on page 110.

# Shareholding guidelines and total shareholdings of Directors

With effect from 16 May 2017, the date of the AGM, the Remuneration Committee will introduce a shareholding guideline of 2x salary. Executive Directors will be expected to move towards the new guidelines as new grants vest. The extent to which each Executive Director has met the shareholding guideline is shown in the table below:

					_	Unves	ted	
	Shareholding guidelines	Current shareholdings (% of salary)	Туре	Owned outright	Vested	Subject to performance conditions	Not subject to performance conditions	Total as at 31 December 2016
Executive Directors								
Doug Edwards	100% of salary	32,545 (42%)	Shares	32,545	_	_	-	32,545
			LTIP options	_	-	193,897	-	193,897
			SAYE options	_	_	_	4,316	4,316
			Matching SIP	_	_	_	368	368
Alex Bevis	100% of salary	57,700 (121%)	Shares	57,700	_	_	-	57,700
			LTIP options	_	60,417	140,070	-	200,487
			SAYE options	_	_	_	5,325	5,325
			Matching SIP	_	_	_	858	858
Ted Wiggans	100% of salary	70,749 (124%)	Shares	70,749	_	_	-	70,749
			LTIP options	_	_	121,050	-	121,050
			SAYE options	_	_	_	5,325	5,325
			Matching SIP	-	-	-	490	490
Non-Executive Directors	<b>;</b>							
Robin Williams (Chairman)	_	_	Shares	4,000	_	_	_	4,000
Margaret Rice-Jones	_	-	Shares	5,700	_	_	-	5,700

There have been no changes in the Directors' holdings in the share capital of the Company, as set out in the table above, between 31 December 2016 and 22 March 2017.

# DIRECTORS' REMUNERATION REPORT CONTINUED

# Outstanding Directors' share awards

The awards held by Executive Directors of the Company under the LTIP are shown below:

# **LTIP**

The outstanding awards granted to each Executive Director of the Company under the Xaar plc 2007 LTIP are as follows. All options under the LTIP are nil-cost options such that no exercise price is payable. The performance conditions for these LTIP awards are described in full in note 32.

Name	As at 1 January 2016	Granted during the year	Exercised during the year	Lapsed during the year	As at 31 December 2016	Grant date	Share price at date of grant	Earliest date of exercise	Expiry date
Doug Edwards	73,305	_	_	_	73,305	2 April 2015	£4.09	2 April 2018	2 April 2025
	_	61,539	_	_	61,539	1 April 2016	£4.875	1 April 2019	1 April 2026
	_	11,494*	_	-	11,494*	11 May 2016	£4.93	11 May 2019	11 May 2026
	-	47,559	-	-	47,559	25 August 2016	£4.9675	25 August 2019	25 August 2026
	73,305	120,592	-	_	193,897				
Alex Bevis	60,417	-	-	_	60,417	2 April 2012	£2.36	2 April 2015	2 April 2022
	35,529	_	_	(35,529)	_	2 April 2013	£4.20	2 April 2016	2 April 2023
	15,641*	_	_	(15,641)*	_	15 May 2013	£6.14	15 May 2016	15 May 2023
	18,798	_	_	-	18,798	2 April 2014	£8.96	2 April 2017	2 April 2024
	8,698*	_	_	_	8,698*	12 May 2014	£7.52	12 May 2017	12 May 2024
	41,295	_	_	_	41,295	2 April 2015	£4.09	2 April 2018	2 April 2025
	-	34,667	_	-	34,667	1 April 2016	£4.875	1 April 2019	1 April 2026
	_	17,050*	_	-	17,050*	11 May 2016	£4.93	11 May 2019	11 May 2026
	_	19,562	_	_	19,562	25 August 2016	£4.9675	25 August 2019	25 August 2026
	180,378	71,279	-	(51,170)	200,487				
Ted Wiggans	38,118	_	_	(38,118)	-	2 April 2013	£4.20	2 April 2016	2 April 2023
	3,773*	-	-	(3,773)*	-	15 May 2013	£6.14	15 May 2016	15 May 2023
	20,355	_	_	_	20,355	2 April 2014	£8.96	2 April 2017	2 April 2024
	8,800*	_	_	_	8,800*	12 May 2014	£7.52	12 May 2017	12 May 2024
	44,716	_	_	_	44,716	2 April 2015	£4.09	2 April 2018	2 April 2025
	_	47,179	_	_	47,179	1 April 2016	£4.875	1 April 2019	1 April 2026
	115,762	47,179	-	(41,891)	121,050				
Jim Brault	41,295	-	-	_	41,295	2 April 2015	£4.09	2 April 2018	2 April 2025
	41,295	_	-	_					

 $<sup>^{\</sup>star}$   $\,$  LTIPs granted as part of the bonus matching scheme.

# All employee share plans

The Executive Directors may participate in the Company's all employee share plans, the Xaar plc 2007 SAYE Scheme (SAYE Scheme) and the Xaar SIP, on the same basis as other employees.

The SAYE Scheme provides an opportunity to save a set monthly amount (up to £500) over three years towards the exercise of a discounted share option, which is granted at the start of the three years.

The SIP provides an opportunity for employees to buy shares from their pre-tax remuneration up to the limit permitted by the relevant tax legislation (currently £1,800 per year) and are awarded additional shares for free on a matching basis; the Company currently operates the plan on the basis of a 1:1 match but may award Matching Shares up to the maximum ratio permitted by the relevant tax legislation (currently a 2:1 ratio).

Options and awards under these plans are not subject to performance conditions.

The outstanding awards granted to each Executive Director under the SAYE Scheme are as follows:

Name	As at 1 January 2016	Granted during the year	Exercised during the year	As at 31 December 2016	Grant date	Exercise price	Earliest date of exercise	Expiry date
Doug Edwards	4,316	_	_	4,316	1 November 2015	£4.17	1 November 2018	1 May 2019
Alex Bevis	5,325	_	-	5,325	1 November 2014	£3.38	1 November 2017	1 May 2018
Ted Wiggans	5,325	_	-	5,325	1 November 2014	£3.38	1 November 2017	1 May 2018

The outstanding awards granted to each Executive Director under the SIP are as follows:

Name	Total number of matching shares as at 31 December 2016
Doug Edwards	368
Alex Bevis	858
Ted Wiggans	490

### Payments for loss of office made during the year

No payments for loss of office were made during the year.

#### **CFO Transition**

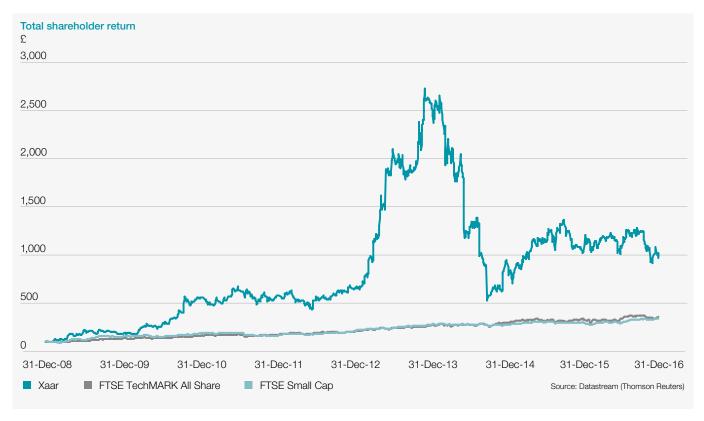
On 29 March 2017 Alex Bevis, CFO, will leave Xaar to pursue other opportunities. In recognition of Alex's contribution to Xaar over the last six years, and in particular in supporting the results period and assuring a smooth transition to Lily Liu, the Remuneration Committee exercised their discretion to allow unvested LTIPs to be retained after a pro-rating adjustment. All other conditions including vesting date and performance conditions remain unchanged. No bonus will be paid for 2017.

On 2 May Lily Liu joins Xaar as new CFO. Her remuneration arrangements are detailed on page 58. In addition, Lily will receive a grant of LTIPs equating in value to  $\mathfrak{L}120,000$  as a 'buy out grant' upon joining as detailed in our Approach to recruitment remuneration on page 66. These will vest over a two year period.

# DIRECTORS' REMUNERATION REPORT CONTINUED

#### Performance graph and table

The graph on this page shows the Company's performance measured by total shareholder return (TSR), compared with the performance of the FTSE TechMARK All Share Index, which the Remuneration Committee considers to be the most appropriate index for comparison because they illustrate the Company's TSR performance against a broad equity market index of similar UK companies.



This graph shows the value, by 31 December 2016, of £100 invested in Xaar plc on 31 December 2008 compared with the value of £100 invested in the FTSE TechMARK All Share Index.

The table below shows details of the total remuneration, annual bonus (as a percentage of maximum opportunity) and LTIP vesting percentage for the CEO over the last eight financial years.

	Total remuneration	Annual bonus as a % of maximum opportunity	LTIP as a % of maximum opportunity
Year ended 31 December 2016	438	12.5%	0%
Year ended 31 December 2015	571	48%	0%
Year ended 31 December 2014	562	0%	100%
Year ended 31 December 2013	1,379	83%	100%
Year ended 31 December 2012	649	53%	100%
Year ended 31 December 2011	1,244	100%	100%
Year ended 31 December 2010	504	80%	32%
Year ended 31 December 2009	229	0%	0%

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### CEO pay increase in relation to all employees

The table below sets out in relation to salary and annual bonus the increase between the pay for the year ended 31 December 2015 and the pay for the year ended 31 December 2016 for CEO compared with the average increase/bonus award between the same periods for the wider workforce. For the purposes of the table below, the wider workforce has been defined as the UK employees of the Group. This comparator group was chosen because it is the most relevant sub-set of employees and can be used consistently.

Element of remuneration	CEO	Wider workforce average
Salary – % change	15%	5%
Annual bonus – absolute % of salary paid	12.5%	2.07%
Benefits – absolute % of salary paid	16%	9%

#### Spend on pay

The table below sets out the Group's distributions to shareholders by way of dividends and total Group-wide expenditure on pay for all employees (including employer social security, pension contributions and share-based payments), as reported in the audited financial statements for the financial year ended 31 December 2016.

	2016 £'000	2015 £'000	Change %
Dividends paid to shareholders	7,328	6,925	6
Group-wide expenditure on pay for all employees	31,055	30,302	2

## Implementation of Directors' remuneration policy for the financial year commencing 1 January 2017

Information on how the Company intends to implement the policy for the financial year commencing 1 January 2017 is set out below.

We want our remuneration policy to support the transformation of Xaar to Lead the Digital Revolution and grow our revenue to £220 million by 2020. We will, therefore, be making some changes to our three year policy to drive the delivery of the vision, to retain the key executive talent required to deliver the transformation and to align executive and shareholder interests.

# DIRECTORS' REMUNERATION REPORT CONTINUED

#### Basic salary and fees

Our approach on base salary continues to be to provide a fixed remuneration component which reflects the increased experience and heightened complexity of the roles and the increasing business and geographic diversity.

The Remuneration Committee considers it to be appropriate to increase base salary for the CEO to £345,000 effective 1 July 2017. There will be no change for the COO in 2017 as Ted Wiggan's salary was increased appropriately in 2016. The newly appointed CFO will have a salary of £230,000 with no further increase planned in 2017.

The changes in 2017 will complete the moves and base salaries going forward will align with the increases for the rest of the Company.

The proposed base salary increases for the Executive Directors are shown below:

Year Ended 31 December 2016	Increase effective from	2016	2017	% increase
Doug Edwards	1 July 2017	£315,000	£345,000	9.5%
Lily Liu – joining 2 May 2017	_	_	£230,000	_
Ted Wiggans	_	£230,000	£230,000	0%

As communicated in the 2015 Annual Report, the plan to move the Non-Executive Directors' fees towards the lower end of the market competitive range will be completed in 2017. The Remuneration Committee considers it to be appropriate to increase fees in 2017. The proposed fee increases for the Non-Executive Directors are shown below:

Year Ended 31 December 2016	Increase effective from	2016	2017	% increase
Robin Williams	1 July 2017	£97,000	£102,000	5%
Margaret Rice-Jones	1 July 2017	£46,000	£48,300	5%
Andrew Herbert	1 July 2017	£45,000	£47,250	5%
Chris Morgan	1 July 2017	£42,000	£44,100	5%

#### Annual bonus

In order to move the emphasis from the short term to the long term, there will be a reduction of the maximum opportunity for the CEO to 125% and for the CFO and COO to 100% of salary. We are removing the personal multiplier for Executive Directors. There will also be a change to the performance metrics of the bonus as we add the additional financial measure of revenue growth. This measure aligns with our 2020 vision.

The Board considers the Group profit target for 2017 to be a matter that is commercially sensitive and should therefore remain confidential to the Company. It provides our competitors with insight into our business plans, expectations and, in the case of individual performance, our strategic actions. However, the Remuneration Committee will disclose on a retrospective basis how the Company's performance relates to any annual bonus payments made.

# Long term incentives

The Remuneration Committee has conducted an extensive review and has, following shareholder consultation, designed a new LTIP plan which will be used from 2017.

The details of the new plan alongside the previous scheme were outlined in the table of proposed remuneration changes on page 47.

# Consideration by the Directors of matters relating to Directors' remuneration

#### Membership

The Company has established a Remuneration Committee which is constituted in accordance with the recommendations of the UK Corporate Governance Code. The terms of reference of the Remuneration Committee can be obtained by contacting the Company Secretary.

The Remuneration Committee is chaired by Margaret Rice-Jones. The other members during the year ended 31 December 2016 were Phil Lawler, Robin Williams, Andrew Herbert and Chris Morgan. All members of the Remuneration Committee are considered independent within the meaning of the UK Corporate Governance Code.

The principal function of the Remuneration Committee is to determine, on behalf of the Board, the specific remuneration and other benefits of Executive Directors, including pension contributions, bonus arrangements, long term incentives and service contracts. The fees paid to the Non-Executive Directors are determined by the Chief Executive Officer and the Chairman. The fees paid to the Chairman are determined by the Chief Executive Officer and the Non-Executive Directors.

Additionally, the Remuneration Committee makes recommendations to the Board on the framework of Executive Director remuneration as well as principal Company-wide compensation programmes.

The members of the Remuneration Committee have no personal financial interest, other than as shareholders, in the matters to be decided, no actual or potential conflicts of interest arising from other directorships and no day to day operational responsibility within the Company. Executive Directors are entitled to accept appointments outside the Group providing that the Chairman's permission is sought.

#### Advisors to the Remuneration Committee

The Remuneration Committee is assisted in its work by Xaar's human resources department including the Chief Human Resources Officer. The Chief Executive Officer is consulted on the remuneration of those who report directly to him and also of other senior executives. No Executive Director or employee is present or takes part in discussions in respect of matters relating directly to their own remuneration.

During the year, the Remuneration Committee was assisted in its work by the following external consultants:

Advisor	Details of appointment	Services provided by the advisor	Fees paid by the Company for advice to the Remuneration Committee and basis of charge	Other services provided to the Company in the year ended 31 December 2016
Willis Towers Watson	Appointed by the Remuneration Committee in 2016	Consulting advice regarding the new 3 year policy from 2017	£39,777	
Deloitte	Appointed by the Remuneration Committee in 2015	Advice in relation to Directors' remuneration for 2016 revisions	£9,991	External auditor

The Remuneration Committee took into account the Remuneration Consultants Group's Code of Conduct when reviewing Deloitte's role as external auditor. As Deloitte are external auditor to the Company, Deloitte's advice to the Remuneration Committee is governed by certain guidelines and safeguards.

The Remuneration Committee is satisfied that the remuneration advice provided by Willis Towers Watson is objective and independent.

# DIRECTORS' REMUNERATION REPORT CONTINUED

#### Shareholder voting

The Company remains committed to on-going shareholder dialogue and takes an active interest in voting outcomes. The following table sets out actual voting in respect of the resolution to approve the Directors' Remuneration report for the year ended 31 December 2015

Number of votes	For (including discretion)	Against	Withheld
Resolution 12 – Directors' Remuneration report for the year ended 31 December 2015	63,539,451 (98.53%)	945,772 (1.47%)	0
Resolution 13 - Directors' Remuneration policy for the year ended 31 December 2015	62,672,998 (97.72%)	1,459,892 (2.28%)	352,333
Resolution 15 – Approve the proposed amendments to the 2007 LTIP plan rules	63,024,957 (97.74%)	1,459,266 (2.26%)	1,000

#### Directors' remuneration policy

This part of the report sets out the Company's Directors' remuneration policy, which, subject to shareholder approval at the 2017 AGM, shall take binding effect from 16 May 2017. The policy is determined by the Remuneration Committee.

The Directors' remuneration policy is not audited.

## Policy table for Executive Directors

The table below describes each of the elements of the remuneration package for the Executive Directors. This is the proposed policy to run until May 2020 and is subject to binding vote at the AGM.

Base Salary	
Objective	Core element of fixed remuneration that provides the basis to recruit and retain talent necessary to deliver the business strategy.
Operation	Normally reviewed annually any increases generally apply from 1 January or 1 July (but may be reviewed more frequently if required).
	When determining base salary levels, consideration is given to the following:
	<ul> <li>Role, responsibility and experience of the individual</li> <li>Corporate and individual performance</li> <li>Market conditions including typical pay levels for comparable roles in companies of a similar size and complexity</li> <li>The range of salary increases awarded across the Group.</li> </ul>
Opportunity	No maximum salary opportunity has been set out in this policy report to avoid setting expectations for Executive Directors and employees.
	The base salaries effective as at 1 July 2017, are shown on page 58. The Remuneration Committee resolved to move base salaries progressively to a level which is market competitive (in general, positioned below median) taking account of individual factors such as:
	<ul> <li>Increase in scope and responsibility</li> <li>A new Executive Director being moved to market positioning over time</li> <li>Alignment to market level.</li> </ul>
Performance Measures	Not applicable.

Benefits	
Objective	Provide a market-competitive benefits package to recruit and retain Directors of the calibre required for the business.
	Participation in the Company's Share Incentive Plan (SIP) and Share Save Scheme (SAYE) encourages share ownership and alignment with the wider workforce.
Operation	Executive Directors receive base benefits including car allowance, private medical insurance, and basic levels of other insurances (such as critical illness cover).
	All UK staff, including Executive Directors, are also provided with a benefit allowance which they can apply to a range of benefits, including pension contributions. In some circumstances, and subject to Remuneration Committee approval, the allowance may be paid in cash rather than utilised to purchase benefits.
	The SIP and SAYE are HMRC approved share plans for all employees facilitating the acquisition of shares in the Company at a discount.
	Other benefits may be provided based on individual circumstances, such as, but not limited to: housing or relocation allowances, travel allowance or other expatriate benefits.
Opportunity	Whilst the Remuneration Committee has not set an absolute maximum on the level of benefits Executive Directors receive, the value of benefits is set at a level which the Remuneration Committee considers to be appropriately positioned taking into account relevant market levels based on the nature and location of the role and individual circumstances.
	The flexible benefits allowance is currently up to 5% of base salary.
	The Remuneration Committee has the authority to review and amend this rate as appropriate. Individuals have the choice to invest all or part of this amount in their pension scheme, in addition to the benefits outlined in the 'Retirement benefits' section of this table.
	SAYE and SIP limits as permitted in accordance with the relevant tax legislation.
Performance Measures	Not applicable.
Retirement Ben	efits
Objective	Provide market competitive post-employment benefits to recruit and retain Directors of the calibre required for the business.
Operation	Executive Directors are eligible to participate in the defined contribution pension scheme (or such other pension plan as may be deemed appropriate).
	In appropriate circumstances, Executive Directors may take a salary supplement instead of contributions into a pension plan.
Opportunity	10% of base salary for the Executive Directors.
	The Remuneration Committee has the authority to review and amend this rate as appropriate.
Performance Measures	Not applicable.

# DIRECTORS' REMUNERATION REPORT CONTINUED

Annual Bonus	
Objective	Rewards performance against annual targets which support the strategic direction of the Company. The majority of staff participate in the same scheme.
Operation	Targets are set annually and any pay-out is determined by the Remuneration Committee after the period-end, based on performance against those targets. The Remuneration Committee has discretion to vary the bonus pay-out should any formulaic output not produce a fair result for either the Executive Director or the Company, taking account of the Remuneration Committee's assessment of overall business performance.
	The annual bonus is delivered in cash.
	Additionally Directors may opt to invest in the Company SIP (refer to note 32 for details).
Opportunity	Overall maximum annual bonus 125% of salary for CEO and 100% for CFO and COO. This will normally subject to the following performance components:
	Profit  The Company profit performance element represents 60% of the bonus and has a direct relationship with adjusted profit before tax, excluding any impact of IAS 38. A minimum profit threshold is set.
	Revenue growth  The Company revenue performance element represents 40% of the bonus. This measure is based on revenue growth performance with a minimum profit threshold.
	The pay-out has the following parameters:
	<ul> <li>Below threshold performance: 0% of the maximum opportunity</li> <li>On-target performance: 50% of the maximum opportunity</li> <li>Maximum: 100% of the maximum opportunity.</li> </ul>
	The Committee may vary the weighting of these measures and could consider alternative measure in future years.
Performance Measures	Stretching performance targets are set each year reflecting the business priorities that underpin Group strategy.  125% (CEO) and 100% (CFO and COO) of salary can be earned based on achieving the maximum financial performance targets and subject to individual performance.

Long Term Inco	entive Plan
Objective	Drive and reward the achievement of longer term objectives aligned closely to shareholders' interests.
	Retain key executives over a longer term measurement period.
	Provide alignment with shareholders' interests.
	Supports retention and promotes share ownership.
Operation	Subject to the approval by shareholders in May 2017, the LTIP will operate as follows:
	An award of performance shares (zero priced share options) may be granted on an annual basis. The award is composed of two elements:
	<ul> <li>The base LTIP award is the primary element and will vest after three years subject to the achievement of the applied performance conditions</li> <li>An outperformance multiplier will be applied to the base LTIP grant for the delivery of results relative to the FTSE small cap market. For upper quartile results, the base award will be multiplied by x1.167. For upper decile results, the CEO's base award will be multiplied by x2 (x1.5 for the CFO and COO).</li> </ul>
	Vesting will occur at the end of a three year period. A two year hold is introduced with 33% being held for one year after vesting and 33% being held for two years after vesting.
	Vested LTIP options must be exercised within ten years of the date of grant. Under the rules of the LTIP, the Remuneration Committee has discretion to satisfy vested LTIP awards in cash.
	On the vesting/exercise of an LTIP award, the Remuneration Committee has the discretion to decide that executives can receive an amount (in cash or shares) equal to the dividends paid or payable between the date of grant and the vesting of an award on the number of shares which have vested.
	Awards may vest early on a change of control (or other relevant event) subject to the satisfaction of the performance conditions (as determined by the Remuneration Committee) and pro-rating for the LTIP was previously approved by shareholders in April 2007.
	The Remuneration Committee may at its discretion structure awards as Approved Long Term Incentive Plan ('ALTIP') awards. ALTIP awards enable the participant and Company to benefit from HMRC approved option tax treatment in respect of part of the award, without increasing the pre-tax value delivered to participants. ALTIP awards may be structured either as an approve option for the part of the award up to the HMRC limit (currently £30,000) with an unapproved option for the balance and a 'linked award' to fund the exercise price of the approved option, or as an approved option and an LTIP award, with the vesting of the LTIP award scaled back to take account of any gain made on the exercise of the approved option. Other than to enable the grant of ALTIP awards, the Company will not grant awards to Executive Directors under the Executive Share Option Plan.
Maximum	The maximum annual award of the base LTIP will be 150% of base salary for CEO and 100% of salary for CFO and COO.
opportunity	The outperformance multiplier could increase the maximum opportunity for the CEO to 300% of salary and to 150% for the CFO and COO.
	For the LTIP, for threshold performance, 25% of award will vest.
	Straight-line vesting applies between threshold and maximum vesting.
	These limits do not include the value of shares subject to any approved option granted as part of an LTIP award.
Performance	Stretching performance targets are set each year reflecting the business priorities that underpin longer term Group strategy.
Measures	The base LTIP award will normally be measured using the following:
	<ul> <li>Three year cumulative EPS growth – 60%</li> <li>Three year revenue growth – 40%.</li> </ul>
	The Remuneration Committee retains the discretion to alter the weighting of measures and to apply alternative measure in

future years. The outperformance multiplier will be measured against relative TSR of the FTSE SmallCAP index.

# DIRECTORS' REMUNERATION REPORT CONTINUED

#### Malus, clawback and underpin provisions

The Remuneration Committee has the right to:

- Reduce any LTIP awards which have not yet vested (i.e. a malus provision) if an act or omission contributes to a material misstatement of the Group's financial statements or results in material loss or reputational damage for the Company
- Recover cash or shares which have been paid or transferred (i.e. a clawback provision) if an act or omission contributes to a material misstatement
  of the Group's financial statements or results in material loss or reputational damage for the Company, for a period up to two years following
  determination of the vesting outcome
- Apply an underpin to LTIP vesting and bonus achievement and to flex the weighting of performance measure in the event of early vesting
  as a result of change of control.

# Chairman and Non-Executive Directors

The table below sets out an overview of the remuneration of Non-Executive Directors.

Alignment with s	trategy/purpose
------------------	-----------------

## Approach of the Company

# Chairman and Non-Executive Directors' fees

Provide an appropriate reward to attract and retain Directors of the calibre required for the business. The remuneration of the Chairman of the Board is set by the Remuneration Committee and the Chief Executive Officer. Fees are set at a level which reflects the skills, knowledge, and experience of the individual, whilst taking into account appropriate market data.

The fee is set as a fixed annual fee and may be paid wholly or partly in cash or Company shares.

The Chairman and the Chief Executive Officer are responsible for deciding Non-Executive Directors' fees. Fees are set taking into account several factors, including the size and complexity of the business, fees paid to Non-Executive Directors of UK listed companies of a similar size and complexity, and the expected time commitment and contribution for the role.

The fees are set as a fixed annual fee and may be paid wholly or partly in cash or Company shares. Overall fees paid to Directors will remain within the limit stated in our Articles of Association. This was updated from £200.000 to £300.000 at the AGM in 2016.

Non-Executive Directors do not participate in any incentive scheme.

Directors may be eligible to benefits such as the use of secretarial support, travel costs or other benefits that may be appropriate.

### Explanation of performance metrics chosen

The annual bonus is assessed against financial targets which are determined by the Remuneration Committee, typically Group adjusted profit before tax excluding any impact of IAS 38 and revenue growth. This incentivises Executive Directors to focus on delivering the key financial goals of the Company. These targets therefore ensure that the interests of the Executive Directors are aligned with those of the shareholders.

For the LTIP, long term performance measures are chosen by the Remuneration Committee to provide a robust and transparent basis on which to measure Xaar's performance over the longer term and to provide alignment with Xaar's business strategy. EPS, Revenue growth and TSR are deemed to be the key measure of success of the execution of our long term strategy.

The Remuneration Committee retains the discretion to adjust the performance targets and measures where it considers it appropriate to do so (for example, to reflect changes in the structure of the business and to assess performance on a fair and consistent basis from year to year), and has exercised its discretion in this area of leaver provisions as described under CFO transition and the inclusion of its acquisition, EPS in the bonus scheme for 2016.

Awards may be adjusted in the event of a variation of capital in accordance with the scheme rules.

### Pay policy for other employees

The Company values its wider workforce and aims to provide a remuneration package that is market competitive, complies with any statutory requirements, and is applied fairly and equitably across the wider employee population. Where remuneration is not determined by statutory regulation, the key principles of the compensation philosophy are as follows:

- We remunerate people in a manner that allows for stability of the business and the opportunity for sustainable long term growth
- · We seek to remunerate fairly and consistently for each role with due regard to the marketplace, internal consistency and the Company's ability to pay
- The Company operates HMRC approved SIP and SAYE and invites all employees to participate, therefore encouraging wider workforce share ownership.

#### Illustrations of application of remuneration policy

The charts below set out an illustration of the remuneration policy, as subject to approval at the 2017 AGM, in line with the policy above and include base salary, pension, benefits and incentives. The charts provide an illustration of the proportion of total remuneration made up of each component of the policy and the value of each component.

For these purposes base salary reflects the salary at 1 January 2017 and any anticipated increases in July 2017. Bonus is based on anticipated base salary as at 31 December 2017. Benefits are calculated as 12% of average salary for 2017. Pension is based on the policy set out in the policy table. LTIP awards are based on a base salary level pre 1 July 2017, and are calculated as set out in the policy on pages 60 to 63.

Three scenarios have been illustrated for each Executive Director.

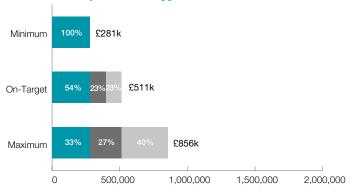
Minimum performance	<ul><li>No bonus pay-out</li><li>No vesting under the LTIP.</li></ul>
Performance at mid point	<ul> <li>62.5% of salary pay-out under the annual bonus for the CEO, 50% for the CFO and COO</li> <li>Shares equivalent to 75% of salary vesting under the LTIP for the CEO, 50% for the CFO and COO.</li> </ul>
Maximum performance	<ul> <li>125% of salary pay-out under the annual bonus for the CEO, 100% for the CFO and COO</li> <li>Shares equivalent to 300% of salary vesting under the LTIP for the CEO, 150% for the CFO and COO.</li> </ul>

As required by the regulations, the scenarios do not include any share price growth assumptions or take into account any dividends that may be paid.

# Chief Executive - Doug Edwards, total remuneration £'000



## CFO & COO - Lily Liu & Ted Wiggans, total remuneration £'000



- Base salary, benefits and pension. Annual bonus.
- $\hfill \blacksquare$  LTIP Award (Performance share awards only).

# DIRECTORS' REMUNERATION REPORT CONTINUED

#### Approach to recruitment remuneration

When appointing a new Executive Director, whether with an internal or external candidate, the Remuneration Committee will typically seek to use the policy detailed in the table on pages 60 to 63 to determine the Executive Director's on-going remuneration package.

To facilitate the appointment of candidates of the appropriate calibre required to implement the Group's strategy, the Remuneration Committee also retains the discretion to include any other remuneration component or award which is outside the policy. The Remuneration Committee does not intend to use this discretion to make a non-performance related incentive payment (for example, a 'golden hello'). In determining appropriate remuneration, the Remuneration Committee will take into consideration all relevant factors (including the quantum and nature of remuneration) to ensure that the arrangements are in the best interests of the Company and its shareholders. This may, for example, include (but is not limited to) the following circumstances:

- An interim appointment being made to fill an Executive Director role on a short term basis
- Exceptional circumstances require that the Chairman or a Non-Executive Director takes on an executive function on a short term basis
- An Executive Director is recruited at a time in the year when it would be inappropriate to provide a bonus or long term incentive award for that year
  as there would not be sufficient time to assess performance. The quantum in respect of the months employed during the year may be transferred
  to the subsequent year so that reward is provided on a fair and appropriate basis
- The executive received benefits at his previous employer which the Remuneration Committee considers it appropriate to offer.

The Remuneration Committee may also alter the performance measures, performance period and vesting period of the annual bonus or long term incentive, subject to the rules of the scheme, if the Remuneration Committee determines that the circumstances of the recruitment merit such alteration. The rationale will be clearly explained.

In determining appropriate remuneration arrangements on hiring a new Executive Director, the Remuneration Committee will take into account relevant factors such as the calibre of the individual, local market practice, the existing remuneration arrangements for other executives and the business circumstances. It will seek to ensure that arrangements are in the best interests of both the Company and its shareholders and seek not to pay more than is appropriate.

The Remuneration Committee may make an award or payment to 'buy-out' remuneration arrangements forfeited on leaving a previous employer. In doing so the Remuneration Committee will take account of relevant factors regarding the forfeited arrangements which may include the form of any forfeited awards (e.g. cash or shares), any performance conditions attached to these awards (and the likelihood of meeting those conditions), and the time over which they would have vested. It will generally seek to structure buy-out awards and payments on a comparable basis to remuneration arrangements forfeited. These awards or payments are excluded from the maximum level of variable pay referred to below; however, the Remuneration Committee's intention is that the value awarded or paid would be no higher than the expected value of the forfeited arrangements.

Appropriate costs and support will be covered if the recruitment requires the relocation of the individual. All buy-out awards and payments will normally be liable to forfeiture or 'clawback' on early departure. For Executive Directors, early departure is typically defined as being within the first two years of employment although the Remuneration Committee has the ability to amend this definition in appropriate circumstances.

The maximum level of variable pay which may be awarded to new Executive Directors, excluding buy-out arrangements, would normally be in line with the maximum level of variable pay that may be awarded under the annual bonus plan and LTIP, but in any event the Remuneration Committee would not make an award of annual variable pay above 425% of salary. The Remuneration Committee may determine that such awards will be forfeited if performance or continued employment conditions are not met and it is deemed appropriate to do so.

Any share awards referred to in this section will be granted as far as possible under the Company's existing share plans. If necessary, and subject to the limits referred to above, in order to facilitate the awards mentioned above, the committee may rely on exemption 9.4.2. of the Listing Rules which allows for the grant of awards to facilitate, in exceptional circumstances, the recruitment of a Director.

Where a position is fulfilled internally, any on-going remuneration obligations or outstanding variable pay elements shall be allowed to continue according to the original terms.

Fees payable to a newly-appointed Chairman or Non-Executive Director will be in line with the fee policy in place at the time of appointment.

# Service contracts

## **Executive Directors**

It is the Group's policy that Executive Directors should have contracts with an indefinite term, providing for one year's notice.

	Date of contract <sup>1</sup>	Date of appointment	Notice from the Company	Notice from Director
Doug Edwards	5 January 2015	5 January 2015	12 months	12 months
Alex Bevis	12 December 2013	14 February 2011	12 months	12 months
Ted Wiggans	4 December 2013	10 January 2011	12 months	12 months
Lily Liu	23 January 2017	2 May 2017	12 months	12 months

<sup>1</sup> The dates of contract above refer to the dates of the latest service agreements for each of the Directors.

## **Non-Executive Directors**

All Non-Executive Directors are appointed for an initial three-year term with provision for two further three-year terms, subject to satisfactory performance.

	Date of letter of appointment	Date of appointment	Unexpired term of contract on 31 December 2016
Robin Williams (Chairman)	27 September 2016	1 October 2016	33 months
Margaret Rice-Jones	3 June 2015	1 August 2015	19 months
Chris Morgan	2 December 2015	4 January 2016	24 months
Andrew Herbert	15 April 2016	1 June 2016	31 months

All Directors offer themselves for annual re-election at each AGM in accordance with the UK Corporate Governance Code. Letters of appointment are available for inspection at the registered office address of the Company.

# DIRECTORS' REMUNERATION REPORT CONTINUED

# Payments for loss of office

The principles on which the determination of payments for loss of office will be approached is set out below. Where the Remuneration Committee retains discretion, as outlined below, it will be used to provide flexibility in certain situations, taking into account the particular circumstance of the Director's departure and recent performance of the Company.

Notice period on termination by employing company	Twelve months. The Committee has the discretion to determine what proportion of the notice period will be utilised in active service.
Termination payment	Severance payments are limited to no more than one year's salary plus benefits in kind (including company car or car allowance and private health insurance) and pension contributions (which may include salary supplements).
	Benefits provided in connection with termination of employment may also include, but are not limited to, outplacement and legal fees.

Reason for cessation	Calculation of vesting/payment	Timing of vesting	
Termination with cause.	No bonus paid.	Not applicable.	
Resignation or retirement.	No bonus is normally paid unless the Committee in its absolute discretion (and on a case-by-case basis) determines otherwise.	Normal payment date.	
Redundancy, disability, illness, injury, death or any other reason as determined by the Remuneration Committee.	Typically bonus amounts will be determined by reference to the applicable performance targets, pro-rated for time served in relation to the performance period.	Normal payment date unless Remuneration Committee decides it should be earlier.	
Termination with cause.	Lapse.	Not applicable.	
Resignation or Retirement.	Normally lapse but with Remuneration Committee discretion to determine otherwise.	Normal vesting date.	
Redundancy, disability, illness, injury, death or any other reason as determined by the Remuneration Committee.	Pro rated to proportion of period worked during vesting period.  Remuneration Committee can	Normal vesting unless Remuneration Committee decides it should be a cessation of employment.	
Death.	Discretion to disapply performance conditions.	Date of cessation – unless Remuneration Committee decides normal vesting date.	
	Termination with cause.  Resignation or retirement.  Redundancy, disability, illness, injury, death or any other reason as determined by the Remuneration Committee.  Termination with cause.  Resignation or Retirement.  Redundancy, disability, illness, injury, death or any other reason as determined by the Remuneration Committee.	Termination with cause.  Resignation or retirement.  Resignation or retirement.  Redundancy, disability, illness, injury, death or any other reason as determined by the Remuneration Committee.  Resignation or Retirement.  Resignation or Retirement.  Redundancy, disability, illness, injury, death or any other reason as determined by reference to the applicable performance targets, pro-rated for time served in relation to the performance period.  Resignation or Retirement.  Normally lapse but with Remuneration Committee discretion to determine otherwise.  Redundancy, disability, illness, injury, death or any other reason as determined by the Remuneration Committee.  Death.  Discretion to disapply	

# **Non-Executive Directors**

Under the terms of their engagement, the notice period to be given by the Non-Executive Directors on the Company is six months and the Company is obliged to give the same length of notice. Discretion is retained to terminate with or without due notice or paying any payment in lieu of notice dependent on what is considered to be in the best interests of the Company in the particular circumstances.

#### Statement of consideration of employment conditions elsewhere in the Company

Salary, benefits and performance related reward provided to employees is taken into account when setting policy for Executive Directors' remuneration (although employees are not formally consulted in relation to the setting of the policy). This includes consideration of:

- Salary increases for the general employee population
- Company-wide benefit (including pension) offerings
- Overall spend and participation levels in the annual bonus and LTIP
- Relevant ad-hoc information.

#### Existing contractual arrangements

The Remuneration Committee reserves the right to make any remuneration payments and payments for loss of office notwithstanding that they are not in line with the policy set out below where the terms of the payment were agreed:

- (i) before the policy came into effect, or
- (ii) at a time when the relevant individual was not a Director of the Company and, in the opinion of the Remuneration Committee, the payment was not in consideration for the individual becoming a Director of the Company.

For these purposes 'payments' includes the Remuneration Committee satisfying awards of variable remuneration and, in relation to an award over shares, the terms of the payment are 'agreed' at the time the award is granted.

The Remuneration Committee may make minor changes to this policy, which do not have a material advantage to Directors, to aid in its operation or implementation without seeking shareholder approval but taking into account the interests of shareholders.

#### Statement of consideration of shareholder views

In the interests of ensuring on-going and transparent dialogue with shareholders, the Remuneration Committee consulted major shareholders over its base salaries and proposed new three year policy outlined in this report.

# Approval

This Report was approved by the Board on 22 March 2017 and signed on its behalf by:

Margaret Rice-Jones

Remuneration Committee Chair

# DIRECTORS' RESPONSIBILITIES STATEMENT

The Directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulations.

Company law requires the Directors to prepare financial statements for each financial year. Under that law the Directors are required to prepare the Group financial statements in accordance with International Financial Reporting Standards ('IFRSs') as adopted by the European Union and Article 4 of the IAS Regulation and have also chosen to prepare the parent company financial statements in accordance with Financial Reporting Standard 101 Reduced Disclosure Framework. Under Company law the Directors must not approve the accounts 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 the parent Company financial statements, the Directors are required to:

- Select suitable accounting policies and then apply them consistently
- Make judgments and accounting estimates that are reasonable and prudent
- State whether Financial Reporting Standard 101 Reduced Disclosure Framework has been followed, subject to any material departures disclosed and explained in the financial statements
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

In preparing the Group financial statements, International Accounting Standard 1 requires that Directors:

- · Properly select and apply accounting policies
- Present information, including accounting policies, in a manner that provides relevant, reliable, comparable and understandable information
- Provide additional disclosures when compliance with the specific requirements in IFRSs are insufficient to enable users to understand the impact of particular transactions, other events and conditions on the entity's financial position and financial performance
- Make an assessment of the Company's ability to continue as a going concern.

The Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the 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 United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

#### Responsibility statement

We confirm that to the best of our knowledge:

- The financial statements, prepared in accordance with the relevant financial reporting framework, give a true and fair view of the assets, liabilities, financial position and profit or loss of the Company and the undertakings included in the consolidation taken as a whole
- The Strategic Report includes a fair review of the development and performance of the business and the position of the Company and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that they face
- The Annual Report and financial statements, taken as a whole, are fair, balanced and understandable and provide the information necessary for shareholders to assess the Company's performance, business model and strategy.

This responsibility statement was approved by the Board of Directors and is signed on its behalf by:

2) Elwads

Doug Edwards
Chief Executive Officer

Ans

Alex Bevis
Chief Financial Officer and Company Secretary

22 March 2017

#### Independent auditor's report to the members of Xaar plc

### Opinion on financial statements of Xaar plc

#### In our opinion:

- 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 2016 and of the group's profit for the year then ended;
- the group financial statements have been properly prepared in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union;
- the parent company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice, including FRS 101 "Reduced Disclosure Framework"; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006 and, as regards the group financial statements, Article 4 of the IAS Regulation.

The financial statements that we have audited comprise:

- the Consolidated Income Statement;
- the Consolidated Statement of Comprehensive Income;
- the Consolidated Statement of Financial Position;
- the Consolidated Statement of Changes in Equity;
- · the Consolidated Statement of Cash Flows;
- the related Consolidated notes 1 to 35;
- the Parent Company Statement of Financial Position;
- the Parent Company Statement of Changes in Equity; and
- the related Parent Company notes 1 to 9.

The financial reporting framework that has been applied in the preparation of the group financial statements is applicable law and IFRSs as adopted by the European Union. 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 (United Kingdom Generally Accepted Accounting Practice), including FRS 101 "Reduced Disclosure Framework".

#### Summary of our audit approach

Key risks	The key risks that we identified in the current year were:
	<ul> <li>Customer rebates</li> <li>Capitalisation of internally generated intangible assets</li> <li>Acquisition fair value accounting</li> <li>Within this report, any new risks are identified with ⊙ and any risks which are the same as the prior year identified with ⊙.</li> </ul>
Materiality	The materiality that we used in the current year was £1.3 million which was determined based on a blended measure using a combination of profit and asset benchmarks.
Scoping	The scope of our audit was driven by our risk assessment and understanding of the business. This consisted of two components subjected to full scope audits, three components subjected to specific audit procedures and six components subjected to analytical procedures at Group level.
Significant changes in our approach	In the current year we identified a new key risk, acquisition fair value accounting in response to the acquisition made by the group in the year.
	There have been no other significant changes in our approach in the current year.

#### Independent auditor's report to the members of Xaar plc continued

Going concern and the directors' assessment of the principal risks that would threaten the solvency or liquidity of the Group As required by the Listing Rules we have reviewed the directors' statement regarding the appropriateness of the going concern basis of accounting contained within note 3 to the financial statements and the directors' statement on the longer-term viability of the group contained within the Directors' report on page 38.

We are required to state whether we have anything material to add or draw attention to in relation to:

- the directors' confirmation on page 38 that they have carried out a robust assessment of the principal risks facing the group, including those that would threaten its business model, future performance, solvency or liquidity;
- the disclosures on page 23-26 that describe those risks and explain how they are being managed or mitigated;
- the directors' statement in note 3 to the financial statements about whether they considered it appropriate
  to adopt the going concern basis of accounting in preparing them and their identification of any material
  uncertainties to the group's ability to continue to do so over a period of at least twelve months from the date of
  approval of the financial statements; and
- the directors' explanation on page 38 as to how they have assessed the prospects of the group, over what period
  they have done so and why they consider that period to be appropriate, and their statement as to whether they
  have a reasonable expectation that the group will be able to continue in operation and meet its liabilities as they
  fall due over the period of their assessment, including any related disclosures drawing attention to any necessary
  qualifications or assumptions.

We confirm that we have nothing material to add or draw attention to in respect of these matters.

We agreed with the directors' adoption of the going concern basis of accounting and we did not identify any such material uncertainties. However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the group's ability to continue as a going concern.

#### Independence

We are required to comply with the Financial Reporting Council's Ethical Standards for Auditors and confirm that we are independent of the group and we have fulfilled our other ethical responsibilities in accordance with those standards.

We confirm that we are independent of the group and we have fulfilled our other ethical responsibilities in accordance with those standards. We also confirm we have not provided any of the prohibited non-audit services referred to in those standards.

#### Our assessment of risks of material misstatement

The assessed risks of material misstatement described below are those that had the greatest effect on our audit strategy, the allocation of resources in the audit and directing the efforts of the engagement team.

In 2015 our report included provisions and recoverability of property, plant and equipment in relation to termination of operations as a key risk due to the planned closure of the Group's manufacturing facility in Sweden in 2016. This risk is not included in our 2016 report after the substantial completion of the planned closure.

In 2015 our report included inventory valuation as a key risk due to the judgemental nature of determining the costs used in the inventory standard costing model, with reference to normal level of production. This risk is not included in our 2016 report, because the Group uses an established process in inventory valuation and we have not identified any significant production issues which have arisen during the year impacting the normal level of production.

#### Risk description

#### Customer rebates ③

The Group has volume price agreements with a number of its significant customers.

We consider there to be a key risk with respect to the accounting for commercial sales agreements with Xaar's significant customers. This is due to the degree of judgment and estimation involved in predicting sales volumes which drives the accounting for commercial sales agreements and the associated revenue in line with IAS 18 and the Group's accounting policy. This is also the fraud risk we have identified with respect to revenue recognition.

The accounting policy is disclosed in note 3 to the financial statements.

Note 2 to the financial statements provides details of the critical accounting judgements and page 42 provides the audit committee's discussion on customer rebates.

#### Capitalisation of internally generated intangible assets ①

The Group incurred £22.4 million on research and development costs in the year ended 31 December 2016 (2015: £19.9 million), representing an increase of 13% from 2015.

Xaar management has concluded that the only development project meeting the capitalisation criteria in IAS 38 "Intangible Assets" (IAS 38) is that known as the 'P4 platform' in relation to which £10.2 million development costs have been capitalised during the year (2015: £8.4 million). Because of the judgments and the complexity of the criteria applied, we consider there to be a key risk in relation to development costs being incorrectly accounted for (i.e. capitalised or expensed through the income statement). There is also a key risk in relation to the recoverability of capitalised development costs from likely future economic benefits. The accounting policy is disclosed in note 3 to the financial statements. The carrying values of the capitalised development costs are disclosed in note 14 to the financial statements.

Note 2 to the financial statements provides details of the critical accounting judgements and page 42 provides the audit committee's discussion on capitalisation of internally generated intangible assets.

### Our response and observation

How the scope of our audit responded to the risk When auditing customer rebates we considered the Group's revenue recognition policy, per International Accounting Standard 18 'Revenue' (IAS 18), to assess whether the revenue recognition policy is compliant and whether the policy has been applied consistently through the year.

We performed testing over all significant commercial sales agreements that Xaar has with its major customers by reviewing the terms and conditions of sales, assessing the accounting treatment and reconciling to amounts recognised in the financial statements; also assessing compliance with IAS 18.

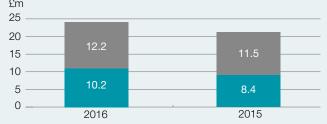
We performed retrospective review of prior period accounting estimates in relation to commercial sales agreements to assess the accuracy of management estimates.

**Key observations** Based on the audit procedures performed, we concur with the customer rebates recognised. We also concluded that the associated revenue was recognised in line with the Group's accounting policy and IAS 18.

How the scope of our audit responded to the risk We audited management's accounting treatment of development costs by testing a sample of research and development project costs to assess whether they are accurate and appropriately classified. We discussed the P4 platform project and other research and development (R&D) projects with the Research and Development Management, in order for us to assess whether the P4 platform project continues to meet the development criteria and therefore requires capitalisation, and whether any other projects have reached the development phase and therefore require capitalisation.

For the P4 platform project we made an assessment of the technical feasibility and likelihood of future economic benefit by reference to product test stage classifications and agreements entered into with partners.

#### Research and development costs capitalised versus expensed



■ Development Costs Capitalised ■ Development Costs Expensed

We obtained revenue and contribution forecast for the capitalised development project and closely examined management estimates included in the forecast with references to industry statistics and historic performance of the Group's other products. Net present value of the forecast contribution was also compared to the carrying value of the capitalised development costs.

**Key observations** Based on the audit procedures performed, we concur that management has appropriately applied the principles of IAS 38 and the internally generated intangible asset is recoverable.

#### Independent auditor's report to the members of Xaar plc continued

#### Risk description

#### Our response and observation

#### Acquisition fair value accounting

The Group acquired 100% of the issued share capital of Engineered Printing Solutions Inc (EPS) during the year for a total consideration of  $\Sigma$ 7.8 million.

The total fair value of the identifiable net assets acquired was £2.0 million, and goodwill recognised on this acquisition was £5.8m. No separately identifiable intangible asset has been recognised.

The identification and valuation of the separately identified assets and liabilities acquired, including separately identifiable intangible assets, requires significant judgement and estimation, primarily around identification of separately identifiable intangible assets excluding goodwill.

Details of the EPS acquisition are provided in the Strategic Review, on pages 1 to 29. Note 3 to the financial statements sets out the Group's accounting policy for business combinations and Note 35 to the financial statements outlines details of the acquisition and the key assumptions in determining fair value of the acquired intangible assets.

Note 2 to the financial statements provides details of the critical accounting judgements and page 42 provides the audit committee's discussion on the acquisition accounting.

How the scope of our audit responded to the risk We reviewed management's key judgements and estimates in identifying and valuing the assets and liabilities acquired to assess whether they are in line with the requirements of IFRS 3 "Business Combinations".

We challenged management on their intangible asset identification and performed procedures including analysis on historical customer trading patterns to assess whether there are any identifiable intangible assets requiring recognition on acquisition.

We audited the opening balance sheet of the acquired entity to evaluate whether the fair value of assets and liabilities acquired is appropriate.

We obtained cash flow forecasts prepared by management and challenged management estimates included in the forecast, such as future growth rates. The net present value of the forecast cash flow was compared to the carrying value of acquisition goodwill.

In conjunction with our valuation specialists we estimated an appropriate discount rate with reference to market data and compared that to the rate used by management.

**Key observations** Based on the audit procedures performed, we concur that management has appropriately applied the principles of IFRS 3, including identification and fair valuation of tangible and intangible assets on acquisition.

These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

#### Our application of materiality

We define materiality as the magnitude of misstatement in the financial statements that makes it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced. We use materiality both in planning the scope of our audit work and in evaluating the results of our work.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

### Group materiality

£1.3 million (2015: £1.0 million).

#### Basis for determining materiality

We considered both asset and profit bases in the determination of materiality.

Materiality equates to below 2% of net assets and 7.3% of pre-tax profit.

This is a change to our approach in 2015 when materiality was based on 5% of normalised pre-tax profit. The 2015 pre-tax profit has been normalised by excluding costs incurred in relation to the planned closure of the Group's manufacturing facility in Sweden. The planned closure of the Group's manufacturing facility in Sweden is not a recurring event and does not represent the underlying core business. There is no normalisation adjustment in the 2016 pre-tax profit for the purpose of our materiality determination.

#### Rationale for the benchmark applied

In addition to a profit-based metric, we incorporated a net asset measure in determining materiality to reflect the significant levels of capitalised research and development costs incurred in recent years.

We agreed with the Audit Committee that we would report to the Committee all audit differences in excess of £0.06 million (2015: £0.02 million), as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. The change in the reporting threshold has been made following our reassessment of what matters require communicating. We also report to the Audit Committee on disclosure matters that we identified when assessing the overall presentation of the financial statements.

An overview of the scope of our audit

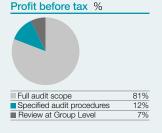
Our group audit was scoped by obtaining an understanding of the group and its environment, including group-wide controls, and assessing the risks of material misstatement at the group level.

Based on that assessment, we focused our Group audit scope primarily on the audit work at the UK headquarters in Cambridge. Two (2015: five) components were subject to a full scope audit by the Group audit team: Xaar plc and Xaar Jet Limited. Three (2015: three) components (Engineer Printing Solutions Inc., Xaar Jet (Overseas) Limited and Xaar Technology Limited) were subject to specified audit procedures where the extent of our testing was based on our assessment of the risks of material misstatement and of the materiality of the Group's operations at those components. Six (2015: one) components (Xaar Trustee Limited, Xaar America Inc., Xaar Group AB, Xaar Jet AB, Xaar US Holdings Inc. and Xaar ApS) were subject to a review at the Group level based on our assessment of the materiality of the Group's operations at those components. The same components were subject to full scope audit or specified audit procedures in 2015, with the exceptions of: addition of EPS which is a newly acquired component in 2016 which is subject to specified audit procedures, exclusion of XaarJet AB and Xaar Group AB which are the components for the manufacturing facility in Sweden that closed in 2016 (these were subject to full scope audit in 2015), Xaar Digital Limited and Xaar America Inc. All components where our Group audit was focussed were audited by the Group team.

The five components subject either to a full audit or specified audit procedures account for 93% (2015: 100%) of the Group's revenue, 93% (2015: 97%) of the Group's profit before tax and 96% (2015: 100%) of the Group's net assets. Our audit work for each component was executed at levels of materiality applicable to each individual component which were lower than Group materiality. The component materiality ranges between £0.7 million to £1.1 million (2015: £0.5 million to £0.9 million).

At the parent entity level we also tested the consolidation process and carried out analytical procedures to confirm our conclusion that there were no significant risks of material misstatement of the aggregated financial information of the remaining components not subject to audit or audit of specified account balances.







Opinion on other matters prescribed by the Companies Act 2006 In our opinion, based on the work undertaken in the course of the audit:

- the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006;
- 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 the Directors' Report have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified any material misstatements in the Strategic Report and the Directors' Report.

#### Matters on which we are required to report by exception

Adequacy of explanations received and accounting records

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not received all the information and explanations we require for our audit; or
- 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 are not in agreement with the accounting records and returns.

We have nothing to report in respect of these matters.

#### Independent auditor's report to the members of Xaar plc continued

**Financial Statements** 

### Directors' remuneration

Under the Companies Act 2006 we are also required to report if in our opinion certain disclosures of directors' remuneration have not been made or the part of the Directors' Remuneration Report to be audited is not in agreement with the accounting records and returns.

We have nothing to report arising from these matters.

# Corporate governance statement

Under the Listing Rules we are also required to review part of the Corporate Governance Statement relating to the company's compliance with certain provisions of the UK Corporate Governance Code.

We have nothing to report arising from our review.

#### Our duty to read other information in the Annual Report

Under International Standards on Auditing (UK and Ireland), we are required to report to you if, in our opinion, information in the annual report is:

- materially inconsistent with the information in the audited financial statements; or
- apparently materially incorrect based on, or materially inconsistent with, our knowledge of the group acquired in the course of performing our audit; or
- otherwise misleading.

In particular, we are required to consider whether we have identified any inconsistencies between our knowledge acquired during the audit and the directors' statement that they consider the annual report is fair, balanced and understandable and whether the annual report appropriately discloses those matters that we communicated to the audit committee which we consider should have been disclosed.

We confirm that we have not identified any such inconsistencies or misleading statements.

# Respective responsibilities of Directors and auditor

As explained more fully in the Directors' Responsibilities Statement, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). We also comply with International Standard on Quality Control 1 (UK and Ireland). Our audit methodology and tools aim to ensure that our quality control procedures are effective, understood and applied. Our quality controls and systems include our dedicated professional standards review team and independent partner reviews.

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.

#### Scope of the audit of the financial statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the group's and the parent company's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the directors; and the overall presentation of the financial statements. In addition, we read all the financial and non-financial information in the annual report to identify material inconsistencies with the audited financial statements and to identify any information that is apparently materially incorrect based on, or materially inconsistent with, the knowledge acquired by us in the course of performing the audit. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

#### Paul Schofield FCA (Senior Statutory Auditor)

For and on behalf of Deloitte LLP Chartered Accountants and Statutory Auditor Cambridge, United Kingdom

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# Consolidated income statement for the year ended 31 December 2016

	Notes	2016 £'000	2015 £'000
Revenue	5	96,178	93,472
Cost of sales		(51,511)	(48,782)
Gross profit		44,667	44,690
Research and development expenses		(12,211)	(11,548)
Research and development expenditure credit		605	818
Sales and marketing expenses		(7,608)	(5,440)
General and administrative expenses		(6,844)	(9,254)
Restructuring and acquisition expenses		(1,205)	(6,120)
Operating profit		17,404	13,146
Investment income	9	449	426
Profit before tax		17,853	13,572
Tax	10	(3,052)	(1,043)
Profit for the year attributable to shareholders	7	14,801	12,529
Earnings per share			
Basic	12	19.4p	16.6p
Diluted	12	18.9p	16.1p

Dividends paid in the year amounted to £7,328,000 (2015: £6,925,000). Further disclosures are given in note 11.

All activities relate to continuing operations.

# Consolidated statement of comprehensive income for the year ended 31 December 2016

	Notes	2016 £'000	2015 £'000
Profit for the year attributable to shareholders		14,801	12,529
Items that may be reclassified subsequently to profit or loss:			
Exchange differences on retranslation of net investment	28	708	(27)
Tax Benefit on share option and restructuring gains	10	434	_
Other comprehensive income for the year		1,142	(27)
Total comprehensive income for the year		15,943	12,502

# Consolidated statement of financial position as at 31 December 2016

	Notes	2016 £'000	2015 £'000
Non-current assets		2 000	
Goodwill	13	5,776	_
Other intangible assets	14	27,363	17,795
Property, plant and equipment	15	36,352	31,255
Receivables	19	1,516	-
		71,007	49,050
Current assets		·	
Investments	17	1,000	1,000
Inventories	18	13,790	13,458
Trade and other receivables	19	20,340	11,947
Current tax asset	19	3,029	2,805
Treasury deposits	19	_	27,098
Cash and cash equivalents	19	49,321	42,649
		87,480	98,957
Total assets		158,487	148,007
Current liabilities			
Trade and other payables	22	(14,314)	(12,405)
Other financial liabilities	23	(69)	(68)
Provisions	24	(774)	(3,533)
		(15,157)	(16,006)
Net current assets		72,323	82,951
Non-current liabilities			
Deferred tax liabilities	21	(2,686)	(1,222)
Other financial liabilities	23	(188)	(241)
Total non-current liabilities		(2,874)	(1,463)
Total liabilities		(18,031)	(17,469)
Net assets		140,456	130,538
Equity			
Share capital	25	7,778	7,764
Share premium	26	27,854	27,585
Own shares	27	(3,642)	(3,796)
Other reserves	29	11,891	11,006
Translation reserve	28	807	99
Retained earnings	29	95,768	87,880
Equity attributable to shareholders		140,456	130,538
Total equity		140,456	130,538

The financial statements of Xaar plc, registered number 3320972, were approved by the Board of Directors and authorised for issue on 22 March 2017.

They were signed on its behalf by:

D. Cdesards

**Doug Edwards**Chief Executive Officer

**Alex Bevis** 

Chief Financial Officer and Company Secretary

#### 79 Xaar plc Annual Report and Financial Statements 2016

# Consolidated statement of changes in equity for the year ended 31 December 2016

	Notes	Share capital £'000	Share premium £'000	Own shares £'000	Other reserves £'000	Translation reserve £'000	Retained earnings £'000	Total £'000
Balance at 1 January 2015		7,664	26,345	(3,796)	9,716	126	82,105	122,160
Profit for the year		_	_	-	_	-	12,529	12,529
Exchange differences on retranslation of net investment		_	-	-	_	(27)	_	(27)
Total comprehensive income for the period		_	_	_	_	(27)	12,529	12,502
Issue of share capital		100	1,240	_	_	_	(40)	1,300
Dividends	11	_	_	_	_	_	(6,925)	(6,925)
Tax on share option gains		_	_	_	_	_	211	211
Credit to equity for equity-settled share-based payments		_	-	_	1,290	_	_	1,290
Balance at 1 January 2016		7,764	27,585	(3,796)	11,006	99	87,880	130,538
Profit for the year		_	_	_	_	_	14,801	14,801
Tax on items taken directly to equity		-	-	-	-	_	434	434
Exchange differences on retranslation of net investment		-	-	-	-	708	-	708
Total comprehensive income for the period		-	-	-	-	708	15,235	15,943
Issue of share capital		14	269	_	_	_	(2)	281
Dividends	11	_	_	_	_	_	(7,328)	(7,328)
Credit to equity for equity-settled							, , ,	, , ,
share-based payments		-	-	154	885	-	(17)	1,022
Balance at 31 December 2016		7,778	27,854	(3,642)	11,891	807	95,768	140,456

# Consolidated cash flow statement for the year ended 31 December 2016

	Notes	2016 £'000	2015 £'000
Net cash from operating activities	30	13,935	40,384
Investing activities			
Investment income		471	531
Acquisition of subsidiary, net of cash acquired		(7,556)	-
Purchases of property, plant and equipment		(10,831)	(3,764)
Proceeds on disposal of property, plant and equipment		16	46
Expenditure on software		(85)	(187)
Expenditure on capitalised product development		(10,222)	(8,365)
Net cash used in investing activities		(28,207)	(11,739)
Financing activities			
Dividends paid		(7,328)	(6,925)
Treasury amounts withdrawn/(deposited)		27,098	(6,098)
Proceeds from the sale of ordinary share capital		137	_
Proceeds from issue of ordinary share capital		282	1,300
Net cash from/(used in) financing activities		20,189	(11,723)
Net increase in cash and cash equivalents		5,917	16,922
Effect of foreign exchange rate changes on cash balances		755	(236)
Cash and cash equivalents at beginning of year		42,649	25,963
Cash and cash equivalents at end of year		49,321	42,649

Cash and cash equivalents (which are presented as a single class of asset on the face of the consolidated statement of financial position) comprise cash at bank and other short term highly liquid investments with a maturity of three months or less. The carrying amount of these assets is approximately equal to their fair value.

#### Notes to the consolidated financial statements for the year ended 31 December 2016

#### 1. General information

Xaar plc ('the Company') is incorporated in England and Wales under the Companies Act 2006. The address of the registered office is given on the inside back cover. The nature of the Group's operations and its principal activity is set out in the Strategic Report starting on page 6.

#### 2. Key sources of estimation uncertainty and critical accounting judgements

The key assumptions concerning the future and other sources of estimation uncertainty at the balance sheet date that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are as follows:

#### Asset valuations (estimation uncertainty)

Throughout the year, management considers the carrying value of both receivables and inventory balances. Provisions against both balances are made on the basis of past losses, current trading patterns and anticipated future events.

#### Provisions (estimation uncertainty)

Management regularly consider the potential liabilities which may arise from product warranty claims, commercial disputes, restructuring or other activities which may result in future losses or charges. Management create and maintain appropriate financial provisions based on specific known issues and underlying historical experience.

#### Impairment of goodwill (accounting judgement)

The Group determines whether goodwill is impaired at least on an annual basis. This requires an estimation of the 'value-in-use' of the cash-generating units to which the goodwill is allocated. Estimating a value-in-use amount requires management to make an estimate of the expected future cash flows from the cash-generating unit and also to choose a suitable discount rate in order to calculate the present value of those cash flows. The carrying amount of goodwill at 31 December 2016 was £5,776,000 (2015: £nil). Further details are given in note 13.

#### Capitalisation of development costs (accounting judgement)

As described in note 3, the Group capitalises development expenditure as an intangible assets where the criteria under IAS 38 'Intangible assets' is met. In 2016, development expenditure incurred relating to Platform 4 was capitalised, amounting to £10,222,000 (2015: £8,365,000).

#### Statement on sensitivity to valuation methods (accounting judgement)

In modelling the Fair Value determination of Loans and Receivables, the Going Concern and Viability Statement, the Group's Weighted Average Cost of Capital was utilised (WACC). The overall WACC for 2016 was 5.42% (2015: 8.25%) with the significant reduction during the year being driven by a 33% reduction in the share price volatility Beta calculation and reductions in both Equity and the Risk-free return rates. This has reduced the impact of sensitivity analysis on computations involving Fair Value estimates. The impact of the Fair Value estimates on acquired Receivables was £38,000 (see note 35).

#### 3. Significant accounting policies

#### Basis of accounting

The financial statements have been prepared in accordance with International Financial Reporting Standards ('IFRS'), as adopted for use in the European Union. Therefore the Group financial statements have been prepared in accordance with Article 4 of the EU IAS regulation.

The financial information has been prepared on the basis of all applicable IFRS, including all International Accounting Standards ('IAS'), Standing Interpretations Committee ('SIC') interpretations and International Financial Reporting Interpretations Committee ('IFRIC') interpretations issued by the International Accounting Standards Board ('IASB') that are applicable to the financial period, as adopted by the European Union.

The financial statements have been prepared on the historical cost basis, except for the revaluation of financial instruments. The Group financial statements are presented in Sterling and all values are rounded to the nearest thousand pounds (£'000) except when otherwise indicated.

The principal accounting policies adopted are set out below.

#### Basis of consolidation

The consolidated financial statements incorporate the financial statements of the Company and entities controlled by the Company ('its subsidiaries') made up to 31 December each year. Control is achieved where the Company has the power to govern the financial and operating policies of an investee entity so as to obtain benefits from its activities.

The results of subsidiaries acquired or disposed of during the year are included in the consolidated income statement from the effective date of acquisition or up to the effective date of disposal, as appropriate. Where necessary, adjustments are made to the financial statements of subsidiaries to bring the accounting policies used in line with those used by the Group.

All intra-group transactions, balances, income and expenses are eliminated on consolidation. Foreign exchange gains and losses arising on the retranslation of trading balances with subsidiaries with different functional currencies are reported in the income statement.

### Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 3. Significant accounting policies continued

#### Going concern

The Group's business activities, together with the factors likely to affect its future development, performance and position, are set out in the Strategic Report. Notes 19, 20 and 23 include a description of the Group's objectives; policies and processes for managing its capital; its financial risk management objectives; details of its financial instruments and hedging activities; and its exposure to credit risk and liquidity risk.

The Group has considerable financial resources and through a diverse customer base is exposed not only to the Western economies but also China, India and Latin America. As a consequence, the Directors believe that the Group is well placed to manage its business risks successfully despite the current uncertain economic outlook.

After making enquiries, the Directors have a reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future, based on the Group's forecasts and projections for the next four years, taking account of reasonably possible changes in trading performance. For this reason, we continue to adopt the going concern basis in preparing the financial statements.

#### **Business combinations**

The acquisition of subsidiaries is accounted for using the acquisition method.

Goodwill arising on acquisition is recognised as an asset and initially measured at cost, being the excess of the cost of the business combination over the Group's interest in the net fair value of the identifiable assets, liabilities and contingent liabilities recognised. If, after reassessment, the Group's interest in the net fair value of the acquiree's identifiable assets, liabilities and contingent liabilities exceeds the cost of the business combination, the excess is recognised immediately in the income statement.

#### Goodwill

Goodwill arising on consolidation is initially recognised as an asset at cost and is subsequently measured at cost less any accumulated impairment losses. Goodwill which is recognised as an asset is reviewed for impairment at least annually. Any impairment is recognised immediately in the income statement and is not subsequently reversed.

For the purposes of impairment testing, goodwill is allocated to each of the Group's cash-generating units expected to benefit from the synergies of the combination. Cash-generating units to which goodwill has been allocated are tested for impairment annually, or more frequently when there is an indication that the unit may be impaired. If the recoverable amount of the cash-generating unit is less than the carrying amount of the unit, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit pro rata on the basis of the carrying amount of each asset in the unit. An impairment loss recognised for goodwill is not reversed in a subsequent period.

On disposal of the cash-generating unit, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

Goodwill arising on acquisitions before the date of transition to IFRS has been retained at the previous UK GAAP amounts subject to being tested for impairment at that date. Goodwill written off to reserves under UK GAAP prior to 1998 has not been reinstated and is not included in determining any subsequent profit or loss on disposal.

#### Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable and represents amounts receivable for goods and services provided in the normal course of business, net of discounts, VAT and other sales related taxes, but gross of any tax withheld.

Sales of goods are recognised when all of the following conditions are satisfied:

- The Company has transferred to the buyer the significant risks and rewards of ownership of the goods
- The Company retains neither a continuing managerial involvement to the degree normally associated with ownership, nor effective control over goods sold
- The amount of revenue can be measured reliably
- . It is probable that the economic benefits associated with the transaction will flow to the entity
- The costs incurred, or to be incurred, in respect of the transaction can be measured reliably.

For sales of goods to a distributor with consignment stock arrangements, revenue is recognised at the point of sale by the distributor which is when the risks and rewards of ownership of inventory have transferred. For sales of goods to distributors with standard credit terms, revenue is recognised at point of shipment.

Development fees gained from joint development agreements are treated as income over the periods necessary to match them with the related costs.

Funding received for internally generated intangible assets is recognised on a straight-line basis to match the amortisation period of the related intangible fixed asset.

Royalties are recognised on an accruals basis in accordance with the actual revenue trend in the most recent quarterly statements received from each licensee.

#### 3. Significant accounting policies continued

#### Revenue recognition continued

Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount.

Printheads are sold to certain customers with volume discounts. Revenue from these sales is recorded based on the contracted price less the estimated volume discount based on the anticipated volume of sales.

#### Leases

Rentals payable under operating leases are charged to income on a straight-line basis over the term of the relevant lease, except where another more systematic basis is more representative of the time pattern in which the economic benefits from the lease asset are consumed. Contingent rentals arising under operating leases are recognised as an expense in the period in which they are incurred.

In the event that lease incentives are received to enter into operating leases, such incentives are recognised as a liability. The aggregate benefit of incentives is recognised as a reduction of rental expense on a straight-line basis, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

#### Foreign currencies

The individual financial statements of each Group company are presented in the currency of the primary economic environment in which it operates (its functional currency). For the purpose of the consolidated financial statements, the results and financial position of each Group company are expressed in Sterling, which is the functional currency of the Company and the presentation currency for the consolidated financial statements.

Exchange differences arising on the settlement of monetary assets and liabilities, and on the retranslation of monetary assets and liabilities, are included in the income statement for the period.

In order to hedge its exposure to certain foreign exchange risks, the Group may enter into forward contracts (see page 80 for details of the Group's accounting policies in respect of such derivative financial instruments).

For the purposes of presenting consolidated financial statements, the assets and liabilities of the Group's foreign operations are translated at the exchange rates prevailing on the balance sheet date. Income and expense items are translated at the average exchange rates for the period.

Exchange differences arising are recognised in other comprehensive income and taken to the translation reserve. Exchange differences on the translation of net investments are taken to the translation reserve of the applicable entity.

Goodwill and fair value adjustments arising on the acquisition of a foreign entity are treated as assets and liabilities of the foreign entity and translated at the closing rate. The Group has elected to treat goodwill and fair value adjustments arising on acquisitions before the date of transition to IFRS as Sterling denominated assets and liabilities.

#### Government and EU grants

Government and EU grants are not recognised until there is reasonable assurance that the Group will comply with the conditions attached to them and that the grant will be received.

Government and EU grants relating to research and development are treated as income over the periods necessary to match them with the related costs.

#### Operating profit

Operating profit is stated after charging restructuring costs but before investment income and finance costs.

#### Retirement benefit costs

Payments to defined contribution retirement benefit schemes are charged as an expense as they fall due. Payments made to state managed retirement benefit schemes are dealt with as payments to defined contribution schemes where the Group's obligations under the schemes are equivalent to those arising in a defined contribution retirement benefit scheme.

#### Taxation

The tax expense represents the sum of the tax currently payable and deferred tax, including UK corporation tax and foreign tax.

The tax currently payable is based on taxable profit for the year. Taxable profit differs from net profit as reported in the income statement because it excludes items of income or expense that are taxable or deductible in other years and it further excludes items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the financial statements and the corresponding tax bases used in the computation of taxable profit and is accounted for using the balance sheet liability method. Deferred tax liabilities are generally recognised for all taxable temporary differences and deferred tax assets are recognised to the extent that it is probable that taxable profits will be available against which deductible temporary differences can be utilised. Such assets and liabilities are not recognised if the temporary difference arises from the initial recognition of goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the tax profit nor the accounting profit.

### Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 3. Significant accounting policies continued

#### Taxation continued

Deferred tax liabilities are recognised for taxable temporary differences arising on investments in subsidiaries, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax is calculated at the tax rates that are expected to apply in the period when the liability is settled or the asset is realised. Deferred tax is charged or credited in the income statement, except when it relates to items charged or credited directly to equity, in which case the deferred tax is also dealt with in equity.

To the extent that the Group receives a tax deduction relating to share-based payment transactions, deferred tax is provided at the appropriate tax rate on the difference in value between the market price of the underlying equity as at the date of the financial statements and the exercise price of the outstanding share options. As a result, the deferred tax impact of share options will not be derived directly from the expense reported in the consolidated income statement. The amount by which the deductible difference exceeds the cumulative charge to the consolidated income statement is recorded in the consolidated statement of comprehensive income.

Deferred tax assets and liabilities are measured on an undiscounted basis and are offset when there is a legally enforceable right to set off current tax assets against current tax liabilities and when they relate to income taxes levied by the same taxation authority and the Group intends to settle its current tax assets and liabilities on a net basis.

#### Property, plant and equipment

All property, plant and equipment is shown at original historical cost less accumulated depreciation and any recognised impairment loss.

Assets in the course of construction for production or administrative purposes are carried at cost, less any recognised impairment loss. Depreciation of these assets, on the same basis as other assets in the same class, commences when the assets are ready for their intended use.

Depreciation is charged so as to write off the cost or valuation of assets, less their residual values, other than assets in the course of construction, over their estimated useful lives, using the straight-line method, on the following bases:

Leasehold property improvements Ten years or, where shorter, over the term of the relevant lease

Plant and machinery Three to ten years
Furniture, fittings and equipment Three to five years

Assets held under finance leases are depreciated over their expected useful lives on the same basis as owned assets or, where shorter, over the term of the relevant lease.

The gain or loss arising on the disposal of an asset is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognised in income.

#### Internally generated intangible assets - research and development expenditure

Expenditure on research activities is recognised as an expense in the period in which it is incurred.

In accordance with IAS 38 'Intangible assets' where a project has entered the development phase and is sufficiently self-contained that the expected future economic benefits can be traced directly to the assets developed within the project, it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity, and the cost of the asset can be measured reliably, the development costs related to the project will be capitalised as an intangible asset.

Internally generated intangible assets are amortised on a straight-line basis over their useful lives. Where no internally generated intangible asset can be recognised, development expenditure is recognised as an expense in the period in which it is incurred.

#### Other intangible assets

Costs incurred in maintaining the patent and trademark portfolio are written off to the income statement as incurred.

Payments in respect of software, external product development costs and licence rights acquired are capitalised at cost and amortised on a straight-line basis over their estimated useful lives.

#### 3. Significant accounting policies continued

#### Impairment of tangible and intangible assets excluding goodwill

At each balance sheet date, the Group reviews the carrying amounts of its tangible and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). Where the asset does not generate cash flows that are independent from other assets, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs.

Recoverable amount is the higher of fair value less costs to sell and value-in-use. In assessing value-in-use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (cash-generating unit) is reduced to its recoverable amount. An impairment loss is recognised as an expense immediately.

Where an impairment loss is subsequently reversed, the carrying amount of the asset (or cash-generating unit) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset (or cash-generating unit) in prior years. A reversal of an impairment loss is recognised as income immediately.

#### Inventories

Inventories are stated at the lower of cost and net realisable value. Cost is calculated using the first in, first out (FIFO) cost formula, by applying the standard cost methodology, with costs including direct materials, direct labour costs and an attributable proportion of manufacturing overheads based on normal levels of activity that have been incurred in bringing the inventories to their present location and condition. Net realisable value represents the estimated selling price less all estimated costs of completion and costs to be incurred in marketing, selling and distribution. Provision is made for obsolete, slow-moving or defective items where applicable.

#### Financial instruments

Financial assets and financial liabilities are recognised on the Group's balance sheet when the Group becomes a party to the contractual provisions of the instrument.

#### Trade receivables

Trade receivables are measured at initial recognition at fair value. Appropriate allowances for estimated irrecoverable amounts are recognised in profit or loss when there is objective evidence that the asset is impaired. The allowance recognised is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the effective interest rate computed at initial recognition.

#### Investments

Investments are recognised and derecognised on a trade date where a purchase or sale of an investment is under a contract whose terms require delivery of the investment within the time frame established by the market concerned and are initially measured at fair value, equating to cost, including transaction costs. Investments are classified as available for sale, and on the basis that the investments have no active market and their fair values cannot be reliably determined using valuation techniques, the investments are carried at cost.

If there is objective evidence that an impairment loss on an unquoted equity investment that is not carried at fair value because its fair value cannot be reliably measured, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the current market rate of return for a similar financial asset.

Bonds with fixed or determinable payments and fixed maturity dates that the Group has the positive intent and ability to hold to maturity are classified as held-to-maturity investments. Held-to-maturity investments are measured at amortised cost using effective interest method less any impairment.

#### Cash and cash equivalents

Cash and cash equivalents comprise cash on hand and demand deposits and other short term highly liquid investments that are readily convertible to a known amount of cash within a period of up to three months post balance sheet and are subject to an insignificant risk of changes in value.

#### Treasury deposits

Treasury deposits comprise demand deposits that are convertible to a known amount of cash with an original maturity of between three months and twelve months and are subject to an insignificant risk of changes in value.

#### Financial liabilities and equity

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 Group after deducting all of its liabilities. The accounting policies adopted for specific financial liabilities and equity instruments are set out within the policy on derivative financial instruments and hedge accounting on page 86.

### Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 3. Significant accounting policies continued

#### Interest-bearing loans and borrowings

Interest-bearing loans and bank overdrafts are measured initially at fair value, net of direct issue costs. Finance charges, including premiums payable on settlement or redemption and direct issue costs, are accounted for on an accrual basis in the income statement using the effective interest rate method and are added to the carrying amount of the instrument to the extent that they are not settled in the period in which they arise.

#### Trade payables

Trade payables are measured at original cost.

#### **Equity instruments**

Equity instruments issued by the Company are recorded as the proceeds received, net of direct issue costs.

#### Derivative financial instruments and hedge accounting

The Group's activities expose it primarily to the financial risks of changes in foreign currency exchange rates and interest rates and liquidity risk.

The Group uses derivative financial instruments (primarily foreign currency forward contracts) to hedge its risks associated with foreign currency fluctuations relating to certain firm commitments and forecast transactions.

The Group's interest rate risk arises mainly from its funds invested in short term bank deposits. To mitigate these risks, limits have been set by the Board in relation to maturity period and maximum deposits with any one institution.

In order to mitigate the Group's liquidity risks, the Group can choose to fund significant fixed asset purchases by finance leases repayable over a period of three to five years dependent on the individual asset being financed and interest-bearing loans.

The use of financial derivatives is governed by the Group's policies approved by the Board of Directors, which provides written principles on the use of financial derivatives consistent with the Group's risk management strategy. The Group does not use derivative financial instruments for speculative purposes.

Derivative financial instruments are initially measured at fair value on the contract date and are remeasured to fair value at subsequent reporting dates.

Changes in the fair value of derivative financial instruments that are designated as hedges of future cash flows and deemed to be effective are recognised directly in equity and the ineffective portion is recognised immediately in the income statement. If the cash flow hedge of a firm commitment or forecast transaction results in the recognition of an asset or a liability, then, at the time the asset or liability is recognised, the associated gains or losses on the derivative that had previously been recognised in equity are included in the initial measurement of the asset or liability. For hedges that do not result in the recognition of an asset or a liability, amounts deferred in equity are recognised in the income statement in the same period in which the hedged item affects net profit or loss. However, when the forecast transaction that is hedged results in the recognition of a non-financial asset or non-financial liability, the gains and losses previously accumulated in equity are transferred from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability.

Changes in fair value of derivative financial instruments that do not qualify for hedge accounting are recognised in the income statement as they arise.

Hedge accounting is discontinued when the hedging instrument expires or is sold, terminated, exercised, or no longer qualifies for hedge accounting. At that time, any cumulative gain or loss on the hedging instrument recognised in equity is retained in equity until the forecast transaction occurs. If a hedged transaction is no longer expected to occur, the net cumulative gain or loss recognised in equity is transferred to net profit or loss for the period.

Derivatives embedded in other financial instruments or other host contracts are treated as separate derivatives when their risks and characteristics are not closely related to those of host contracts and the host contracts are not carried at fair value, with gains or losses reported in the income statement.

#### **Provisions**

Provisions are recognised when the Group has a present obligation as a result of a past event and it is probable that the Group will be required to settle that obligation. Provisions are measured at the Directors' best estimate of the expenditure required to settle the obligation at the balance sheet date and are discounted where the effect of the time value of money is material.

A restructuring provision is recognised when the Group has developed a detailed formal plan for the restructuring and has raised a valid expectation in those affected that it will carry out the restructuring by starting to implement the plan or announcing its main features to those affected by it, and the plan has reached a stage where the decision is unlikely to be reversed. The measurement of a restructuring provision includes only the direct expenditures arising from the restructuring, which are those amounts that are both necessarily entailed by the restructuring and not associated with the ongoing activities of the entity.

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#### 3. Significant accounting policies continued

#### **Provisions** continued

Provisions for the expected cost of warranty obligations under local sale of goods legislation are recognised in the month of sale of the relevant products, at the Directors' best estimate of the expenditure required to settle the Group's obligation.

#### Share-based payments

The Group has applied the requirements of IFRS 2 'Share-based payment'. In accordance with the transitional provisions, IFRS 2 has been applied to all grants of equity instruments after 7 November 2002 that were unvested at 1 January 2005.

The Group issues equity-settled share-based payments to certain employees. These payments are measured at fair value (excluding the effect of non-market based vesting conditions) at the date of grant. The fair value determined at the grant date of the equity-settled share-based payments is expensed on a straight-line basis over the vesting period, based on the Group's estimate of the shares that will eventually vest and adjusted for the effect of non-market based vesting conditions.

The fair value of options issued under the Group's Long Term Incentive Plan is measured using a stochastic (Monte Carlo binomial) model for grants made between 2007 and 2009 inclusive. The fair value of all other equity-settled share-based payments is measured using the Black-Scholes pricing model. The expected life used in these models has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions and behavioural considerations.

SAYE share options granted to employees are treated as cancelled when employees cease to contribute to the scheme. This results in accelerated recognition of the expenses that would have arisen over the remainder of the original vesting period.

#### Own shares

Own shares are deducted from equity. No gain or loss is recognised in the income statement on the purchase, sale, issue or cancellation of the Group's own shares.

#### New standards and interpretations

At the date of authorisation of these financial statements, the following Standards and Interpretations which have not been applied in these financial statements were in issue but not yet effective (and in some cases had not yet been adopted by the EU):

IFRS 9 Financial Instruments

IFRS 15 Revenue from Contracts with Customers

IFRS 16 Leases

IAS 7 (amendments) Disclosure Initiative

IAS 12 (amendments) Recognition of Deferred Tax Assets for Unrealised Losses
IFRS 2 Classification and measurement of Share-based Payment Transactions

IFRIC Interpretation 22 Foreign Currency Transactions and Advance Consideration

Annual Improvements to IFRSs (amendments)

The Directors do not expect that the adoption of the standards listed above will have a material impact on the financial statements of the Group in future periods, except as noted below:

- IFRS 15 may have an impact on revenue recognition and related disclosures
- IFRS 16 will have a material impact on the reported assets, liabilities, income statement and cash flows of the Group. Certain substantial disclosures will be required by IFRS 16, that is not currently required.

Beyond the information above, it is not practical or expedient to provide a reasonable estimate of the effect of these standards until a detailed review has been completed and until there is more certainty on the adoption of IFRS 16 by the European Union.

### Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 4. Reconciliation of adjusted financial measures

	2016 £'000	2015 £'000
Profit before tax	17,853	13,572
Share-based payment charges Exchange differences on intra-group transactions Restructuring and acquisition expenses Research and development expenditure credit	969 60 1,205 (605)	1,498 447 6,120 (818)
Adjusted profit before tax	19,482	20,819
Capitalised research and development expense	(10,222)	(8,365)
Adjusted profit before tax excluding the impact of IAS 38	9,260	12,454

Share-based payment charges include the IFRS 2 charge for the period of £887,000, per note 32 (2015: £1,290,000) and the charge relating to National Insurance on the outstanding potential share option of £82,000 (2015: charge of £208,000). These costs were included in the general and administrative expenses in the Consolidated income statement.

Exchange differences relating to the United States and Swedish operations represent exchange gains or losses recorded in the consolidated income statement as a result of operating in the USA and Sweden. These costs were included in the general and administrative expenses in the Consolidated income statement.

Restructuring and acquisition expenses of £1,205,000 (2015: £6,120,000) relate to costs incurred and provisions made in relation to a reorganisation and the planned closure of the manufacturing facility in Sweden in 2016 and include acquisition expenses and earn-out provisions for the acquisition of EPS.

The research and development expenditure credit relates to the corporation tax relief receivable relating to qualifying research and development expenditure. This item is shown on the face of the income statement.

Adjusted profit before tax excluding the impact of IAS 38 (capitalisation of development costs) is the measure that is used internally for setting and comparing achievement of the annual bonus target.

	2016 Pence per share	2015 Pence per share
Diluted earnings per share	18.9p	16.1p
Share-based payment charges	1.2p	1.9p
Exchange differences relating to the Swedish operations	0.2p	0.6p
Restructuring and acquisition expenses	1.5p	7.9p
Tax effect of adjusting items	(0.6p)	(2.0p)
Adjusted diluted earnings per share	21.2p	24.5p

This reconciliation is provided to enable a better understanding of the Group's results.

#### 5. Revenue

An analysis of the Group's revenue is as follows:

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Note	2016 £'000	2015 £'000
Product sales, commissions and fees Royalties	82,863 13,315	87,271 6,201
Investment income 9	96,178 449	93,472 426
	96,627	93,898

Royalty revenue includes a one-time contractual payment which took place in H1 2016 and was disclosed as part of the interim results issued to 30 June 2016. A second royalty audit settlement was received in H2 2016 and is included in the above amount.

#### 6. Business and geographical segments

Products and services from which reportable segments derive their revenues.

For management reporting purposes, the Group's operations are currently analysed according to the two operating segments of 'product sales, commissions and fees' and 'royalties'. These two operating segments are the basis on which the Group reports its primary segment information and on which decisions are made by the Group's Chief Executive Officer and Board of Directors, and resources allocated. The Group's chief operating decision maker is the Chief Executive Officer.

Segment information is presented below:

Year ended 31 December 2016	Product sales, commissions and fees £'000	Royalties £'000	Unallocated £'000	Consolidated £'000
Revenue				
Total segment revenue	82,863	13,315	-	96,178
Result				
Adjusted profit before tax	5,718	13,315	449	19,482
Share-based payment charges	-	_	(969)	(969)
Exchange differences relating to the Swedish operations	(60)	_	-	(60)
Restructuring costs	(1,205)	_	-	(1,205)
Research and development expenditure credit	605	-	-	605
Profit/(loss) before tax	5,058	13,315	(520)	17,853

Investment income is not allocated to reportable segments for the purposes of reporting to the Group's Chief Executive Officer and Board of Directors.

Share-based payment charges include the IFRS 2 charge for the period and the charge relating to National Insurance on the outstanding potential share option gains.

Year ended 31 December 2015	Product sales, commissions and fees £'000	Royalties £'000	Unallocated £'000	Consolidated £'000
Revenue				
Total segment revenue	87,271	6,201	_	93,472
Result				
Adjusted profit before tax	14,192	6,201	426	20,819
Share-based payment charges	-	_	(1,498)	(1,498)
Exchange differences relating to the Swedish operations	(447)	_	_	(447)
Restructuring costs	(6,120)	_	_	(6,120)
Research and development expenditure credit	818	-	-	818
Profit/(loss) before tax	8,443	6,201	(1,072)	13,572

### Notes to the consolidated financial statements continued for the year ended 31 December 2016

### 6. Business and geographical segments continued

#### Segment assets

Total assets	158,487	148,007
Cash and cash equivalents	49,321	42,649
Treasury deposits	-	27,098
Investments	1,000	1,000
Total segment assets	108,166	77,260
Royalties	1,562	1,358
Product sales, commissions and fees	106,604	75,902
	2016 £'000	2015 £'000

Assets are allocated to the segment which has responsibility for their control.

No information is provided for segment liabilities as this measure is not provided to the chief operating decision maker.

Other segment information					
Year ended 31 December 2016	Notes	Product sales, commissions and fees £'000	Royalties £'000	Unallocated £'000	Consolidated £'000
Depreciation and amortisation	14, 15	8,638	-	-	8,638
Share-based payment charges		<del>-</del>	_	969	969
Capital expenditure	14, 15	23,148	_	_	23,148
Year ended 31 December 2015	Notes	Product sales, commissions and fees £'000	Royalties £'000	Unallocated £'000	Consolidated £'000
Depreciation and amortisation	14, 15	10,981	-	-	10,981
Share-based payment charges		_	_	1,498	1,498
Capital expenditure	14, 15	11,674	-	-	11,674
Revenues from major products and services					
				2016 £'000	2015 £'000
Product sales, commissions and fees				82,863	87,271
Royalties				13,315	6,201
Consolidated revenue (excluding investment income)				96,178	93,472

#### 6. Business and geographical segments continued

#### Geographical information

The Group operates in three principal geographical areas: EMEA, Asia and the Americas. Revenues are attributed to geographical areas on the basis of the customers' operating location. The Group's revenue from external customers and information about its segments (non-current assets excluding deferred tax assets and other financial assets) by geographical location is detailed below:

	Revenue from external customers	
	2016 £'000	2015 £'000
EMEA	41,653	47,113
Asia		
- China	20,928	31,346
– Japan	14,091	6,611
- Other	1,385	1,935
The Americas (including USA)	18,121	6,467
	96,178	93,472

Non-current assets, being property, plant and equipment, goodwill, other intangible assets, investments, receivables and the deferred tax asset, are attributed to the location where they are situated.

		Non-current assets	
	2016 £'000	2015 £'000	
EMEA	68,257	48,994	
Asia	27	50	
The Americas (including USA)	2,723	6	
	71,007	49,050	

#### Information about major customers

Included in revenues arising from product sales, commissions and fees are revenues of approximately £8.2 million (9% of revenues) (2015: £9.1 million, 10% of revenues) which arose from sales to the Group's largest customer. In the year ended 31 December 2016 revenues of approximately £6.8 million (8% of revenues) (2015: £7.8 million, 10% of revenues) were included in the product sales, commissions and fees which arose from sales to the Group's second largest customer. In 2016, the largest customer was the only customer to exceed 9% of revenue in the period (2015: the largest customer exceeded 10% of revenue in the period). Revenue from the top five customers represents 40% of revenues (2015: 41%).

#### 7. Profit for the year

Profit for the year has been arrived at after charging/(crediting):

	2016 £'000	2015 £'000
Research and development expenses (net of capitalised development costs)*	12,211	11,548
Grants towards research and development including the research and development expenditure credit	(605)	(878)
Depreciation of property, plant and equipment	7,851	10,147
Amortisation capitalised development costs (included in research and development expenses)	492	493
Amortisation software (included in general and administrative expenses)	295	341
(Profit)/loss on disposal of property, plant and equipment	(3)	75
Cost of inventories recognised as expense	51,511	48,782
Impairment of other financial assets	138	(90)
Total fees payable to the Company's auditor and its associates	180	165

<sup>\*</sup>Total spend on research and development in 2016, including capitalised development costs included in note 14, was £22,433,000 (2015: £19,913,000).

# Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 7. Profit for the year continued

#### **Auditor's Remuneration**

	2016 £'000	2015 £'000
Fees payable to the Company's auditor for the audit of the Company's annual accounts	22	22
Fees payable to the Company's auditor and its associates for other services to the Group		
- The audit of the Company's subsidiaries	104	107
Total audit fees	126	129
- Interim review	25	25
- Taxation compliance services	9	5
- Recruitment and remuneration services	12	1
- Audit advisory	_	_
- Other services	8	5
Total non-audit fees	54	36
Total fees payable to the Company's auditor and its associates	180	165

The Audit Committee has considered the independence of the auditor in relation to non-audit services throughout the year. A description of the work of the Audit Committee is set out in the Corporate governance statement on pages 42 to 43 and includes an explanation of how the auditor's objectivity and independence is safeguarded when non-audit services are provided by the auditor.

#### 8. Staff costs

The average monthly number of persons employed by the Group including Executive Directors was as follows:

	2016 Number	2015 Number
Research and development	127	130
Sales and marketing	55	51
Manufacturing and engineering	368	382
Business support	76	65
	626	628
Their aggregate remuneration comprised:		
Notes	2016 £'000	2015 £'000
Wages and salaries	25,716	24,169
Social security costs	3,013	3,046
Pension costs 33	1,357	1,589
Share-based payments	969	1,498
	31,055	30,302

Share-based payment charges include the IFRS 2 charge for the period and the charge relating to National Insurance on the outstanding potential share option gains.

#### 9. Investment income

	2016 £'000	2015 £'000
Interest receivable on cash and bank balances, and treasury deposits	449	423
Interest receivable on held-to-maturity investments	_	3
	449	426

#### 10. Tax

Notes	2016 £'000	2015 £'000
Current tax – UK	1,546	1,151
Current tax – overseas	180	385
Amounts under/(over) provided in previous years	1,726 4	1,536 (972)
Total current income tax	1,730	564
Deferred tax – origination and reversal Adjustment in respect of prior years	608 714	316 163
Total deferred tax charge 21	1,322	479
Total tax expense for the year	3,052	1,043

The blended standard rate of tax for the year, based on the UK standard rate of corporation tax, is 20.00% (2015: 20.25%). Taxation for other jurisdictions is calculated at the rates prevailing in the respective jurisdictions.

The Finance (No 2) Act 2015, which provides for reductions in the main rate of corporation tax from 20% to 19% effective from 1 April 2017 and to 18% effective from 1 April 2020, was substantively enacted on 26 October 2015. Subsequently, the Finance Act 2016, which provides for a further reduction in the main rate of corporation tax to 17% effective from 1 April 2020, was substantively enacted on 6 September 2016. These rate reductions have been reflected in the calculation of deferred tax at the balance sheet date.

The closing deferred tax liability at 31 December 2016 has been calculated at 17% reflecting the tax rate at which the deferred tax liability is expected to be reversed in future periods.

In addition to the amount charges to the income statement and other comprehensive income, the following amounts relating to tax have been recognised directly in equity:

	2016 £'000	2015 £'000
Current tax		
Excess tax deductions related to share-based payments on exercised options	(483)	_
Excess tax deductions in relation to restructuring charges	(13)	-
	(496)	_
Deferred tax		
Arising on transactions with equity participants:		
Change in estimated excess tax deductions related to share-based payments	62	-
Total income tax recognised directly in equity	(434)	_

# Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 10. Tax continued

The charge for the year can be reconciled to the profit per the income statement as follows:

	2016 £'000	2015 £'000
Profit on ordinary activities before tax	17,853	13,572
Tax on ordinary activities at a blended standard rate of 20.00% (2015: 20.25%)  Effect of:	3,571	2,748
Expenses not deductible for tax purposes	163	319
Effect of different tax rates of subsidiaries operating overseas	69	33
Enhanced tax deduction for patent box	(1,114)	(1,174)
Effect of change in UK corporation tax rate on deferred tax	(355)	(74)
Prior period adjustments	718	(809)
Total tax expense for the year	3,052	1,043

The effective tax rate for the year is 17% (2015: 8%). Excluding the prior year adjustments, the effective tax rate would be 11%. The prior year adjustments relate primarily to the patent box scheme.

The prior year adjustments relate primarily to not claiming patent box scheme and the reversal of capital allowance previously claimed.

#### 11. Dividends

	2016 £'000	2015 £'000
Amounts recognised as distributions to equity holders in the year:		
Final dividend for the year ended 31 December 2015 of 6.3p (2014: 6.0p) per share	4,808	4,535
Interim dividend for the year ended 31 December 2016 of 3.3p (2015: 3.15p) per share	2,520	2,390
Total distributions to equity holders in the year	7,328	6,925
Proposed final dividend for the year ended 31 December 2016 of 6.7p (2015: 6.3p) per share	5,212	4,891

The proposed final dividend is subject to approval by shareholders at the AGM and has not been included as a liability in these financial statements.

#### 12. Earnings per ordinary share - basic and diluted

The calculation of basic and diluted earnings per share is based on the following data:

	2016 £'000	2015 £'000
Earnings Earnings for the purposes of basic earnings per share being net profit attributable to equity holders of the parent	14,801	12,529
Number of shares  Weighted average number of ordinary shares for the purposes of basic earnings per share  Effect of dilutive potential ordinary shares:	76,246,300	75,572,550
Share options	1,994,875	2,215,736
Weighted average number of ordinary shares for the purposes of diluted earnings per share	78,241,175	77,788,286

#### 12. Earnings per ordinary share - basic and diluted continued

	2016 Pence per share	2015 Pence per share
Basic Diluted	19.4p 18.9p	16.6p 16.1p

The weighted average number of ordinary shares for the purposes of basic earnings per share is calculated after the exclusion of ordinary shares in Xaar plc held by Xaar Trustee Ltd, the Xaar plc ESOP trust and the matching shares held in trust for the Share Incentive Plan.

For 2016, there were share options granted over 22,758 shares that had not been included in the diluted earnings per share calculation because they were anti-dilutive at the period end (2015: 35,678 shares).

The performance conditions for LTIP awards over 1,109,652 shares (2015: 724,608 shares) have not been met in the current financial period or are not expected to be met in future financial periods, and therefore the dilutive effect of those shares have not been included in the diluted earnings per share calculation.

#### Adjusted earnings per share

This adjusted earnings per share information is considered to provide a fairer representation of the Group's trading performance year on year, as it removes items which, in the Board's opinion, do not reflect the underlying performance of the Group.

The calculation of adjusted EPS excluding share-based payment charges, exchange differences relating to the Swedish operations, the gain or loss on derivative financial instruments, and restructuring costs, is based on earnings of:

	2016 £'000	2015 £'000
Earnings for the purposes of basic earnings per share being net profit attributable to equity holders of the parent	14,801	12,529
Share-based payment charges	969	1,498
Exchange differences relating to the Swedish operations	60	447
Restructuring costs	1,205	6,120
Tax effect of adjusting items	(447)	(1,570)
Adjusted profit after tax	16,588	19,024
Adjusted profit after tax excluding the net of tax impact of IAS 38*	8,410	12,839

The denominators used are the same as those detailed above for both basic and diluted earnings per share.

Adjusted earnings per share is earnings per share excluding the items adjusted for as detailed above:

	2016 Pence per share	2015 Pence per share
Adjusted basic Adjusted diluted	21.8p 21.2p	25.2p 24.5p
Adjusted basic excluding the impact of IAS 38*	11.0p	17.0p

Adjusted EPS is considered to provide a fairer representation of the Group's trading performance year on year.

<sup>\*</sup> Adjusted profit after tax excluding the net of tax impact of IAS 38 and adjusted basic EPS excluding the impact of IAS 38 (capitalisation of development costs) are the measures deemed most appropriate by the Remuneration Committee to determine the achievement of the performance conditions for the LTIP awards that are subject to the EPS performance conditions.

### Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 13. Goodwill

The carrying amount of goodwill at 31 December 2016 was £5,776,000 (2015: £nil).

Goodwill acquired in a business combination is allocated, at acquisition, to the cash-generating units (CGUs) that are expected to benefit from that business combination. Goodwill in the year has occurred from the acquisition of EPS in July 2016, further details are given in note 35. The carrying amount of goodwill had been allocated as follows:

Printheads and related products (a single CGU)	2016 £'000	2015 £'000
Balance at the beginning of the year	_	720
Impairment in the year	-	(720)
Goodwill recognised in the year	5,776	_
Balance at the end of the year	5,776	_

The Group tests goodwill annually for impairment or more frequently if there are indications that goodwill might be impaired. Having performed impairment testing, no impairment has been identified and therefore no impairment loss has been recognised in 2016.

The recoverable amount of the CGU is determined from a value-in-use calculation. The key assumptions to which the value-in-use calculation is most sensitive are those regarding the discount rates, growth rates and expected changes to selling prices and direct costs during the period.

The Group prepares cash flow forecasts derived from the most recent financial forecasts reviewed by management for the next three years and these have been used in the value-in-use calculation. The discount rate applied to the cash flow projections is 5.4% (2015: 9%) and reflects management's estimate of return on capital employed.

Sensitivity analysis has been completed on each key assumption in isolation and this indicates that reasonable changes in key assumptions on which we have based our determination of the recoverable amount would not cause the carrying amount of goodwill to exceed its recoverable amount.

#### 14. Other intangible assets

	Capitalised development costs £'000	Licences acquired £'000	Software £'000	Total £'000
Cost				
At 1 January 2015	14,529	533	2,937	17,999
Additions	8,365	_	197	8,562
Transfers	-	-	(10)	(10)
At 1 January 2016	22,894	533	3,124	26,551
Additions	10,222	_	76	10,298
Acquisitions	-	84	-	84
Transfers	-	-	(27)	(27)
At 31 December 2016	33,116	617	3,173	36,906
Amortisation				
At 1 January 2015	4,950	533	2,439	7,922
Charge for the year	493	_	341	834
At 1 January 2016	5,443	533	2,780	8,756
Charge for the year	492	-	295	787
At 31 December 2016	5,935	533	3,075	9,543
Carrying amount				
At 31 December 2015	17,451	_	344	17,795
At 31 December 2016	27,181	84	98	27,363

#### 14. Other intangible assets continued

Capitalised development costs relate to platform technology development and other associated product development.

The amortisation period for software is three to five years.

Licences acquired are amortised over their estimated useful lives which is on average ten years.

At 31 December 2016 the Group had entered into contractual commitments for the acquisition of software amounting to £nil (2015: £nil).

#### 15. Property, plant and equipment

To: 1 Toporty, plant and equipment				E	A de l'or die -	
	Land and buildings £'000	Leasehold property £'000	Plant and machinery £'000	Furniture, fittings and equipment £'000	Assets in the course of construction £'000	Total £'000
Cost						
At 1 January 2015	_	13,570	62,751	4,126	2,270	82,717
Additions	_	303	2,752	29	28	3,112
Transfers	_	(145)	717	(14)	(548)	10
Exchange movements	_	(54)	(229)	(10)	(11)	(304)
Disposals	-	(40)	(947)	(21)	-	(1,008)
At 1 January 2016	-	13,634	65,044	4,110	1,739	84,527
Additions	1,152	671	8,696	78	910	11,507
Acquisition	-	387	613	260	_	1,260
Transfers	-	2	17	-	8	27
Exchange movements	78	236	966	57	-	1,337
Disposals	-	(31)	-	(13)	-	(44)
At 31 December 2016	1,230	14,899	75,336	4,492	2,657	98,614
Depreciation						
At 1 January 2015	_	5,895	35,367	2,916	_	44,178
Charge for the year	_	1,854	7,932	361	_	10,147
Exchange movements	_	(40)	(119)	(9)	_	(168)
Disposals	_	-	(863)	(22)	-	(885)
At 1 January 2016	-	7,709	42,317	3,246	-	53,272
Charge for the year	57	1,435	6,080	279	-	7,851
Exchange movements	-	208	923	38	-	1,169
Disposals	-	(21)		(9)	-	(30)
At 31 December 2016	57	9,331	49,321	3,553	-	62,262
Carrying amount						
At 31 December 2015	-	5,925	22,727	864	1,739	31,255
At 31 December 2016	1,173	5,568	26,015	939	2,657	36,352

As at 31 December 2016 the Group had entered into contractual commitments for the acquisition of property, plant and equipment amounting to £2,295,000 (2015: £2,471,000). Following the acquisition of EPS by Xaar, EPS acquired the freehold land and buildings previously leased from Julian Joffe the prior owner of EPS.

### Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 16. Subsidiaries

A list of the investments in subsidiaries, including the name, country of incorporation and proportion of ownership interest, is given in note 9 to the Company's separate financial statements.

#### 17. Investments

	2016 £'000	2015 £'000
Held-to-maturity investments		
At the beginning and the end of the year	1,000	1,000

Held-to-maturity investments represent investment in bonds returning interest at 3% per annum, which mature on 22 November 2018.

There is an option to receive any or all of the bonds on the fourth (21 November 2017) anniversary of the issue without penalty upon giving six months' notice to or from bondholders. Therefore, for the year ended 31 December 2016, the investment is included in current assets.

#### 18. Inventories

	2016 £'000	2015 £'000
Raw materials and consumables	6,465	3,122
Work in progress	2,153	1,285
Finished goods	5,172	9,051
	13,790	13,458

#### 19. Other financial assets

The fair value of all financial assets and financial liabilities approximates their carrying value.

#### Receivables

	2016 £'000	2015 £'000
Non-current portion of Trade Receivables	1,516	0

The non-current receivable relates to a last time buy offer and has a settlement term of 36 months. A Fair Value assessment was carried out, however, due to the immaterial value of the estimate, no adjustment was made in the non-current valuation of the receivable balance

#### Trade and other receivables

	2016 £'000	2015 £'000
Amount receivable for the sale of goods Allowance for doubtful debts	15,210 (480)	6,985 (342)
Other debtors Prepayments	14,730 3,248 2,362	6,643 3,967 1,337
	20,340	11,947
Current tax asset	3,029	2,805

No amounts are expected to be settled in more than twelve months.

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#### 19. Other financial assets continued

#### Trade receivables

The average credit period taken on sales of goods is 62 days (2015: 26 days). No interest is charged on the receivables for the period agreed in the Requirements Contract or, if not specified or applicable, the first 30 days from the date of the invoice. Thereafter, the Group reserves the right to charge interest at a daily rate of the greater of either 3% per annum above the base rate of Barclays Bank plc from time to time, or the maximum rate of interest allowable under the Late Payment of Commercial Debts (Interest) Act 1998, on all sums outstanding until payment in full is received. The Group has provided fully for all receivables over 120 days because historical experience is such that receivables that are past due beyond 120 days are generally not recoverable. Trade receivables between 30 days and 120 days are provided for based on estimated irrecoverable amounts from the sale of goods, determined by reference to past default experience.

The maximum exposure to credit risk is the carrying amount of the financial assets as disclosed on page 98. Before accepting any new customer, the Group uses an external credit scoring system to assess the potential customer's credit quality and defines credit limits by customer. Credit limits are reviewed at least once per year. Letters of credit may be used. Credit insurance has typically been taken out over the most significant customers. Of the trade receivables balance at the end of the year, seven customers each represented greater than 5% of the total receivables balance, totalling £93 million (2015: £4.4 million). The total due from these customers represents 29% (2015: 31%) of the Group's revenue; there are no other customers who represent more than 5% of the total balance of trade receivables.

Included in the Group's trade receivables balance are debtors with a carrying amount of £1.6 million (2015: £1.1 million) which are past due at the reporting date for which the Group has not provided as there has not been a significant change in credit quality and the amounts are still considered recoverable. Of these amounts, the Group is in possession of letters of credit to the value of £853,000 (2015: £1,576,000) which had not reached maturity as at the reporting date. The Group does not hold any other collateral over these balances. The average age of these receivables is 83 days (2015: 31 days).

Ageing of past due but not impaired receivables:

	2016 £'000	2015 £'000
1–30 days overdue	537	762
30–60 days overdue	431	324
60–90 days overdue	(45)	_
90–120 days overdue	164	-
Over 120 days overdue	190	2
Total	1,277	1,088
Non current receivables		
Over 12 Months	1,516	-
Total receivables	2,793	_

The non-current receivable relates to a last time buy offer and has a settlement term of 36 months. A Fair Value assessment was carried out, however, due to the immaterial value of the estimate, no adjustment was made in the non-current valuation of the receivable balance.

Movement in the allowance for doubtful debts:

	2016 £'000	2015 £'000
Balance at the beginning of the year Impairment losses increased/(reversed)	342 138	432 (90)
Balance at the end of the year	480	342

In determining the recoverability of a trade receivable, the Group considers any change in the credit quality of the trade receivable from the date credit was initially granted up to the reporting date. The concentration of credit risk is limited due to the customer base being large and unrelated. Accordingly, the Directors believe that there is no further credit provision required in excess of the allowance for doubtful debts.

### Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 19. Other financial assets continued

Trade receivables continued

Ageing of impaired trade receivables:

	2016 £'000	2015 £'000
Current	222	160
1–30 days overdue	20	129
30–60 days overdue	3	33
60-90 days overdue	-	_
90–120 days overdue	5	4
Over 120 days overdue	230	16
Total	480	342

The Directors consider that the carrying amount of trade and other receivables approximates their fair value.

#### Treasury deposits

Treasury deposits comprise bank deposits with an original maturity of between three months and twelve months. The carrying amount of these assets approximates their fair value.

	2016 £'000	2015 £'000
Treasury deposits	-	27,098

#### Cash and cash equivalents

Cash and cash equivalents comprise cash held by the Group and short term bank deposits with an original maturity of three months or less. The carrying amount of these assets approximates their fair value.

The analysis of cash and short term bank deposits is as follows:

	2016 £'000	2015 £'000
Cash	49,321	42,649

The credit risk on liquid funds and derivative financial instruments is limited because the counterparties are banks with high credit ratings assigned by international credit rating agencies.

#### 20. Financial instruments

#### Categories of financial instruments

Financial assets of £22,823,000 (2015: £13,415,000) are categorised as loans and receivables. Financial liabilities of £15,345,000 (2015: £16,247,000) are categorised as measured at amortised cost. Derivative financial assets and liabilities are derived from quoted prices (unaudited) in active markets for identical assets and liabilities.

#### Financial risk management objectives

The Group's policy is to manage the Group's financial risk, secure cost effective funding for the Group's operations and to minimise the adverse effects of fluctuations in the financial markets on the value of the Group's financial assets and liabilities, on reported profitability and on the cash flows of the Group.

The Group finances its activities with a combination of bank loans, finance leases, cash and fixed term deposits and forward contracts as deemed appropriate. Other financial assets and liabilities, such as trade debtors and trade creditors, arise directly from the Group's operating activities. The Group also enters into derivative transactions – forward currency contracts. The purpose is to manage the currency risks arising from the Group's operations. It is Group policy that no trading in derivatives shall be undertaken.

#### 20. Financial instruments continued

#### Financial risk management objectives continued

Financial instruments give rise to foreign currency, interest rate, credit and liquidity risk. The Group's management of its exposure to credit risk is discussed in note 19 and to liquidity risk is discussed in note 23.

#### Interest rate risk

The Group's policy is to manage its cost of borrowing using fixed rate debt. Whilst fixed rate interest-bearing debt is not exposed to cash flow interest rate risk, there is no opportunity for the Group to enjoy a reduction in borrowing costs in markets where rates are falling. In addition, the fair value risk inherent in fixed rate borrowing means that the Group is exposed to unplanned costs should debt be restructured or repaid early as part of the liquidity management process.

The sensitivity analysis prepared below relates to cash balances, since borrowings are at fixed rates of interest. The closing cash and cash equivalents, and treasury deposits balance at the year end have been used as the basis for the calculations. A 2% increase or decrease represents management's assessment of the reasonably possible change in interest rates.

If interest rates had been 2% higher/lower and all other variables were held constant, the Group's profit for the year ended 31 December 2016 would increase by £1.4 million or decrease by £0.5 million (2015: increase by £1.4 million/decrease by £0.4 million). This is mainly attributable to the Group's exposure to interest rates on its cash balances. There would be no effect on equity reserves.

#### Foreign currency risk

The Group receives approximately 19% of its revenues in US Dollars and 10% of its revenue in Euros, which are partially naturally hedged by supplies in these currencies, but the remainder requires conversion into Sterling in order to fund the remaining costs of the UK offices. The Group has a manufacturing facility in Sweden which necessitates the need for the Group to convert Sterling into Swedish Kronor in order to fund the running costs of this manufacturing facility. The Group may enter into a variety of derivative financial instruments to manage its exposure to foreign currency risk, including forward contracts.

The Group is mainly exposed to foreign currency risk resulting from transactions in US Dollars, Euros and Swedish Kronor. The following table demonstrates the Group's sensitivity to a 10% increase and decrease in the Sterling exchange rate against the relevant foreign currencies on the Group's profit before tax and equity (due to changes in the fair value of monetary assets, liabilities and forward currency contracts). 10% represents management's assessment of the reasonably possible movement in exchange rates. The sensitivity analysis includes only outstanding foreign currency denominated monetary items and adjusts their translation at the period end for a 10% change in foreign currency rates. The sensitivity analysis includes inter company balances within the Group where the denomination of the balance is in a currency other than the functional currency of the debtor or the creditor. A positive number below indicates an increase in profit or equity.

		Euro currency impact		US Dollar currency impact		Swedish Kronor currency impact
	2016 £'000	2015 £'000	2016 £'000	2015 £'000	2016 £'000	2015 £'000
Effect of a 10% increase in relevant exchange rate on:						
Profit or loss	(312)	(88)	(637)	(181)	(73)	(3)
Other equity	-	_	113	29	376	207
Effect of a 10% decrease in relevant exchange rate on:						
Profit or loss	382	108	779	221	89	3
Other equity	-	-	82	(37)	(240)	(254)

#### Forward foreign exchange contracts

The Group utilises currency derivatives to hedge significant future transactions and cash flows. The Group does not currently designate its foreign currency denominated debt as a hedging instrument for the purpose of hedging the translation of its foreign operations.

At 31 December 2016, the Group had nil open currency derivative assets or liabilities (2015: £nil).

As at 31 December 2016 the Group held no outstanding forward contracts.

### Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 20. Financial instruments continued

#### Capital risk management

The primary objective of the Group's capital management is to ensure that it maintains a strong credit rating and healthy capital ratios in order to support its business, maximise shareholder value and provide flexibility for value enhancing investments. The Group manages its capital structure and makes adjustments to it in light of changes in economic conditions or as a result of corporate strategy. To maintain or adjust the capital structure, the Group may adjust the dividend payment to shareholders, return capital to shareholders or issue new shares. In addition, any potential value enhancing investments may be funded through additional debt instruments. No changes were made in the objectives, policies or processes during the current or prior year, except for the proposed increase in final dividend for 2016, as detailed in note 11 on page 94.

The Group monitors capital using a gearing ratio, which is determined as the proportion of debt to equity. Debt is defined as long and short term borrowings. Equity includes all capital and reserves of the Group attributable to the equity holders of the parent. The Group's policy for its existing business is to use debt where appropriate, whilst maintaining the gearing ratio at a level under 10%.

The gearing ratio at the year-end is as follows:

	£'000	£'000
Net debt	_	_
Equity	140,456	130,538
Gearing ratio	0%	0%

The Group is not subject to externally imposed capital requirements.

#### Credit risk management

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial loss to the Group. The Group has adopted a policy of only dealing with creditworthy counterparties and obtaining sufficient collateral where appropriate, as a means of mitigating the risk of financial loss from defaults.

Trade receivables consist of a large number of customers, spread across different industries and geographical areas. Ongoing credit evaluation is performed on the financial condition of accounts receivable.

The credit risk on liquid funds is limited because the counterparties are banks with high credit ratings assigned by international credit rating agencies.

#### 21. Deferred tax

The following are the major deferred tax liabilities and assets recognised by the Group and movements thereon during the current and prior reporting periods:

At 31 December 2016	3,618	(496)	-	(204)	(232)	2,686
Acquisition of Subsidiary	-	_	-	_	81	81
Charge/(credit) to equity	-	62	_	_	-	62
Charge/(credit) to income	1,388	(80)	(301)	387	(73)	1,322
At 1 January 2016	2,230	(478)	301	(591)	(240)	1,222
Credit to equity	-	126	-	_	_	126
Charge/(credit) to income	974	135	87	(591)	(126)	479
At 1 January 2015	1,256	(739)	214	_	(114)	617
	Accelerated tax depreciation £'000	Share-based payment £'000	Untaxed reserves £'000	Tax losses £'000	Other temporary difference £'000	Total £'000

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#### 21. Deferred tax continued

Certain deferred tax assets and liabilities have been offset. The following is the analysis of the deferred tax balances (after offset) for financial reporting purposes:

	2016 £'000	2015 £'000
Deferred tax liabilities	2,686	1,222

The deferred tax liability increase in 2016 was driven by two major factors, namely a prior year adjustment due to an election not to claim a patent box relief loss in 2015, resulting in a prior year adjustment of £714,000 and differences in the treatment of R&D expenditure claims.

As at 31 December 2016, the Group has unused capital losses of £1.1 million (2015: £1.1 million) available for offset against future gains. No deferred tax asset has been recognised in respect of these capital losses as it is not considered probable that there will be future chargeable gains available. These losses may be carried forward indefinitely.

#### 22. Trade and other payables

	2016 £'000	2015 £'000
Trade payables and accruals	14,314	12,405

Trade payables and accruals principally comprise amounts outstanding for trade purchases and ongoing costs. The average credit taken for trade purchases is 17 days (2015: 13 days).

The Directors consider that the carrying amount of trade payables approximates to their fair value.

#### 23. Other financial liabilities

Other financial liabilities consist of lease incentives.

The borrowings are repayable as follows:

	2016 £'000	2015 £'000
Within one year	69	68
In the second year	40	68
In the third to fifth years inclusive	86	104
Over five years	62	69
Less: amount due for settlement within twelve months (shown under current liabilities)	257 (69)	309 (68)
Amount due for settlement after twelve months	188	241

The amounts included above are not considered to be materially different from the present value of their carrying amounts.

#### Liquidity risk

The Group aims to mitigate liquidity risk by managing cash generation by its operations and applying cash collection targets throughout the Group. Investment is carefully controlled, with authorisation limits operating up to Group Board level and cash payback periods applied as part of the investment appraisal process. In this way the Group aims to maintain a good credit rating to facilitate fund raising.

In its funding strategy, the Group's objective is to maintain a balance between continuity of funding and flexibility through the use of overdrafts, bank loans, finance leases and hire purchase contracts. The Group manages liquidity risk by maintaining adequate reserves and banking facilities by continually monitoring cash flows and matching the maturity profiles of financial assets and liabilities.

The Group is inherently a net generator of cash at the operating level. Excess cash used in managing liquidity is only invested in financial instruments exposed to insignificant risk of changes in market value, being placed on interest-bearing deposit with maturities no more than twelve months allowed per the policy. Short term flexibility is achieved by overdraft facilities.

# Notes to the consolidated financial statements continued for the year ended 31 December 2016

### 24. Provisions

	Warranty and commercial		
	agreements £'000	Restructuring £'000	Total £'000
At 1 January 2015	418	7	425
Additional provision in the year	432	3,981	4,413
Utilisation of provision	(203)	(759)	(962)
Release of provision	(343)	_	(343)
At 1 January 2016	304	3,229	3,533
Additional provision in the year	81	-	81
Utilisation of provision	(159)	(2,614)	(2,773)
Release of provision	(67)	-	(67)
At 31 December 2016	159	615	774

The warranty and commercial agreements provision represents management's best estimate of the Group's liability related to claims against product warranties or commercial sales agreements. The timing of the utilisation of this provision is uncertain.

The restructuring provision decrease in 2016 relates to the planned closure of the manufacturing facility in Sweden.

### 25. Share capital

25. Onale Capital				
			2016 £'000	2015 £'000
Issued and fully paid: 77,776,755 (2015: 77,635,374) ordinary shares of 10.0p each			7,778	7,764
The movement during the year on the Company's issued and fully paid shares was	as follows:			
	2016 Number	2015 Number	2016 £'000	2015 £'000
At beginning of year Exercise of share options	77,635,374 141,381	76,642,309 993,065	7,764 14	7,664 100
At end of year	77,776,755	77,635,374	7,778	7,764

The Company has one class of ordinary shares which carry no right to fixed income.

#### 25. Share capital continued

Scheme	Date of grant	Number of shares under option as at 31 December 2016	Number of shares under option as at 31 December 2015	Subscription price per share
Xaar plc 2004 Share Option Plan	21 August 08	1,000	1,000	108.25p
	22 November 10	10,000	29,375	211.0p
	01 June 11	102,591	127,841	250.0p
	27 October 11	_	2,000	243.0p
	01 May 12	172,500	205,000	226.5p
		286,091	365,216	
Xaar plc Share Save Scheme	01 November 12	_	35,232	185.0p
	01 November 13	2,568	28,446	616.0p
	01 November 14	486,240	541,989	338.0p
	01 November 15	227,980	247,219	417.0p
	01 November 16	210,649	-	407.0p
		927,437	852,886	
Xaar plc Share Incentive Plan	17 April 13	17,472	19,677	0.0p
	16 April 14	20,092	21,875	0.0p
	14 April 16	27,335	-	0.0p
		64,899	41,552	
Total share options outstanding at 31 December		1,278,427	1,259,654	

Options granted under the Xaar plc 2004 Share Option Plan are ordinarily exercisable within three to ten years after the date of the grant. The maximum value of approved options, under the Xaar plc 2004 Share Option Plan, which may be granted to individual employees is £30,000.

Options under the Xaar plc Share Save Scheme are ordinarily exercisable between 36 and 42 months after the date of the grant.

Awards under the Xaar plc Share Incentive Plan are ordinarily exercisable between three and five years after the date of the grant.

# Notes to the consolidated financial statements continued for the year ended 31 December 2016

### 25. Share capital continued

#### Long Term Incentive Plan

Performance Share Awards outstanding under the Xaar plc 2007 Long Term Incentive Plan are as follows:

Date of grant	Number of shares under option as at 31 December 2016	Number of shares under option as at 31 December 2015
03 May 11	14,762	20,981
02 April 12	120,834	120,834
01 May 12	88,162	99,108
02 April 13	_	393,423
15 May 13	_	63,131
02 April 14	194,636	198,136
12 May 14	34,083	34,798
02 April 15	547,795	562,950
28 September 15	37,896	37,896
07 December 15	12,088	12,088
01 April 16	484,796	_
11 May 16	69,838	-
27 May 16	18,000	-
25 August 16	69,121	_
06 September 16	9,150	_
01 December 16	29,840	
	1,731,001	1,543,345

All awards under this scheme are exercisable within three to ten years after the date of grant.

### 26. Share premium account

	€,000
Balance at 1 January 2015	26,345
Premium arising on issue of equity shares	1,240
Balance at 1 January 2016	27,585
Premium arising on issue of equity shares	269
Balance at 31 December 2016	27,854

#### 27. Own shares

Balance at 31 December 2016	(3,642)
Balance as at 1 January 2016 Transfer to share incentive plan	(3,796) 154
	€'000

#### 27. Own shares continued

Of this balance, £20,000 (2015: £20,000) represents 91,250 ordinary shares in Xaar plc held in trust by Xaar Trustee Ltd. Xaar Trustee Ltd was formed in 1995 to act as Trustee to the Employee Benefit Trust established in 1995 to hold shares for the benefit of the employees of the Company and the Group. There has been no movement in the number of shares held in trust by Xaar Trustee Ltd during the year.

The remaining balance of £3,622,000 (2015: £3,776,000) represents the cost of 1,317,727 (2015: 1,373,703) shares in Xaar plc purchased in the market at market value and held by the Xaar plc ESOP trust to satisfy options granted under the Company's share option schemes.

The market value of own shares as at 31 December 2016 was £5,636,000 (2015: £6,153,000).

#### 28. Translation reserve

	£'000
Balance at 1 January 2015 Exchange differences on retranslation of net investment	126 (27)
Balance at 1 January 2016	99
Exchange differences on retranslation of net investment	708
Balance at 31 December 2016	807

Exchange differences relating to the translation of the net assets of the Group's foreign operations, which relate to subsidiaries only, from their functional currency into the parent's functional currency, being Sterling, are recognised directly in the translation reserve.

# 29. Retained earnings and other reserves

	Notes	Merger reserve £'000	Share-based payments £'000	Other reserves £'000	Total other reserves £'000	Retained earnings £'000	Total £'000
Balance at 1 January 2015		1,105	8,126	485	9,716	82,105	91,821
Net profit for the year		_	_	_	_	12,528	12,529
Share issue related							
to LTIP awards		_	_	_	_	(40)	(40)
Dividends paid	11	-	-	-	-	(6,925)	(6,925)
Tax taken directly to equity		_	_	-	-	211	211
Movement in valuation							
of share options		_	1,290	_	1,290	_	1,290
Balance at 1 January 2016		1,105	9,416	485	11,006	87,880	98,886
Net profit for the year		_	_	_	_	14,801	14,801
Share issue related							
to LTIP awards		_	_	_	_	(2)	(2)
Own shares (acquired)/sold							
in the period		-	-	-	-	(17)	(17)
Dividends paid	11	_	_	_	-	(7,328)	(7,328)
Tax taken directly to equity		_	_	_	-	434	434
Movement in valuation							
of share options		-	885	-	885	-	885
Balance at 31 December 2016		1,105	10,301	485	11,891	95,768	107,659

The merger reserve and other reserves are not distributable. The merger reserve represents the share premium account in Xaar Technology Limited. The share-based payment reserve represents the cumulative charge made under IFRS 2 in relation to share options and LTIP awards. Other reserves represent the non-distributable portion of the dividend received in Xaar plc from Xaar Digital Limited.

# Notes to the consolidated financial statements continued for the year ended 31 December 2016

# 30. Notes to the cash flow statement

Profit before tax         17,853           Adjustments for:         15,853           Share-based payments         969           Depreciation of property, plant and equipment         7,851           Amortisation of intangible assets         787           Impairment of goodwill         -           Research and development expenditure credit         (605)           Investment income         (449)           Foreign exchange (gains)/losses         (956)           (Profit)/loss on disposal of property, plant and equipment         (3)           (Decrease)/increase in provisions         (2,759)           Operating cash flows before movements in working capital         22,688           Decrease in inventories         2,841           (Increase)/decrease in receivables         (8,910)           (Decrease)/increase in payables         (2,381)           Cash generated by operations         14,238           Income taxes (paid)/received         (303)           Net cash from operating activities         13,995	2015 £'000 13,572 1,498 10,147 834
Adjustments for: Share-based payments Depreciation of property, plant and equipment Amortisation of intangible assets T87 Impairment of goodwill Research and development expenditure credit Investment income (449) Foreign exchange (gains)/losses (Profit)/loss on disposal of property, plant and equipment (Decrease)/increase in provisions (2,759)  Operating cash flows before movements in working capital Decrease in inventories 2,841 (Increase)/decrease in payables Cash generated by operations 14,238 Income taxes (paid)/received (785)	1,498 10,147
Share-based payments 969 Depreciation of property, plant and equipment 7,851 Amortisation of intangible assets 787 Impairment of goodwill Research and development expenditure credit (605) Investment income (449) Foreign exchange (gains)/losses (956) (Profit)/loss on disposal of property, plant and equipment (3) (Decrease)/increase in provisions (2,759)  Operating cash flows before movements in working capital Decrease in inventories 2,841 (Increase)/decrease in receivables (8,910) (Decrease)/increase in payables 14,238 Income taxes (paid)/received (303)	10,147
Depreciation of property, plant and equipment Amortisation of intangible assets Impairment of goodwill Research and development expenditure credit Investment income Investment income Foreign exchange (gains)/losses (Profit)/loss on disposal of property, plant and equipment (Profit)/loss on disposal of property, plant and equipment (Profit)/loss on disposal of provesions (Profit)/loss on disposal of provesions (Profit)/loss on disposal of provesions (Profit)/loss on disposal of property, plant and equipment (Profit)/loss on disposal of provesions (Profit)/loss on disposal of property, plant and equipment (Profit)/loss on disposal of provesions (Profit)/loss on disposal of proves	10,147
Amortisation of intangible assets Impairment of goodwill Research and development expenditure credit Investment income Investment income Foreign exchange (gains)/losses (Profit)/loss on disposal of property, plant and equipment (Profit)/loss on disposal of property plant and equipment (Profit)/loss on disposal of property plant and e	,
Impairment of goodwill Research and development expenditure credit (605) Investment income (449) Foreign exchange (gains)/losses (956) (Profit)/loss on disposal of property, plant and equipment (3) (Decrease)/increase in provisions (2,759)  Operating cash flows before movements in working capital Decrease in inventories 2,841 (Increase)/decrease in receivables (8,910) (Decrease)/increase in payables (2,381)  Cash generated by operations 14,238 Income taxes (paid)/received (605) (605) (605) (605) (605) (627) (936) (93	834
Research and development expenditure credit Investment income (449) Foreign exchange (gains)/losses (Profit)/loss on disposal of property, plant and equipment (2,759)  Operating cash flows before movements in working capital Decrease in inventories 1,841 (Increase)/decrease in receivables (Decrease)/increase in payables (2,381)  Cash generated by operations Income taxes (paid)/received (605) (449) (956) (956) (956) (2,759) (2,759) (2,759) (2,788) (2,388) (2,381)	
Investment income  Foreign exchange (gains)/losses  (Profit)/loss on disposal of property, plant and equipment  (Decrease)/increase in provisions  Operating cash flows before movements in working capital Decrease in inventories  Decrease in inventories  (R,910)  Decrease)/increase in payables  Cash generated by operations  14,238 Income taxes (paid)/received  (Q449)  (Q56)  (Q56)  (Q759)	720
Foreign exchange (gains)/losses (Profit)/loss on disposal of property, plant and equipment (Decrease)/increase in provisions (2,759)  Operating cash flows before movements in working capital Decrease in inventories (2,841 (Increase)/decrease in receivables (B,910) (Decrease)/increase in payables (2,381)  Cash generated by operations I14,238 Income taxes (paid)/received (956) (956) (956) (956) (956) (956) (956) (956) (956) (956) (956) (956) (2,759)	(818)
(Profit)/loss on disposal of property, plant and equipment(3)(Decrease)/increase in provisions(2,759)Operating cash flows before movements in working capital22,688Decrease in inventories2,841(Increase)/decrease in receivables(8,910)(Decrease)/increase in payables(2,381)Cash generated by operations14,238Income taxes (paid)/received(303)	(426)
(Decrease)/increase in provisions(2,759)Operating cash flows before movements in working capital22,688Decrease in inventories2,841(Increase)/decrease in receivables(8,910)(Decrease)/increase in payables(2,381)Cash generated by operations14,238Income taxes (paid)/received(303)	149
Operating cash flows before movements in working capital22,688Decrease in inventories2,841(Increase)/decrease in receivables(8,910)(Decrease)/increase in payables(2,381)Cash generated by operations14,238Income taxes (paid)/received(303)	75
Decrease in inventories 2,841 (Increase)/decrease in receivables (B,910) (Decrease)/increase in payables (2,381)  Cash generated by operations Income taxes (paid)/received (303)	3,108
(Increase)/decrease in receivables (Decrease)/increase in payables (2,381)  Cash generated by operations Income taxes (paid)/received (303)	28,859
(Decrease)/increase in payables  Cash generated by operations Income taxes (paid)/received  (2,381)  (2,381)  (303)	6,274
Cash generated by operations Income taxes (paid)/received  14,238 (303)	1,469
Income taxes (paid)/received (303)	2,405
	39,007
Net cash from operating activities 13,935	1,377
i G	40,384
31. Operating lease arrangements	
2016 <b>Ω</b> '000	2015 £'000
Minimum lease payments under operating leases recognised as an expense in the year:	
Fixtures, fittings and equipment 104	59
Land and buildings 2,183	2,192
2,287	2,251

At the balance sheet date, the Group had outstanding commitments for future minimum lease payments under non-cancellable operating leases, which fall due as follows:

	Fixtures, fi	ttings and equipment	Land and buildings		
	2016 £'000	2015 £'000	2016 £'000	2015 £'000	
Within one year	96	50	1,608	2,041	
In the second to fifth years inclusive	149	27	2,842	3,050	
After five years	-	-	909	1,278	
	245	77	5,359	6,369	

The operating leases in respect of fixtures, fittings and equipment extend over a period of up to six years.

#### 32. Share-based payments

#### Equity-settled share option scheme

The Company's share option schemes are open to all employees of the Group. Options are exercisable at a price equal to the average quoted market price of the Company's shares on the date of grant. The standard vesting period is three years.

An option granted under the Xaar plc 2004 Share Option Plan before 2011 will be exercisable over shares with a market value at the date of grant not exceeding a person's annual salary if at the third anniversary of grant the EPS growth of the Company since grant has exceeded the growth in the Retail Prices Index (RPI) over the same period by at least 12%. To the extent that an option relates to shares with a market value as at the date of grant in excess of a person's annual salary, the option will be exercisable over all of the excess shares if EPS growth over this period has exceeded RPI growth by at least 15%. For EPS performance between these two points, options will be exercisable over the excess shares on a sliding scale. In addition, options can only be exercised if EPS is at least 5.5 pence for the financial year preceding the third anniversary of grant. Performance may be retested once only from the date of grant to the fourth or fifth anniversary of grant (at the discretion of the Remuneration Committee), but the original EPS growth targets will be increased from 12/15% to 16/20% and 20/25% respectively. The 5.5 pence target will apply for the final financial year in the extended period.

An option granted under the Xaar plc 2004 Share Option Plan from 2011 onwards will be exercisable over shares with a market value at the date of grant not exceeding a person's annual salary, if at the third anniversary of grant, Xaar plc has achieved positive adjusted profit before tax as shown in the consolidated income statement in the Company's Annual Report and financial statements for any of the three years ending during the vesting period. One-third of the shares subject to the option granted rounded to the nearest whole share, will vest based on the performance condition being met per year for each of the three years ending in the vesting period. If the adjusted profit before tax as shown in the consolidated income statement in Xaar plc's Annual Report and financial statements for any relevant year is restated before the option becomes exercisable, the restated figure shall, unless the Remuneration Committee determines otherwise, be applied in determining whether the above targets are met. In addition, options shall only become exercisable in respect of any shares if the committee in its absolute discretion determines that the overall financial performance of Xaar plc over the performance period is satisfactory.

The Xaar 2007 Share Save Scheme provides an opportunity to all UK employees to save a set monthly amount (up to £250 pre 2014, up to £500 from 2014) over three years towards the exercise of a discounted share option, which is granted at the start of the three years.

The Xaar Share Incentive Plan provides an opportunity for all UK employees to buy shares from their pre-tax remuneration up to the limit permitted by the relevant tax legislation (£1,500 per year for the awards made in 2013 and 2014) and are awarded additional shares for free on a matching basis; the Company currently operates the plan on the basis of a 1:1 match but may award matching shares up to the maximum ratio permitted by the relevant tax legislation (currently a 2:1 ratio).

Options and awards under the Xaar 2007 Share Save Scheme and Xaar Share Incentive Plan are not subject to performance conditions.

If the options remain unexercised after a period of ten years from the date of grant, or 42 months in the case of the Share Save Scheme, or five years in the case of the Share Incentive Plan (being the contractual lives), the options expire. Save as permitted in the share option scheme rules, options lapse on an employee leaving the Group.

Details of the share options outstanding during the year are as follows:

		2016		2015	
	Number of share options	Weighted average exercise price (£)	Number of share options	Weighted average exercise price (£)	
Outstanding at beginning of year	1,259,654	3.14	1,783,941	2.70	
Granted during the year	243,467	3.57	248,945	4.17	
Lapsed during the year	(97,552)	4.25	(171,252)	3.42	
Exercised during the year	(125,365)	2.25	(601,980)	2.16	
Outstanding at the end of the year	1,280,204	3.14	1,259,654	3.14	
Exercisable at the end of the year	306,131	2.25	400,448	2.29	

The weighted average share price at the date of exercise for share options exercised during the period was £4.61 (2015: £4.61). The options outstanding at 31 December 2016 had a weighted average remaining contractual life of four years (2015: four years). In 2016, options were granted on 14 April and 1 November. The aggregate of the estimated fair values of the options granted on those dates is £0.58 million. In 2015, options were granted on 1 November. The aggregate of the estimated fair values of the options granted on those dates is £0.57 million.

# Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 32. Share-based payments continued

#### Equity-settled share option scheme continued

The inputs into the Black-Scholes model are as follows:

	2016	2015
Weighted average share price	£5.04	£5.21
Weighted average exercise price	£4.03	£4.17
Weighted average expected volatility	51%	55%
Expected life	3 years	3 years
Risk-free rate	0.33%	0.64%
Weighted average expected dividends	0.56%	0.63%

Expected volatility was determined by calculating the historical volatility of the Group's share price over periods ranging from the previous one to three years. The expected life used in the model has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions and behavioural considerations.

#### Long Term Incentive Plan

The Company's Long Term Incentive Plan is open to all employees of the Group. As at 31 December 2015 all unvested LTIP share awards granted before 2015 are subject to the achievement of EPS performance conditions, the number of shares that vest will depend on the EPS growth of the Company for the three financial years of the Company commencing on 1 January of the year of grant, as follows:

- (1) None of the Awards will vest if the Company's EPS growth does not exceed growth in the Retail Prices Index (RPI) by at least 4% compound p.a.
- (2) 35% of the Awards will vest if the Company's EPS growth exceeds growth in the RPI by at least 4% compound p.a.
- (3) All of the Awards will vest if the Company's EPS growth exceeds growth in the RPI by at least 10% compound p.a.
- (4) Awards will vest on a straight-line basis for EPS growth in excess of growth in the RPI of between 4% and 10% compound p.a.

LTIP share awards granted in 2015 are subject to the achievement of different performance conditions depending on the level of the employee, the number of shares that vest will depend on for the three financial years of the Company commencing on 1 January of the year of grant, and are subject to one, two or three of the conditions as set out below:

- (1) Absolute cumulative EPS performance over the period, whereby 25% of the Awards will vest if the threshold target is achieved, below threshold 0% will vest and up to a maximum of 100% if the maximum EPS target or higher is achieved.
- (2) TSR relative to FTSE TechMARK All Share Index, whereby 25% of the Awards will vest if the median rank in the comparator group is achieved, below median 0% will vest and up to a maximum of 100% if the upper quartile or higher is achieved.
- (3) Achievement of positive adjusted profit before tax as shown in the consolidated income statement in the Company's Annual Report and financial statements for any of the three years ending during the vesting period. One third of the shares subject to the option granted rounded to the nearest whole share, will vest based on the performance condition being met per year for each of the three years ending in the vesting period. If the adjusted profit before tax as shown in the consolidated income statement in Xaar plc's Annual Report and Financial Statements for any relevant year is restated before the option becomes exercisable, the restated figure shall, unless the Remuneration Committee determines otherwise, be applied in determining whether the above targets are met.

In addition, options shall only become exercisable in respect of any shares if the committee in its absolute discretion determines that the overall financial performance of Xaar plc over the performance period is satisfactory. All awards that will vest will be calculated on a straight-line basis.

All awards made under this scheme are exercisable within three to ten years after the date of grant. Save as permitted in the Long Term Incentive Plan rules, awards lapse on an employee leaving the Group.

Key individuals are invited to participate in a bonus matching scheme where matching LTIP share awards are granted when the employee invests their bonus in Xaar shares and retains ownership of these shares for the duration of the LTIP share award vesting period. The matching share award is a 1:1 match on the pre-tax value of the bonus used to acquire bonus investment shares. Matching LTIP share awards are subject to the same performance criteria as all other LTIP awards.

# 32. Share-based payments continued

# Long Term Incentive Plan continued

	2016	2015
Awards outstanding at start of year	1,543,345	1,406,486
Granted during the year	684,395	717,000
Lapsed during the year	(479,574)	(180,628)
Exercised during the year	(17,165)	(399,513)
Awards outstanding at end of year	1,731,001	1,543,345
Exercisable at the end of the year	223,758	240,923

In 2016, Performance Share Awards were made on 1 April, 11 May, 27 June, 25 August, 6 September and 1 December. The aggregate of the estimated fair values of grants made on those dates is £3.2 million. In 2015, Performance Share Awards were made on 2 April, 28 September and 7 December. The aggregate of the estimated fair values of grants made on those dates is £2.9 million.

The estimated fair values for 2010 grants onwards were calculated using the Black-Scholes model, whereas the estimated fair value of 2009 grants were calculated using a stochastic (Monte-Carlo binomial) model. The inputs into the Black-Scholes model are as follows:

	2016	2015
Weighted average exercise price	£nil	£nil
Weighted average expected volatility	53%	56%
Weighted average expected life	7 years	7 years
Weighted average expected dividend yield	0.50%	0.54%

The Group recognised total expenses of £887,000 and £1,290,000 related to all equity-settled share-based payment transactions in 2016 and 2015, respectively.

## 33. Retirement benefit schemes

# Defined contribution schemes

The UK-based employees of the Group's UK companies have the option to be members of a defined contribution pension scheme managed by a third party pension provider. For each employee who is a member of the scheme the Company will contribute a fixed percentage of each employee's salary to the scheme. The only obligation of the Group with respect to this scheme is to make the specified contributions.

The employees of the Group's subsidiaries in Sweden are members of a state managed retirement benefit scheme operated by the Government of Sweden. The subsidiaries are required to contribute a specified percentage of payroll costs to the retirement benefit scheme to fund the benefits. The only obligation of the Group with respect to the retirement benefit scheme is to make the specified contributions.

The total cost charged to the income statement in respect of these schemes during 2016 was £1,357,000 (2015: £1,589,000). As at 31 December 2016 contributions of £147,000 (2015: £164,000) due in respect of the current reporting period had not been paid over to the schemes.

#### 34. Related party transactions

Transactions between the Company and its subsidiaries, which are related parties, have been eliminated on consolidation and are not disclosed in this note.

# Remuneration of key management personnel

The remuneration of the Directors, who are the key management personnel of the Group, is set out below in aggregate for each of the categories specified in IAS 24 'Related Party Disclosures'. Further information about the remuneration of individual Directors is provided in the audited part of the Directors' Remuneration report on page 49.

	2016 £'000	2015 £'000
Short term employee benefits	1,180	2,557
Post-employment benefits	74	114
Share-based payments	(798)	364
	456	3,035

# Notes to the consolidated financial statements continued for the year ended 31 December 2016

#### 35. Acquisition of subsidiary

On 1 July 2016, the Group obtained control of Engineered Printing Solutions ("EPS") by acquiring 100% of its issued share capital. EPS, founded in 1985 as Pad Print Machinery of Vermont Inc, is a leading provider of product printing equipment in North America. EPS was acquired as part of the Company's strategic vision to achieve £220 million of annual sales by 2020.

Recognised amounts of identifiable assets acquired and liabilities assumed	€'000
Other intangible assets	84
Property, plant and equipment	1,240
Inventories	2,876
Trade and other receivables	939
Cash and cash equivalents	207
Trade and other payables	(2,335)
Current tax asset	36
Current tax liability	(236)
Current financial liabilities	(501)
Deferred tax liability	(81)
Non-current financial liabilities	(242)
Total identifiable assets	1,987
Goodwill	5,776
Total consideration	7,763
Satisfied by:	
Cash	7,763
Total consideration transferred	7,763
Net cash outflow arising on acquisition	
Cash consideration	7,763
Less: cash and cash equivalents acquired	(207)
Total net cash outflow arising on acquisition	7,556

The fair value of the trade and other receivables includes trade receivables with a fair value of £674,000 and a gross contractual value of £712,000. The best estimate at acquisition date of the contractual cash flows not to be collected was £38,000.

The goodwill of £5,776,000 arising from the acquisition represents those characteristics and valuable attributes of the acquired business that cannot be quantified and attributed to separately identifiable assets in accounting terms. This goodwill is underpinned by a number of elements the most significant of which is the well established, skilled and experienced management team, including the founder Julian Joffe, which will allow Xaar to accelerate the adoption of inkjet in the product printing market and provide a strategic platform for expanding Xaar's footprint in North America. None of the goodwill recognised is expected to be deductible for income tax purposes.

In addition to the total consideration, deferred consideration is due during the following three year period based on revenue and profit performance over that time. The potential undiscounted amount of all future payments that the Company could be required to make under the deferred consideration arrangement is between \$nil and \$7.5 million.

Acquisition related costs (included in administrative expenses in the consolidated income statement for the period ended 31 December 2016) amounted to £399,000.

Separate to the Share Capital transaction set out in the table above, Xaar US Holdings Inc. injected equity, in the form of cash, into EPS. Part of this cash injection was then used by EPS to acquire the freehold land and buildings previously leased from Julian Joffe at the market value of £1,220,000.

EPS contributed £6,692,000 revenue and £292,000 to the Group's profit for the period 1 July 2016 to 31 December 2016. If the acquisition of EPS had been completed on the first day of the financial year, Group revenues for the six month period would have been £49,387,000 and the Group's profit before tax would have been £7,697,000. If the acquisition had taken place at the beginning of the reporting period, the Group Revenue would have been £101,049,000 and the Group profit before tax would have been £17,896,000.

# Company balance sheet as at 31 December 2016

		2016	2015
	Notes	£,000	£,000
Fixed assets			
Investments in subsidiaries	3	15,631	4,445
		15,631	4,445
Current assets			
Held-to maturity investments	3	1,000	1,000
Debtors – due within one year	4	87,026	92,082
Debtors – due after one year	4	139	127
Treasury deposits		-	27,122
Cash at bank and in hand		11,419	1
		99,584	120,332
Creditors: amounts falling due within one year	5	(33,790)	(58,749)
Net current assets		65,794	61,583
Total assets less current liabilities		81,425	66,028
Net assets		81,425	66,028
Capital and reserves			
Called up share capital	7	7,778	7,764
Share premium account	7	27,854	27,585
Other reserves		25,333	25,333
Own shares		(3,622)	(3,776)
Share-based payment reserve		2,387	2,393
Profit and loss account		21,695	6,729
Equity shareholders' funds		81,425	66,028

Xaar plc reported a profit for the financial year ended 31 December 2016 of £22,313,000 (2015: loss of £359,000).

The financial statements of Xaar plc, registered number 3320972, were approved by the Board of Directors and authorised for issue on 22 March 2017. They were and signed on its behalf by:

**Doug Edwards** 

Chief Executive Officer

Alex Bevis

Chief Financial Officer and Company Secretary

22 March 2017

# Company statement of changes in equity for the year ended 31 December 2016

	Notes	Called up share capital £'000	Share premium account £'000	Other reserves £'000	Own shares £'000	Share-based payments £'000	Profit and loss account £'000	Total £'000
At 1 January 2015		7,664	26,345	25,333	(3,776)	2,173	14,091	71,830
New shares issued		100	1,240	_	_	_	(40)	1,300
Dividends paid	6	_	_	_	_	_	(6,925)	(6,925)
Deferred tax on share based payments		_	_	_	_	_	(38)	(38)
Loss for the financial year		_	_	_	_	_	(359)	(359)
Credit to equity for								
share-based payments		-	-	-	-	220	-	220
At 1 January 2016		7,764	27,585	25,333	(3,776)	2,393	6,729	66,028
New shares issued		14	269	_	_	_	(2)	281
Own shares sold in the period		_	_	_	154	_	(17)	137
Dividends paid	6	_	_	_	_	_	(7,328)	(7,328)
Profit for the financial year		_	_	_	_	_	22,313	22,313
Credit to equity for								
share-based payments		-	-	-	-	(6)	-	(6)
At 31 December 2016		7,778	27,854	25,333	(3,622)	2,387	21,695	81,425

The share premium account and other reserves are non-distributable.

# Notes to the Company financial statements for the year ended 31 December 2016

### 1. Significant accounting policies

#### Basis of accounting

The separate financial statements of the Company are presented as required by the Companies Act 2006. The Company meets the definition of a qualifying entity under FRS 100 (Financial Reporting Standard 100) issued by the Financial Reporting Council. Accordingly, in the year ended 31 December 2015 the Company has decided to adopt FRS 101 and has undergone transition from reporting under UK GAAP to FRS 101 as issued by the Financial Reporting Council. Accordingly, the financial statements have therefore been prepared in accordance with FRS 101 (Financial Reporting Standard 101) 'Reduced Disclosure Framework' as issued by the Financial Reporting Council. This transition is not considered to have had a material effect on the financial statements. The results of Xaar plc are included in the consolidated financial statements of Xaar plc.

As permitted by FRS 101, the Company has taken advantage of the disclosure exemptions available under that standard in relation to share-based payment, financial instruments, capital management, presentation of comparative information in respect of certain assets, presentation of a cash flow statement and certain related party transactions.

Where required, equivalent disclosures are given in the consolidated financial statements of Xaar plc.

The financial statements have been prepared under the historical cost convention except for the re measurement of certain financial instruments to fair value.

The principal accounting policies adopted are the same as those set out in note 3 of the consolidated financial statements except as noted below. They have all been applied consistently throughout the year and the preceding year.

#### Investments

Fixed asset investments in subsidiaries are shown at cost less provision for impairment.

For investments in subsidiaries acquired for consideration, including the issue of shares qualifying for merger relief, cost is measured by reference to the nominal value only of the shares issued. Any premium is ignored.

Bonds with fixed or determinable payments and fixed maturity dates that the Group has the positive intent and ability to hold to maturity are classified as held-to-maturity investments and are measured at amortised cost using effective interest method less any impairment.

# Dividends

Dividend income is recognised when an irrevocable right to receive payment has been established provided that it is probable that the economic benefits will flow to the Company and the amount of income can be measured reliably.

#### 2. Profit for the year

As permitted by section 408 of the Companies Act 2006, the Company has elected not to present its own profit and loss account for the year. Within the profit figure of £22,313,000 includes a dividend received from XaarJet Limited of £22,500,000.

The average number of employees throughout 2016 was 55 (2015: 35). Staff costs amounted to £2.8 million (2015: £2.5 million). Information about the remuneration of Directors is provided in the audited part of the Directors' Remuneration report on page 49 of the consolidated financial statements. For the remuneration of key management personnel of the Company see note 34 of the consolidated financial statements.

The audit fee for the audit of the Company's annual financial statements in 2016 was £22,000 (2015: £22,000).

#### 3. Fixed and current asset investments

	2016 £'000	2015 £'000
Subsidiary undertakings		
At beginning of the year	4,445	4,445
Additions in the year	11,186	_
At end of the year	15,631	4,445
Held-to-maturity investments		
At beginning and end of the year	1,000	1,000

The investment held in Xaar Group AB was fully impaired in 2014.

# Notes to the Company financial statements continued for the year ended 31 December 2016

#### 3. Fixed asset investments continued

The recoverable amount of each investment is determined from a value-in-use calculation. The key assumptions to which the value-in-use calculation is most sensitive are those regarding the discount rates, growth rates and expected changes to selling prices and direct costs during the period.

The Company prepares cash flow forecasts derived from the most recent financial forecasts reviewed by management for the next three years and these have been used in the value-in-use calculation. The discount rate applied to the cash flow projections is 9% (2015: 9%) and reflects management's estimate of return on capital employed.

Held-to-maturity investments represent investment in bonds returning interest at 3% per annum, which mature on 22 November 2018. There is an option to receive any or all of the bonds on the third (21 November 2016) or fourth (21 November 2017) anniversary of the issue without penalty upon giving six months' notice to or from bondholders. Therefore, for the year ended 31 December 2015, the investment is included in current assets.

#### 4. Debtors

	2016 £'000	2015 £'000
Amounts receivable within one year		
Amounts owed by Group undertakings	87,012	92,055
Prepayments and accrued income	14	27
	87,026	92,082
Amounts receivable after more than one year		
Deferred tax asset	139	127
	87,165	92,209

The Finance (No 2) Act 2015, which provides for reductions in the main rate of corporation tax from 20% to 19% effective from 1 April 2017 and to 18% effective from 1 April 2020, was substantively enacted on 26 October 2015. Subsequently, the Finance Act 2016, which provides for a further reduction in the main rate of corporation tax to 17% effective from 1 April 2020, was substantively enacted on 6 September 2016. These rate reductions have been reflected in the calculation of deferred tax at the balance sheet date.

#### 5. Creditors

	2016 £'000	2015 £'000
Amounts falling due within one year		
Amounts owed to Group undertakings	33,472	58,490
Accruals	318	259
	33,790	58,749

For additional disclosures relating to financial liabilities, see note 23 to the consolidated financial statements.

#### 6. Dividends

	2016 £'000	2015 £'000
Amounts recognised as distributions to equity holders in the period: Final dividend for the year ended 31 December 2015 of 6.3p (2014: 6.0p) per share	4,808	4,535
Interim dividend for the year ended 31 December 2016 of 3.3p (2015: 3.15p) per share	2,520	2,390
Total distributions to equity holders in the period	7,328	6,925
Proposed final dividend for the year ended 31 December 2016 of 6.7p (2015: 6.3p) per share	5,212	4,891

The proposed final dividend is subject to approval by shareholders at the AGM and has not been included as a liability in these financial statements.

#### 7. Share capital and share premium account

Full details of movements in share capital and the share option schemes, and share premium are given in notes 25 and 26 to the consolidated financial statements.

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#### 8. Share-based payments

# Equity-settled share option scheme

The Company's share option schemes are open to all employees of the Company. Options are exercisable at a price equal to the average quoted market price of the Company's shares on the date of grant. The vesting period is three years. The vesting criteria of these options are disclosed in note 32 to the consolidated financial statements. If the options remain unexercised after a period of ten years from the date of grant, 42 months in the case of the Share Save Scheme, or five years in the case of the Share Incentive Plan, the options expire. Save as permitted in the share option scheme rules, options lapse on an employee leaving the Company.

The weighted average share price at the date of exercise for share options exercised during the period was £4.62 (2015: £4.58). The options outstanding at 31 December 2016 had a weighted average remaining contractual life of five years (2015: five years), and a range of exercise prices between 0 pence and 616 pence (2015: 0 pence and 616 pence).

The performance conditions relating to the above share options and the exercise prices of options outstanding at the year-end are given in note 32 to the consolidated financial statements.

#### Long Term Incentive Plan

The Company's Long Term Incentive Plan is open to all employees of the Company. Vesting of Performance Share Awards made under this scheme is conditional upon the achievement of performance conditions. Full details of the performance conditions are shown in note 32 of the consolidated financial statements. All awards made under this scheme are exercisable within three to ten years after the date of grant. Save as permitted in the Long Term Incentive Plan rules, awards lapse on an employee leaving the Company.

#### 9. Subsidiary undertakings

The following entities are wholly owned subsidiary undertakings of the Company:

Name	Country of incorporation	Principal activity	Issued and fully paid up share capital	Proportion of ordinary share capital held by the Company
Xaar Technology Limited	England	Research and development	4,445,322 ordinary shares of £1 each	100%
XaarJet Limited	England	Manufacturing, research and development and sales and marketing	2 ordinary shares of £1 each	100%
XaarJet (Overseas) Limited	England	Sales and marketing	1 ordinary £1 share	100%
Xaar Trustee Limited <sup>1</sup>	England	Trustee	2 ordinary shares of £1 each	100%
Xaar Digital Limited	England	Treasury	100 ordinary £1 share	100%
Xaar ApS	Denmark	Research and development	500 ordinary shares of DKK 100 each	100%
Xaar Group AB	Sweden	Holding company	1,137,000 ordinary shares of SEK 0.09 each	100%
XaarJet AB <sup>2</sup>	Sweden	Manufacturing	1,000 ordinary shares of SEK 100 each	100%
Xaar US Holding Inc.	USA	Holding company	6,000 shares of common stock US\$1 each	100%
Engineering Printing Solution <sup>3</sup>	USA	Manufacturing and sales and marketing	100 shares of common stock US\$1 each	100%
Xaar Americas Inc. <sup>3</sup>	USA	Sales and marketing	10,000 shares of common stock US\$1 each	100%

<sup>1</sup> Xaar Trustee Limited shares are held by Xaar Technology Limited.

<sup>2</sup> XaarJet AB shares are held by Xaar Group AB.

<sup>3</sup> Xaar Americas Inc and Engineering Printing Solutions are held by Xaar US Holdings Inc.

# Five year record

	2016 £'000	2015 £'000	2014 £'000	2013 £'000	2012 £'000
Summarised consolidated results					
Results					
Adjusted revenue	96,178	93,472	109,150	134,134	86,304
Adjusted gross profit	44,667	44,690	48,602	71,020	40,948
Adjusted profit before tax	19,482	20,819	24,610	41,118	18,386
Adjusted profit after tax	16,888	19,024	20,229	33,102	14,964
Adjusted diluted earnings per share	21.2p	24.5p	26.4p	43.2p	20.1p
Adjusted basic earnings per share excluding the impact of IAS 38	11.0p	17.0p	17.2p	44.9p	20.7p
Dividends pence per share	10.0p	9.45p	9.0p	8.0p	4.0p
Assets employed					
Net cash*	49,321	69,747	46,963	53,485	28,853

 $<sup>^{\</sup>star}$   $\,$  Net cash is made up of cash and cash equivalents, treasury deposits less borrowings.

## Notice of the Annual General Meeting

Notice is hereby given that the nineteenth Annual General Meeting ('AGM') of Xaar plc (the 'Company') will be held at 296 Science Park, Cambridge, CB4 0XR on Tuesday 16 May 2017 at 9.30am for the following purposes:

## **Ordinary business**

To consider and, if thought fit, pass the following resolutions which will be proposed as Ordinary Resolutions:

- 1. To receive the Company's annual financial statements for the financial year ended 31 December 2016.
- 2. To reappoint Deloitte LLP as auditor to hold office from the conclusion of this meeting until the conclusion of the next general meeting of the Company at which financial statements are laid.
- 3. To authorise the Directors to determine the remuneration of the auditors.
- 4. To declare a final dividend for the financial year ended 31 December 2016 of 6.7p per ordinary share.
- 5. To re-elect Doug Edwards as a Director.
- 6. To re-elect Andrew Herbert as a Director.
- 7. To re-elect Lilv Liu as a Director.
- 8. To re-elect Chris Morgan as a Director.
- 9. To re-elect Margaret Rice-Jones as a Director.
- 10. To re-elect Ted Wiggans as a Director.
- 11. To re-elect Robin Williams as a Director.
- 12. To approve the Directors' Remuneration report (excluding the Directors' remuneration policy which is set out on pages 58 to 62 of the Annual Report) for the year ended 31 December 2016.

#### Special business

To consider and, if thought fit, pass the following resolutions which will be proposed in the case of Resolutions 13, 15, 17, 18 and 19 as Ordinary Resolutions and in the case of Resolutions 14 and 16 as Special Resolutions:

- 13. To approve the Directors' Remuneration policy, the full text of which is contained in the Directors remuneration report for the year ended 31 December 2016 and which is as set out on pages 46 to 69 of the Annual Report, which will take effect at the conclusion of this meeting.
- 14. That the Company be generally and unconditionally authorised for the purposes of section 701 of the Companies Act 2006 (the 'Act') to make one or more market purchases (within the meaning of section 693(4) of the Act) of ordinary shares of 10p in the capital of the Company (ordinary shares) provided that:
  - the maximum aggregate number of ordinary shares authorised to be purchased is 11,594,810 (representing 14.9% of the issued ordinary share capital):
  - the minimum price (excluding expenses) which may be paid for an ordinary share is the par value of the shares;
  - the maximum price (excluding expenses) which may be paid for an ordinary share is an amount equal to the higher of (i) 105% of the
    average of the middle market quotations for an ordinary share as derived from the London Stock Exchange Daily Official List for the five
    business days immediately preceding the day on which that ordinary share is purchased, and (ii) the amount stipulated by article 5(1)
    of the Buy-back and Stabilisation Regulation 2003;
  - this authority shall expire at the conclusion of the next Annual General Meeting of the Company, or, if earlier, at the close of business on 16 August 2018 unless renewed before that time; and
  - the Company may make a contract to purchase ordinary shares under this authority before the expiry of the authority which will or may be
    executed wholly or partly after the expiry of the authority, and may make a purchase of ordinary shares in pursuance of any such contract.
- 15. That, in substitution for all existing authorities including the authority conferred on the Directors by Article 4 (B) of the Company's Articles of Association, in accordance with section 551 of the Act the Directors be and they are generally and unconditionally authorised to exercise all powers of the Company to allot equity securities (within the meaning of section 560 of the Act), or grant rights to subscribe for, or convert any security into, shares in the Company:
  - (a) up to an aggregate nominal amount of £5,187,834.40 (such amount to be reduced by the nominal amount of any equity securities allotted pursuant to the authority in Resolution 15(b)) in connection with a rights issue (as defined in the Listing Rules issued by the Financial Conduct Authority pursuant to Part VI of the Financial Services and Markets Act 2000), to holders of equity securities, in proportion to their respective entitlements to such equity securities, but subject to such exclusions or other arrangements as the Directors may deem necessary or expedient in relation to treasury shares, fractional entitlements, record dates, legal or practical problems in or under the laws of any territory or the requirements of any regulatory body or stock exchange; and
  - (b) otherwise up to an aggregate nominal amount of £2,593,917.20 (such amount to be reduced by the nominal amount of any equity securities allotted pursuant to the authority in Resolution 15(a)),
  - provided that this authority shall expire on the conclusion of the next Annual General Meeting of the Company, or, if earlier, at the close of business on 16 August 2018, save that the Company may before such expiry make an offer or agreement which would or might require equity securities to be allotted after such expiry and the Directors may allot such equity securities in pursuance of such an offer or agreement as if the authority conferred by this resolution had not expired.

#### Notice of the Annual General Meeting continued

#### Special business continued

- 16. Subject to the passing of Resolution 15 of the notice of meeting, that, in substitution for all existing authorities, including the authority conferred on the Directors by Article 4(c) of the Company's Articles of Association:
  - (a) the Directors be and they are empowered pursuant to section 570 of the Act to allot equity securities pursuant to the authority conferred by Resolution 15(a) as if section 561 of the Act did not apply to any such allotment, provided that this authority shall be limited to the allotment of equity securities in connection with a rights issue (as defined in the Listing Rules issued by the Financial Conduct Authority pursuant to Part VI of the Financial Services and Markets Act 2000) but subject to such exclusions or other arrangements as the Directors may deem necessary or expedient in relation to treasury shares, fractional entitlements, record dates, legal or practical problems in or under the laws of any territory or the requirements of any regulatory body or stock exchange; and
  - (b) the Directors be and they are empowered pursuant to section 570 of the Act to allot equity securities for cash pursuant to the authority conferred by Resolution 15(b) as if section 561 of the Act did not apply to any such allotment, provided that this authority shall be limited to the allotment of equity securities (otherwise than in connection with any rights issue (as defined in the Listing Rules issued by the Financial Conduct Authority pursuant to Part VI of the Financial Services and Markets Act 2000)) having an aggregate nominal value of up to £778,175.10,
  - provided that this authority shall expire on the conclusion of the next Annual General Meeting of the Company, or, if earlier, at the close of business on 16 August 2018, save that the Company may before such expiry make an offer or agreement which would or might require equity securities to be allotted after such expiry and the Directors may allot equity securities in pursuance of such an offer or agreement as if the authority conferred by this resolution had not expired.
- 17. That the Xaar 2017 Long Term Incentive Plan, the main features of which are summarised in Appendix 1 to this notice, and a copy of the rules of which is produced to the meeting and initialled by the Chairman for the purposes of identification, be and is hereby approved and the Directors be hereby authorised to do all acts and things which may be necessary or desirable to carry the same into effect.
- 18. That the Directors be hereby authorised to establish future share plans for the benefit of employees outside the United Kingdom based on the Xaar 2017 Long Term Incentive Plan, modified to the extent necessary or desirable to take account of non-United Kingdom tax, securities and exchange control laws and regulations, provided that such plans must operate within the limits on individual or overall participation summarised in Appendix 1 to this notice.
- 19. That the Xaar 2017 Sharesave Plan, the main features of which are summarised in Appendix 2 to this notice, and a copy of the rules of which is produced to the meeting and initialled by the Chairman for the purposes of identification, be and is hereby approved and the Directors be hereby authorised to do all acts and things which may be necessary or desirable to carry the same into effect including to give effect to the Xaar 2017 Sharesave Plan as a tax-advantaged plan under Schedule 3 to the Income Tax Earnings & Pensions) Act 2003.

By order of the Board

Alex Bevis

Company Secretary

22 March 2017

#### Notes

- 1. A member entitled to attend and vote at the meeting is also entitled to appoint one or more proxies to attend and, on a show of hands or on a poll, vote instead of him. Where more than one proxy is appointed, each proxy must be appointed to exercise the rights attached to a different share or shares held by the appointing shareholder. The proxy need not be a member of the Company.
- 2. To be effective, the instrument appointing a proxy and any authority under which it is executed (or a notarially certified copy of such authority) must be deposited at the office of the Company's registrars not less than 48 hours before the time for holding the meeting or adjourned meeting. A form of proxy is enclosed with this notice. Completion and return of the form of proxy will not preclude ordinary shareholders from attending and voting in person.
- 3. Any person to whom this notice is sent who is a person nominated under section 146 of the Companies Act 2006 to enjoy information rights (a 'Nominated Person') may, under an agreement between him/her and the shareholder by whom he/she was nominated, have a right to be appointed (or to have someone else appointed) as a proxy for the Annual General Meeting. If a Nominated Person has no such proxy appointment right or does not wish to exercise it, he/she may, under any such agreement, have a right to give instructions to the shareholder as to the exercise of voting rights.
- 4. The statement of the rights of shareholders in relation to the appointment of proxies in paragraphs 1 and 2 above does not apply to Nominated Persons. The rights described in these paragraphs can only be exercised by shareholders of the Company.
- 5. In accordance with Regulation 41 of the Uncertified Securities Regulations 2001, the Company specifies that only those members entered on the register of members of the Company as at 9:30 am on 14 May 2017 (or in the event the meeting is adjourned, on the register of members 48 hours before the time of any adjourned meeting) shall be entitled to attend or vote at the meeting in respect of the number of shares registered in their name at that time. Changes to entries on the register of members after 9:30 am on 14 May 2017 (or in the event the meeting is adjourned, on the register of members less than 48 hours before the time of any adjourned meeting) shall be disregarded in determining the rights of any person to attend or vote at the meeting.
- 6. Copies of Directors' service agreements, the terms of appointment of Non-Executive Directors, the register of Directors' interests kept by the Company under section 808 of the Companies Act 2006, the Xaar plc 2004 Share Option Plan, the Xaar plc 2007 Share Save Plan, Xaar plc 2007 Long Term Incentive Plan, and the Xaar Share Incentive Plan will be available 15 minutes prior to the commencement of the meeting and will remain open and accessible during the continuance of the meeting to any person attending the meeting.
- 7. Biographical details of all Directors offering themselves for re-appointment are set out on pages 30 and 31 of the Annual Report and Accounts.
- 8. Shareholders should note that it is possible that, pursuant to requests made by shareholders of the Company under section 527 of the Companies Act 2006, the Company may be required to publish on a website a statement setting out any matter relating to: (i) the audit of the Company's accounts (including the auditor's report and the conduct of the audit) that are to be laid before the Annual General Meeting; or (ii) any circumstance connected with an auditor of the Company ceasing to hold office since the previous meeting at which annual accounts and reports were laid in accordance with section 437 of the Companies Act 2006. The Company may not require the shareholders requesting any such website publication to pay its expenses in complying with sections 527 or 528 of the Companies Act 2006. Where the Company is required to place a statement on a website under section 527 of the Companies Act 2006, it must forward the statement to the Company's auditor not later than the time when it makes the statement available on the website. The business which may be dealt with at the Annual General Meeting includes any statement that the Company has been required under section 527 of the Companies Act 2006 to publish on a website.
- 9. In order to facilitate voting by corporate representatives at the meeting, arrangements will be put in place at the meeting so that: (i) if a corporate shareholder has appointed the Chairman of the meeting as its corporate representative to vote on a poll in accordance with the directions of all of the other corporate representatives for that shareholder at the meeting, then on a poll those corporate representatives will give voting directions to the Chairman and the Chairman will vote (or withhold a vote) as corporate representative in accordance with those directions; and (ii) if more than one corporate representative for the same corporate shareholder attends the meeting but the corporate shareholder has not appointed the Chairman of the meeting as its corporate representative, a designated corporate representative will be nominated, from those corporate representatives who attend, who will vote on a poll and the other corporate representatives will give voting directions to that designated corporate representative. Corporate shareholders are referred to in the guidance issued by the Institute of Chartered Secretaries and Administrators on proxies and corporate representatives (www.icsa.org.uk) for further details of this procedure. The guidance includes a sample form of appointment letter if the Chairman is being appointed as described in (i) above.
- 10. CREST members who wish to appoint a proxy or proxies through the CREST electronic proxy appointment service may do so by using the procedures described in the CREST Manual. CREST Personal Members or other CREST sponsored members, and those CREST members who have appointed a service provider(s), should refer to their CREST sponsor or voting service provider(s), who will be able to take the appropriate action on their behalf.

## Notice of the Annual General Meeting continued

#### **Notes** continued

- 11. In order for a proxy appointment or instruction made using the CREST service to be valid, the appropriate CREST message (a 'CREST Proxy Instruction') must be properly authenticated in accordance with CRESTCo's specifications, and must contain the information required for such instruction, as described in the CREST Manual. The message, regardless of whether it constitutes the appointment of a proxy or is an amendment to the instruction given to a previously appointed proxy must, in order to be valid, be transmitted so as to be received by the issuer's agent (ID RA10) by 9:30 am on 14 May 2017. For this purpose, the time of receipt will be taken to be the time (as determined by the timestamp applied to the message by the CREST Application Host) from which the issuer's agent is able to retrieve the message by enquiry to CREST in the manner prescribed by CREST. After this time any change of instructions to proxies appointed through CREST should be communicated to the appointee through other means.
- 12. CREST members and, where applicable, their CREST sponsors, or voting service providers should note that CRESTCo does not make available special procedures in CREST for any particular message. Normal system timings and limitations will, therefore, apply in relation to the input of CREST Proxy Instructions. It is the responsibility of the CREST member concerned to take (or, if the CREST member is a CREST personal member, or sponsored member, or has appointed a voting service provider, to procure that his CREST sponsor or voting service provider(s) take(s)) such action as shall be necessary to ensure that a message is transmitted by means of the CREST system by any particular time. In this connection, CREST members and, where applicable, their CREST sponsors or voting system providers are referred, in particular, to those sections of the CREST Manual concerning practical limitations of the CREST system and timings.
- 13. The Company may treat as invalid a CREST Proxy Instruction in the circumstances set out in Regulation 35(5)(a) of the Uncertificated Securities Regulations 2001.
- 14. As at 7.00am on 22 March 2017 (the date of publication of this Notice), the Company's issued share capital comprised 77,817,517 ordinary shares of 10p each. Each ordinary share carries the right to one vote at a general meeting of the Company, except for the shares held in trust for the Xaar Share Incentive Plan totalling 137,960 shares and, therefore, the total number of voting rights in the Company as 7.00am on 22 March 2016 is 77,679,557.
- 15. Any member attending the meeting has the right to ask questions. The Company must answer any such question relating to the business being dealt with at the meeting but no such answer need be given if: (a) to do so would interfere unduly with the preparation for the meeting or involve the disclosure of confidential information; (b) the answer has already been given on a website in the form of an answer to a question; or (c) it is undesirable in the interests of the Company or the good order of the meeting that the question be answered.
- 16. A copy of this Notice, and other information required by section 311A of the Companies Act 2006, can be found at www.xaar.com.

#### Appendix 1

# XAAR 2017 LONG TERM INCENTIVE PLAN

The Xaar 2017 Long Term Incentive Plan (the 'LTIP') will replace the existing Xaar 2007 Long Term Incentive Plan. The terms of the LTIP are summarised below.

#### Eligibility

Awards may be granted to selected employees (including Executive Directors) of Xaar plc (the 'Company') and its subsidiaries (together with the Company, the "Group") at the discretion of the Remuneration Committee.

#### **Awards**

Awards may be granted as (a) a conditional right to acquire ordinary shares in the Company ('Shares') in the future at no cost or (b) an option with an exercise price, including a nil exercise price.

Awards granted under the LTIP are personal to participants and, except on death, may not be transferred. Awards will not form part of pensionable earnings.

## Timing of awards

Awards may normally only be granted within the six week period beginning with the date of the Company's announcement of its results for any period. Awards may be granted outside these periods in exceptional circumstances, as determined by the Remuneration Committee.

No awards may be granted more than 10 years after the date the LTIP is approved by shareholders.

#### Source of Shares

Awards under the LTIP may be granted over newly issued Shares, Shares held in treasury or Shares purchased in the market.

#### Individual limits

The Remuneration Committee will determine the value of awards to be granted to each participant in a financial year up to a maximum of 300 per cent. of base salary or, in exceptional circumstances in the case of recruitment, such higher amount as the Remuneration Committee decides is appropriate.

#### **Overall limits**

In any 10-year period, not more than 10 per cent. of the issued share capital may be issued under the LTIP and all other employees' share plans adopted by the Company and not more than five per cent. of the issued share capital may be issued under awards granted under the LTIP and any other discretionary employees' share plans adopted by the Company.

This limit does not include awards which have lapsed but will include awards satisfied with Shares transferred out of treasury for so long as required by UK institutional investor guidelines.

#### **Performance Condition**

The vesting of awards will be subject to the satisfaction of performance conditions which will be set by the Remuneration Committee before the grant of an award.

For awards granted in 2017, 60% of the award will vest depending on the Company's cumulative earnings per Share ('EPS') over three years and 40% will vest depending on the Company's revenue growth over that same three year period.

# Vesting of awards and holding period

In normal circumstances, an award will vest after a performance period of three years, subject to the achievement of satisfactory levels of performance up to vesting.

Following vesting and, where applicable, the exercise of an option, Shares will be issued or transferred to the participant. Any Shares issued following vesting of an award or exercise of an option will rank equally with Shares of the same class in issue on the date of allotment except in respect of rights arising by reference to a prior record date.

Shares received on vesting of an award or exercise of an option may be subject to a holding period at the discretion of the Remuneration Committee. During the holding period, the participant may not transfer, assign or otherwise dispose of the Shares or any interest in them except to fund any tax liabilities, to take up the participant's entitlements on a rights issue or where Shares are forfeited as a result of clawback.

# Malus and clawback

The Remuneration Committee may decide to reduce, including to nil, the number of Shares in an award (malus) or require the participant to make a repayment in respect of an award (clawback) where there is a material misstatement of financial results or where a participant's actions or omissions lead directly to a material loss to the Group or serious reputational damage to the Group.

#### Appendix 1 continued

#### Dividend equivalents

The Remuneration Committee may decide at any time before vesting that participants should receive an additional benefit equal in value to any dividends that they would have received during the vesting period, if they had been the holders of the vested Shares. The benefit can be provided in cash or in Shares. Alternatively, the Remuneration Committee may grant an award on terms that the number of Shares subject to the award shall increase by assuming that dividends that would have been paid on those Shares during the vesting period would have been used to buy further Shares.

#### Cash alternative and cash awards

Where an award has vested (or, in the case of an option, has been exercised) the Remuneration Committee may elect, instead of delivering Shares, to pay cash to the participant. The amount to be paid (subject to deduction of tax or similar liabilities) shall be equal to the market value of the Shares subject to the award. Alternatively, cash-settled awards can be granted from the outset if considered appropriate.

#### Leaving the Group

If a participant's employment ends in circumstances where he/she is a Good Leaver, the award will vest on the normal vesting date to the extent that any performance condition has been met over the performance period and pro-rated for time, unless the Remuneration Committee decides otherwise. Alternatively, the Remuneration Committee may allow an award to vest early, subject to satisfaction of the performance condition up to the date that the participant leaves.

A 'Good Leaver' is a participant who ceases to be employed due to ill-health, injury, disability, redundancy, death, because the company or business for which he works is transferred out of the Group or for any other reason at the discretion of the Remuneration Committee.

Awards held by a participant who leaves but is not a Good Leaver will lapse.

#### Takeovers and reorganisation

Awards will vest on a change of control of the Company to the extent the performance condition has been met up to that time and, unless the Remuneration Committee decides otherwise, will be pro-rated for time. Internal reorganisations do not automatically trigger the early vesting of awards.

If any other corporate events occur such as a demerger, delisting or special dividend which, in the opinion of the Remuneration Committee, may affect the current or future value of Shares, the Remuneration Committee may allow awards to vest but this will only be to the extent the performance condition has been met up to the event in question and, unless the Remuneration Committee decides otherwise, on a time pro-rated basis.

### Variation of capital

In the event of any variation in the share capital of the Company, the Remuneration Committee may make such adjustments as it considers appropriate to the number of Shares under award and any option exercise price.

#### **Amendments**

The Remuneration Committee can amend the LTIP in any way. However, shareholder approval will be required to amend certain provisions to the advantage of participants. These provisions relate to eligibility, individual and plan limits, the basis for determining a participant's entitlement to, and the terms of, the Shares or cash under award, the adjustment of awards on any variation in the Company's share capital and the amendment powers.

Minor amendments can be made without shareholder approval to benefit the administration of the LTIP, to take account of a change in legislation or to obtain or maintain favourable tax, exchange control or regulatory treatment.

# Appendix 2

# XAAR 2017 SHARESAVE PLAN

The Xaar 2017 Sharesave Plan ('Sharesave') will replace the existing Sharesave Scheme. The terms of the Sharesave are summarised below.

#### General

The Sharesave is an all-employee share option scheme under which eligible employees can acquire options over ordinary shares in the Company on a basis which is tax-favoured in the UK and at a discount (currently 20%) to the market value of the Shares at the date of grant. To exercise the options, participants must save out of contributions from their salary under a three- or five-year HMRC-approved savings contract. Savings contributions are subject to a statutory limit, currently £500 per month. The Sharesave will be administered by the Board which will determine whether and when the Sharesave will operate.

The Board will determine whether the shares required for the Sharesave will be newly issued, Treasury shares or market purchased. Benefits under the Sharesave are not pensionable, are personal to the participant and may not be transferred, assigned, charged or otherwise encumbered except that, on the death of a participant, an option may be transmitted to the participant's personal representatives.

#### Invitations

If the Board decides to operate the Sharesave, invitations must be sent to all eligible employees of each participating company and Directors of participating companies who are required to work a minimum of 25 hours per week. Employees are eligible provided they have been employed for any qualifying period (not exceeding five years) determined by the Board. The Board can also include any other employee or executive Director of a participating company. Invitations will normally be made within 42 days of an announcement of results, but may also be made within 42 days of the adoption of the Sharesave, if the Board believes the circumstances are sufficiently exceptional to justify Invitations being made, or the introduction of a new savings contract.

#### The savings contract

To participate in the Sharesave, an eligible employee must enter into a savings contract of three or five years' duration and agree to make contributions which cannot be less than a minimum per month set by the Board (of between £5 and £10) and a maximum of £500 per month (or any other maximum sum permitted by the legislation which confers tax-favoured status on the Sharesave from time to time).

# Grant of options

Employees who enter into savings contracts are each granted an option to acquire shares at the option price using the amount saved, including any bonus or interest payable under the related savings contract. Options must be granted within 30 days (or 42 days if the applications are scaled down) of the first day by reference to which the option price was set. A participant is not required to pay for the grant of an option.

#### Limit on the use of shares

In any 10 year period, not more than 10%. of the issued share capital may be issued under the Sharesave and all other employees' share plans adopted by the Company.

This limit does not include awards which have lapsed or been released but will include awards satisfied with Shares transferred out of treasury for so long as required by UK institutional investor guidelines.

# **Exercise of options**

An option must normally be exercised (in whole or in part) within six months after the completion of the related savings contract, provided the participant remains a Director or employee of a participating company, and may only be exercised once. Shares must be issued or transferred to the participant within 30 days of the date of exercise.

An option may be exercised early if a participant ceases employment with the Company or a participating company due to death, retirement, injury, disability, redundancy, a relevant transfer under the Transfer of Undertaking (Protection of Employment) Regulations 2006 or the sale of the participant's employing company or part of a business out of the Company's Group. On death, an option may be exercised by the participant's personal representatives. Options may also be exercised early in the event of a voluntary winding-up of the Company. On cessation of employment for other reasons or if a participant ceases to pay contributions under the related savings contract, options will normally lapse. An option may only be exercised to the extent of the savings in the related savings contract at the date of exercise (including any related bonus).

#### Option price

The option price will be determined by the Board but must not be less than the higher of:

- a) 80% (or such other percentage permitted by the relevant legislation) of the average of the middle market quotations for a share taken from the daily official list of the London Stock Exchange for the five dealing days (or the middle market quotation for a share for the dealing day) immediately preceding the invitation date or the date specified in the invitation or 80% (or such other percentage permitted by the relevant legislation) of the market value at such other time in accordance with HMRC guidance in the UK or as may be agreed in advance with HMRC; and
- b) in the case of an option to subscribe for shares, the nominal value of a share.

## Appendix 2 continued

#### Takeovers and reorganisation

Options may normally be exercised early if:

- (a) any person obtains control of the Company as a result of a general offer to acquire shares;
- (b) a person (or a group of persons acting in concert) becomes bound or entitled to acquire shares by serving a notice under sections 979-982 or 983-985 of the Companies Act 2006; or
- (c) a scheme of arrangement under section 899 of the Companies Act 2006 (or a similar under the laws of a country outside the United Kingdom) is sanctioned.

Options may be exercised up to 20 days before the relevant event or within six months of the event, or in the case of a section 979 notice served under the Companies Act 2006, until the expiry of the period during which a person is entitled or bound to acquire shares, after which time the options will lapse. Alternatively, with the consent of the acquiring company, options may be exchanged for equivalent rights to acquire shares in the acquiring company.

In the event of a Company reorganisation or merger, where the Shareholders of the acquiring company are substantially the same as the Company Shareholders immediately before the change of control, the Board may agree with the acquiring company that options will not be exercisable but will be exchanged for equivalent rights over shares in the acquiring company.

#### Rights attaching to shares

Shares issued to satisfy awards under the Sharesave will rank equally in all respects with the shares in issue on the date of allotment but will not rank for any rights attaching to shares by reference to a record date preceding the date of allotment. Where shares are transferred on the exercise of an option, option holders are entitled to all rights attaching to the shares by reference to a record date on or after the transfer date, but will not be entitled to rights before that date.

#### Variation of capital

If there is a variation in the equity share capital including a capitalisation or rights issue, sub-division, consolidation or reduction, the Board may adjust the number of shares subject to options and/or the option price, provided that the total option price (which must not exceed the expected proceeds of the related savings contract at the bonus date) and total market value of the shares under option must remain substantially the same.

#### **Amendments**

The Board can amend the Sharesave in any way. However, shareholder approval will be required to amend certain provisions to the advantage of participants. These provisions relate to which employees and Directors may participate in the Sharesave; the limit on the number of shares which may be issued or transferred out of treasury; the maximum contribution for a participant; the basis for determining the option price; any rights attaching to options and the shares or the basis for determining a participant's entitlement.

Minor amendments can be made without shareholder approval to benefit the administration of the Sharesave, to maintain its UK tax-advantaged status, to comply with or take account of the provisions of any proposed or existing legislation or any changes to that legislation, or, to obtain or maintain favourable tax, exchange control or regulatory treatment of the Company, any subsidiary or any present or future participant.

## **Termination**

The Sharesave may be terminated by the Company at any time. No options may be granted under the Sharesave after the tenth anniversary of the date of its approval by Company shareholders.

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