



Xaar plc
Interim
Report 2020

XAAR

Xaar is a world leader in the development of digital inkjet technology. Our technology drives the conversion of analogue printing and manufacturing methods to digital inkjet, which is more efficient, more economical and more productive than the traditional methods which have been in use for years. We design and manufacture printheads as well as systems for product decoration and 3D printing which use our inkjet technology.

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Through consistently delivering on our commitments we will be the partner of choice for all inkjet applications. With 30 years of experience, world class products and talented people our mission is to push technical boundaries to become the inkjet technology leader.

Printhead

Our Printhead business unit focuses on the design, manufacture, marketing and sales of printheads and associated products which are used in a variety of sectors such as for printing Ceramic Tile Decoration, Graphics, Décor, Labels and Packaging as well as 3D Printing and Additive Manufacturing.

Product Print Systems

Product Print involves printing all kinds of industrial and promotional objects such as medical equipment, automotive parts, tools, apparel, appliances, sports equipment and toys. Xaar company, EPS, manufactures and sells a range of highly customised print systems for these applications, including some using Xaar's own inkjet printheads.

3D Printing

Our 3D Printing business unit, in which Xaar 3D sits, develops 3D printing solutions based on High Speed Sintering technologies which will have unique capabilities to address new markets especially in manufacturing. With investment from Xaar plc and Stratasys, Xaar 3D can leverage the natural synergies between global leaders in inkjet technology and 3D printing technology.

23.7€M

Revenue

H1 2020	23.7
H2 2019	23.9
H1 2019 (restated)	25.5
H2 2018	28.2
H1 2018	35.3

(3.9€M)

Adjusted (loss)/profit before tax¹

H1 2020	(3.9)
H2 2019	(7.4)
H1 2019 (restated)	(2.5)
H2 2018	(14.9)
H1 2018	(10.1)

(1.1€M)

(Loss)/profit before tax

H1 2020	(1.1)
H2 2019	(11.3)
H1 2019 (restated)	(0.7)
H2 2018	(14.3)
H1 2018	(1.1)

23.9€M

Net cash balance²

H1 2020	23.9
H2 2019	25.3
H1 2019	21.6
H2 2018	27.9
H1 2018	36.8

Operational and strategic highlights

- Strong progress made implementing new strategy across the business
- Change in go-to-market strategy for the Printhead business has seen new accounts won and customers re-engaging. The restructured business is well positioned to navigate the current economic climate with clear product roadmap
- Engineered Printing Solutions (EPS) has been impacted by Covid-19, however, increased commercial focus has seen margins improve on slightly higher revenues compared to H1 2019
- Xaar 3D programme on schedule
- ImagineX platform launched with previous investment in Thin Film IP deployed in Bulk Printhead Technology
- Corporate brand re-positioned to reflect new strategy and vision

Financial highlights

- First half revenue of £23.7m in line with management expectations and consistent with H2 2019, down 7% year-on-year
- Gross margin of 27% in line with H1 2019, up 6% on H2 2019
- Gross R&D spend of £4.0m, up £1.3m on H1 2019 and £1.0m on H2 2019, as investment is focused on the new Bulk Printhead roadmap and Xaar 3D
- Positive EBITDA contributions from Printhead and EPS were offset by increased investment in 3D
- Net cash inflows from operating activities related to continued operations of £2.3m
- Strong balance sheet with net cash of £23.9m and working capital reduced by £2.7m in the first half of 2020

1 Adjusted measures exclude items from the IFRS operating (loss)/profit margin and (loss)/profit before tax, such as restructuring and investment expenses, share-based payment charges, exchange differences on intra-group transactions, Thin Film impairment and research and development credit, per the reconciliation of adjusted financial measures on page 18.

2 Net cash includes cash, cash equivalents and treasury deposits.

Strategy update

Business on track with clear strategy in place to deliver long-term growth



The Board is pleased with the progress that has been made to date and is extremely proud of how our employees have successfully adapted to changes in the working environment and how they have embraced the new direction the Company is taking.

Andrew Herbert
Chairman

Strategic Report

In April 2020 we announced new strategies across the business and are pleased to say that we have made good progress in implementing them. Whilst these strategies are focused on returning the business to profitability and growth in the medium term, the effect of some of these changes can already be seen.

Business units

Printhead

Our four strategies for the Printhead business are:

1. A customer-centric business model that places the Original Equipment Manufacturer (OEM) at the heart of everything we do;
2. Focus on markets where Xaar Bulk Printhead Technology has a competitive advantage;
3. A product roadmap that will develop the Bulk Printhead range to offer advantages over the competition in existing and new markets; and
4. A marketing and communications plan that drives home the advantages of our current products, sells the value and capabilities of the new products on our roadmap, and builds trust in the new business model.

A customer-centric business model

The change in go-to-market strategy which included removing distribution channels, a clear pricing strategy, and a sales process that is focused on selling the printhead based on its technical merits and the value of the relationship with Xaar, has already started to reap rewards. In the first half of the year we have seen several customers return, and we have managed to win several new accounts. Consequently, we now have OEMs developing machines across multiple applications with a range of our products.

The change in go-to-market has helped recover some of the losses seen in the second half of 2019; more significantly, the change in strategy has started to lay the foundations for long-term growth with an increased number of OEMs developing machines with our printheads, and higher levels of engagement with both OEMs and end users who are developing their own print solutions.

Whilst we have seen early success with the change in strategy, a lot of work is still required to build confidence across our marketplace. This will take time and positive reinforcement through the execution of our strategy and our commitments to customers.

Competitive advantage of our Bulk Printhead Technology

Xaar's Bulk Printhead Technology offers several benefits over the competition, principally with through flow technology, and ability to print with the widest range of fluids. Our sales and marketing teams have been working hard to make these benefits better understood and to utilise these to target specific markets. These USPs alongside the change in our approach to customer engagement have meant that we have won a number of new accounts which we expect will generate revenues for the Group in 2021 and beyond. Perhaps more exciting is the increasing number of customers in our account pipeline, which includes interest from a variety of sectors ranging from Labels to Aerospace and from Glass and Ceramics to Advanced Manufacturing processes used in Electronics.

Product roadmap and ImagineX platform

Good progress has been made on several technology and development programmes. Over recent years Xaar has invested in excess of £70 million in its Thin Film development programme. Whilst that programme has stopped, the investment developed a significant portfolio of IP, some of which is now being deployed directly into our Bulk Printhead Technology platform. This new platform,

Read more about **our strategy in 2020** on page 03 and page 07

Visit www.xaar.com to see the Xaar brand identity

launching under the ImagineX brand name, will drive the next phase of Xaar's success and enable industry-leading products across all market sectors. We expect to launch several new products over the next 24 months and beyond.

These products will deliver enhancements to the current portfolio by significantly improving speed and throughput, as well as resolution. Our future products will also provide additional capabilities to increase our addressable market, such as the ability to use aqueous fluids.

Accordingly, we expect to drive improved adoption in several markets where we are currently under-represented, such as Wide Format Graphics, Labels, Packaging and Textiles. The performance enhancements in our product roadmap give a clear path for OEMs to upgrade their products and maintain their product differentiation.

We are engaged with OEM partners on a number of these programmes, with our partners committed to alpha and beta trials. The change to the customer-centric business model is enabling improved Voice of Customer and we are engaged with a wide group of OEMs who are providing feedback on the roadmap.

The first product from the ImagineX platform roadmap, the Xaar 2002, was launched in August 2020 following extensive

customer feedback and incorporates several technology developments as well as an increased ease of integration for the OEM. With many significant product launches planned over the next 18 to 24 months, a lot of work is going into changing the perception of how Xaar does business as well as the capabilities of Xaar's Bulk Printhead Technology. These outputs alongside the refreshed brand identity will form a platform upon which we expect to successfully launch our ImagineX product offerings.

Over the longer term Xaar will target a vertically integrated product offering in certain markets, whilst continuing its primary business model of selling printheads to OEMs and User Defined Integrators (UDIs). Additional capabilities will be achieved through either partnership, development of existing capabilities or acquisition.

Marketing and communications

Following our decision to stop the Thin Film technology programme, marketing resources have been re-focused on Xaar's Bulk Printhead platform. We have refreshed the Xaar brand identity, putting in place a platform for a number of marketing campaigns to generate new leads, change the perception of the Company in the market place and to position the Company prior to a number of significant product launches expected in 2021.

Led by the marketing team, significant work Company-wide has gone into repositioning Xaar both internally and externally. This started with the revised mission and vision and has now been followed up by a refresh of the Xaar brand identity. These changes are important as we look to reposition the Company within its marketplace, and following the change in strategic direction, to ensure that all stakeholders are engaged and excited by the direction Xaar is taking.

To see the new Xaar brand identity visit www.xaar.com.

EPS

Our strategy for the EPS business is centred on three principles:

1. Focused business development aimed at utilising existing technologies to expand into adjacent markets;
2. Increased scalability through the standardisation of modular components whilst retaining the ability to meet each customers' unique requirements through customised fixtures and tooling; and
3. Improved controls over pricing and costs.

Good progress has been made with all three elements of the strategy, with the speed of implementation varying for each of the three principles. The progress on achieving focused business development has been hampered slightly by the impact of Covid-19 due to the travel restrictions implemented to safeguard our personnel. Despite this, new target markets have been identified and several opportunities have been added to the pipeline. Our engineering teams have worked hard on delivering standardised modular systems and we have seen several orders won using this philosophy. This is significant in that it will not only reduce design costs, and

improve product margins, but will also reduce the lead-time for the customer. Process changes have also been implemented to drive improvements in the quotation process and cost control. The impact of these changes has already started to flow through to the financial results, with gross margins for H1 up 7% on the 2019 full year gross margin.



The Group has undergone a significant amount of change in the first part of the year with a change in strategic direction and a number of changes at Board level. The fact this has been successfully achieved in the face of the Covid-19 pandemic is a real accomplishment.


Andrew Herbert
Chairman



There has been a positive reaction by customers and employees alike to our new commercial model and with the next generation of products in our roadmap, and the rollout of our new corporate brand, the future is exciting for Xaar.

John Mills
Chief Executive Officer

3D

With the strategic direction of the 3D business unit established following the increased investment in Xaar 3D by Stratasys in December 2019, the focus has been on executing this strategy. For 2020 this means the successful testing of machines manufactured by our sub-contract manufacturing partner, shipping machines to Stratasys for beta trials and establishing the go-to-market teams and infrastructure prior to product launch. Despite some delays linked to Covid-19, testing has gone well and plans for the product launch are well underway.

Covid-19 (Coronavirus)

Following the outbreak earlier in the year we took measures across the Group to ensure the health and wellbeing of all our employees. The business has adapted incredibly well to these challenges with much of the organisation operating effectively from remote locations. In addition, changes at our manufacturing facilities have meant that we have been able to continue production without compromising the health and safety of our employees or our production capabilities.

The Xaar Printhead business has a significant customer base in both China and EMEA, including a strong customer presence in both Italy and Spain. Despite lockdown in

these areas, which resulted in a number of short-term production stops at our customers and limited our ability to visit, we have continued to support and engage with them and have seen sales into both Asia and EMEA increase versus H2 2019. We have been helped by the ability of our teams to maintain our supply chain and production capabilities in order to meet the requirements of this increased demand. Our ability to ensure the continuity of supply has been well received by our customers and has helped us secure several orders versus the competition.

As with our Printhead business the US-based EPS business has continued to operate throughout the period with little interruption. However, demand for products declined in the second quarter of the year with consumables declining quarter-on-quarter and the expected increase in analogue machine sales in Q2 not coming to fruition. As an OEM and supplier to end users the EPS business has felt the impact of a slowdown in the economy more directly than the Printhead business. The EPS business has taken advantage of the Paycheck Protection Program (PPP) established by the 2020 US Federal Government Coronavirus Aid, Relief, and Economic Security Act (CARES Act). As part of the PPP EPS have taken out a loan of \$1.0m

which is expected to be forgiven in full. EPS is well positioned to take advantage of any upturn and has continued to secure orders for use of its products in various sectors despite the limitations arising from the pandemic.

The 3D business unit has operations in Nottingham, UK, and Copenhagen, Denmark and has seen delays in the testing and commercialisation of the 3D printers. These were caused by minor delays in the supply chain (which have now all been addressed) and more significantly by restrictions in Denmark which limited the number of individuals who were allowed in the Copenhagen facility, restricting testing capacity.

Having adapted incredibly well to the changing environment and ensured the integrity of our supply chains, we remain cautious. Both our Printhead business and EPS were well positioned prior to the pandemic with strong order books and this has helped us greatly. Whilst our order books remain relatively strong, we are aware that the full effect of the pandemic may not have filtered through the entire supply chain, and we could still be impacted by a second wave. We believe we are well positioned to continue to support our customers and suppliers, and our strong cash and balance sheet position provides confidence that we are well placed.

Operating sustainably

Xaar strongly believes that corporate responsibility is integral to business success. We uphold the highest of standards across our business and comply with all relevant regulations in the territories in which we operate whilst enhancing the working environment for our employees and minimising the environmental impact of our products.

In August 2020 we introduced new packaging across our printhead portfolio that will see all Xaar's printheads being shipped in fully recyclable and biodegradable cardboard packs by the end of 2020 with the aim of reducing our plastic consumption by 1.2 tonnes per year.

In addition, we will be moving our electricity supply to green energy later in the year which will supplement measures we are already taking to improve energy efficiency.

Our priority during the Covid period has been to ensure the health and wellbeing of our employees. Beyond this we have supported our local community by donating PPE to the Addenbrooke's NHS trust and manufacturing 3D printed headbands for protective masks.

Brexit

The Group operates globally and the potential impact following the transition phase of Brexit is being monitored. One of the greatest challenges is potentially concerning EU workers and migration. Any actual or perceived barriers to free trade are an obvious area of concern for us as this could make trading with our EU customers more complex. As a result of Brexit, the Group is exposed to potential currency fluctuations, although not significant. Brexit and trade barriers continue to be an integral part of the Group's

Going concern

The Board continuously reviews the performance of the business and its prospects. Throughout the Covid-19 pandemic the Board has also reviewed numerous downside scenarios for each of the business units and the Group as a whole. As well as reviewing downside scenarios, and possible mitigations, the Board has also performed a reverse stress test of the business to assess the Group's ability to continue as a going concern. The results of the stress test indicate the business could withstand very significant changes in the trading environment whilst being able to continue to trade.

To date the impact of Covid-19 on the Group's trading has been minimal and the Board remains cautiously optimistic. The Group continues to enjoy a strong cash position and is well positioned to cope with the current situation. The Board remains confident in the long-term prospects for the Group and its ability to continue as a going concern for the foreseeable future. For this reason, we continue to adopt the going concern basis in preparing the financial statements.

Outlook

As stated in prior announcements, the economic impact of the Covid-19 pandemic makes it difficult to assess the performance for the remainder of the year with any certainty, hampering our ability to provide reliable guidance. The short-term outlook remains positive with the order books for all three business units remaining strong, and the strength of the Group's balance sheet and its cash position leaves it well placed to withstand further volatility in the market. Good progress has been made in implementing the new strategy and the success we have had in the first half of the year means the business is well-positioned. The foundations, that are being laid at present will provide a springboard for future growth and a return to profitability in the medium term.



We are very pleased with these results; they demonstrate the business is on track and our new strategy is working despite the unprecedented economic backdrop.

It is particularly gratifying to see us win new business as we re-engage with customers in our core markets.

John Mills
Chief Executive Officer

To support our local community, we have started a programme of work to establish apprenticeship and graduate schemes which we expect to roll out over the next 12 months. This is aligned with our sponsorship of local clubs around Huntingdon and Cambridge to drive interest in STEM subjects among school students.

ongoing risk management and review process, for which solutions to address the risks identified are explored and implemented. Although there is still uncertainty surrounding the outcome of Brexit post the transition phase, we do not expect the direct consequences of Brexit to have a material impact on the Group.

Sales	2020 H1				2019 H2				2019 H1			
	PH	PPS	3D	Total	PH	PPS	3D	Total	PH	PPS	3D	Total
EM												
Americas	3.9	6.9	-	10.8	3.8	9.2	-	13.0	4.4	6.5	-	11.0
Asia	4.5	-	-	4.5	3.5	-	-	3.5	3.5	-	-	3.5
EMEA	8.4	-	0.1	8.4	7.4	-	-	7.4	11.0	-	-	11.0
Total	16.8	6.9	0.1	23.7	14.8	9.2	0.0	23.9	18.9	6.5	0.0	25.5

Continuing operations

In line with management expectations revenues were £23.7m for the Group representing a year-on-year decline of £1.8m (H1 2019: £25.5m) but were flat relative to H2 2019 (H2 2019: £23.9m).

Following a significant decline in Printhead revenues in the second half of 2019, where revenues declined from £18.9m in the first half to £14.8m in the second half, revenues have started to recover driven by stronger performances in Asia and EMEA. Revenues of £16.8m represent growth of £2.0m half-on-half despite being down £2.1m on the same period last year.

Much of the variability in Printhead revenues can be linked to two sectors, the Ceramics and Glass sector and the Coding & Marking (C&M) and Direct to Shape (DTS) sector, with all other sectors remaining relatively flat over the last three halves.

The strong performances in both Asia and EMEA mainly relate to the Ceramics sector with the Ceramics and Glass sector increasing 39% half-on-half despite being down 22% year-on-year. This largely relates to the re-engagement of customers who have started to develop or manufacture new machines using the 2001+ and the newly launched 2002 products.

The C&M and DTS sector has rebounded following its decline in H2 2019, increasing £0.6m half-on-half following increased demand for both the 128 and 1003 U products into C&M.

Revenues from the EPS business increased £0.4m year-on-year but declined £2.3m relative to H2 2019.

Sales of digital inkjet machines remained strong in the first half of 2020 driven by a strong order book prior to Covid-19. Sales were up marginally on the second half of 2019 and were almost double year-on-year. Sales of consumables declined slightly relative to both H1 and H2 2019 driven in part

Revenues in the Xaar 3D business for H1 2020 related to grant income and service fees and were up £0.1m on 2019. Revenue from the sale of machines will commence in H2 2020.

Gross profit for the period declined £0.6m year-on-year to £6.4m (H1 2019: £7.0m) but increased £1.4m relative to the second half of 2019 (H2 2019: £5.0m). Gross margins remained flat year-on-year

£M	2020 H1	2019 H2	2019 H1	Var to 2019 H2 (%) ¹	Var to 2019 H1 (%) ¹
Ceramics and Glass	6.1	4.4	7.8	39%	(22%)
WFG and Labels	2.9	2.8	2.8	5%	3%
Packaging and Textiles	0.4	0.5	0.4	(30%)	(9%)
C&M and DTS	6.0	5.4	6.5	11%	(9%)
3D and Adv. Manufacturing	1.3	1.5	1.1	(12%)	20%
Royalties	0.2	0.3	0.3	(31%)	(39%)
Total	16.8	14.8	18.9	14%	(11%)

¹ Percentages are subject to rounding arising from conversion to £m from actual figures.

by the temporary shutdown of customers' sites and reduced end user demand due to Covid-19.

Sales of analogue pad printing lines declined £0.9m year-on-year and £2.0m relative to H2 2019 with both the sales of machines and consumables declining. With analogue machines typically sold on shorter lead times than the digital machines the order book prior to Covid-19 impacting the Americas was naturally not as strong as that of the digital machines and sales since the end of February 2020 have been below expectations.

at 27% and up on H2 2019 (21%). Whilst gross margins across the Group remained flat the business mix across the Group changed. Gross margins for the Printhead business fell from 27% in H1 2019 to 23% largely due to a £1.0m provision for critical spares used in production whilst gross margins for the EPS business increased from 27% to 35% due to increased controls over pricing and costs alongside the standardisation of modular components.

Net R&D spend increased £2.6m year-on-year (2020: £4.2m; H1 2019: £1.6m). This was driven by a £1.2m increase in gross R&D spend (2020: £4.0m; H1 2019: £2.7m), £0.5m of which related to the Printhead business and £0.7m related to the Xaar 3D business, and a net £1.4m increase related to the capitalisation and amortisation of Xaar 3D development costs (amortisation commenced in December 2019).

Sales and marketing costs decreased £1.3m from £4.3m in H1 2019 to £3.0m. This largely relates to cost savings in the Printhead business as a result of the previously announced restructuring.

G&A costs, on an adjusted basis, increased by £0.2m year-on-year. However, under IFRS G&A expenses decreased from £3.8m in the first half of 2019 to £2.9m in the first half of 2020. This was largely driven by a £0.7m variance in foreign exchange gains on intra-company balances and a £0.3m decrease in share-based payments.

Impairment losses on financial assets improved from a £0.1m charge to the income statement in H1 2019 to a credit of £0.4m despite increases in the expected credit losses as a result of Covid-19. The credit to the income statement is a result of the recovery of some of the

doubtful debt which related to a distribution channel used by the Printhead business.

Other operating income in the period of £0.8m relates to the PPP loan taken out by the EPS business which is expected to be forgiven having met all qualifying criteria.

Restructuring costs of £0.2m (H1 2019: £0.1m) related to the costs associated with the restructuring of the Printhead business in Q4 2019 and transactional costs in relation to the Xaar 3D agreement with Stratasys.

The adjusted EBITDA for the period was a £1.3m loss (H1 2019: £0.8m loss). The Printhead business unit went from a £0.4m EBITDA loss in H1 2019 to a £0.4m profit in H1 20 with the EPS business going from breakeven adjusted EBITDA of £0.6m. The increases in the Printhead and EPS businesses were offset by the increased investment in 3D where the adjusted EBITDA went from a loss of £0.4m in H1 2019 to a £2.4m loss in H1 2020 driven by increased net R&D spend.

The adjusted loss before tax for continuing operations in the period was £3.9m (H1 2019: loss of £2.5m). The loss before tax under IFRS was £1.1m (H1 2019: loss of £2.9m) with a tax charge of £0.4m bringing the loss for the period to £1.6m (H1 2019: loss of £2.5m).

£m	2020 H1	2019 H2	2019 H1	Var to 2019 H2 (%) ¹	Var to 2019 H1 (%) ¹
IJ Machines	2.9	2.8	1.5	1%	92%
IJ Consumables	1.1	1.3	1.2	(10%)	(1%)
IJ Total	4.0	4.1	2.6	(3%)	51%
PP Machines	0.9	2.6	1.5	(64%)	(38%)
PP Consumables	1.7	2.0	2.0	(14%)	(15%)
PP Total	2.6	4.6	3.5	(42%)	(25%)
Other	0.2	0.5	0.4	(52%)	(37%)
Total	6.9	9.2	6.5	(25%)	5%

¹ Percentages are subject to rounding arising from conversion to £m from actual figures.

Discontinued operations

A £3.3m loss was recorded in the first half of 2020 in relation to the discontinued Thin Film operation (2019: £47.7m) with cash outflows for the period of £3.1m (2019: £13.2m). The Thin Film costs in the period related to the build of inventory for anticipated Last Time Buy orders of printheads, the cost of retaining a small team of engineers to assess options to monetise the Thin Film IP whose roles were made redundant in June 2020, and a number of supplier liabilities. Costs in the second half of 2020 are expected to be significantly lower with only a small number of Last Time Buy orders to fulfil and no other ongoing costs.

Strong cash focus and improved working capital position

Cash and cash equivalents, including treasury deposits, declined by £1.4m during the half from £25.3m to £23.9m. Excluding the discontinued Thin Film operations, cash increased £1.7m driven by £2.3m of net cash from operating activities which included a £3.4m reduction in working capital.

Net assets for the Group decreased by £4.7m, £3.3m of which related to discontinued operations and £1.4m linked to continued operations, to £65.9m (2019: £70.7m).

Non-current assets declined £2.4m in the first half of the year driven primarily by the depreciation of assets with capital expenditure across the Group kept to a minimum.

Current assets declined £5.0m as the Group focused on improving its working capital position. £1.9m was generated from inventory as inventory in the Printhead business was managed down by £3.0m whilst £1.1m was added across the EPS and

3D businesses reflecting the timing of EPS customer orders and the build of inventory prior to commercialisation of 3D printers. Trade and other receivables reduced by £1.0m driven by a strong focus on cash collection and a reduction in days sales outstanding in the Printhead business. Current tax assets declined £0.7m following the receipt of Research and Development Expenditure Credits and a tax refund.

Current liabilities reduced by £2.4m due to a reduction in derivative financial liabilities of £1.1m and a decrease in provisions, mainly in relation to the discontinued Thin Film operation, of £1.3m.

Non-current liabilities, mainly related to lease liabilities recorded under IFRS 16, decreased £0.3m in the first half of 2020.

Andrew Herbert
Chairman

John Mills
Chief Executive Officer

29 September 2020

Risk and uncertainties under Covid-19 – Reporting in times of uncertainty

The Financial Reporting Council (FRC) in June 2020 issued a publication in support of reporting in times of uncertainty and the guidance to be addressed in publication of interim reports particularly around going concern, risk and viability. Within the guidance were five questions that it proposed investors would seek information on in support of appropriate disclosures; these five questions focus on resources, actions and future expectation.

Activity	Questions	Response
Resources	How much cash does the company have?	£23.9m being £22.9m cash plus £1m treasury deposits.
Resources	What cash and liquidity could the company obtain in the short term?	Xaar has sufficient cash available in the short term without entering into debt or finance arrangement with lenders.
Action	What can the company do to manage expenditure in the short term?	Further operating cost reduction activities could be undertaken, to lower costs in the short term. Lower capital investment in new products and research and development.
Action	What other actions can the company take to ensure its viability?	Alternative investment partnerships in supply chain, monetisation of intellectual property, disposal of subsidiary investments.
The Future	How is the company protecting its key assets and value drivers?	Pro-active management of existing projects working in partnership with customers and suppliers to deliver new products to market.

Update to risk and uncertainties disclosure

A number of potential risks and uncertainties exist which could have a material impact on the Group's performance over the second half of the financial year and could cause actual results to differ materially from expected and historical results.

The Group has processes in place for identifying, evaluating and managing the key risks which could have an impact upon the Group's performance. The current risks, together with a description of how they relate to the Group's strategy and the approach to managing them, are set out on pages 28 to 35 of the 2019 Annual Report and Accounts which is available on the Group's website at www.xaar.com.

The Group has reviewed these risks and concluded that they will continue to remain relevant for the second half of the financial year. The potential impact of these risks on our strategy and financial performance, together with details of our specific mitigation actions, are set out in the 2019 Annual Report.

The full list of principal risks relevant as at the half year comprises:

Risk area	Description in Annual Report	Likelihood / Magnitude in Annual Report	Actions / Mitigation for interim report
Market	Competition: Maximising returns over the long term in the target application through early adoption to achieve a market leading position and retention of that position.	Probable / Very High	New corporate branding and increased marketing aligned to new product launches are expected to deliver significant improvement in target markets.
	Identification of market requirements: Successfully developing products with the characteristics that meet requirements within the necessary timescale.	Possible / Very High	Continued success in the approach to market, working closely with OEMs to develop new products to meet market requirements.
	Commercialising and maintaining products: Creating value by generating innovative products.	Possible / High	As outlined in the strategy update (pages 2&3) a pipeline of development in new printhead products is taking place.
	Merger & acquisition opportunities: Seek opportunities to expand, create synergies and generate greater shareholder value.	Possible / Medium	No significant change.

Risk area	Description in Annual Report	Likelihood / Magnitude in Annual Report	Actions / Mitigation for interim report
Operational	Organisational capability: Having the right people in the right roles.	Possible / Medium	Senior management appointments have been made in the first half to assist in delivering the new market strategy and business unit results.
	Coronavirus: Tracking the potential impact and response to pandemic and government guidance.	Certain / Very High	Covid update provided on page 4 of the strategy update.
	Brexit: Tracking the potential impact of the UK Government's negotiations.	Probable / Medium	Brexit update provided on page 5 of the strategy update.
	Manufacturing facility: Diversifying products, locations and manufacturing partners to alleviate operational issues.	Remote / High	Facilities are continually reviewed for operational requirements to ensure they are fit for purpose.
	Partnerships: Working with the right companies, at the right time on the right terms to deliver long-term value.	Possible / High	Work continues on developing close working relationships with OEMs for printheads and Stratasys for the launch of 3D printer product.
	IT systems & information failures: The Group uses IT systems to operate and control its business; any disruption to this would have an adverse impact on the business. The Group also needs to ensure the protection and integrity of its data.	Probable / Medium	Significant number of employees are working from home, this has required improvements to be made in security and access to systems and use of remote working solutions.
Financial	Ability to access sufficient capital: Ability to access sufficient capital to fund growth opportunities.	Probable / High	Xaar has a sufficient cash position to enable continued funding of research and development of product development in support of the growth opportunity.
	Customer credit exposure: Offering credit terms ensuring recoverability is reasonably assured.	Possible / High	Continued improvement in DSO, settlements agreed with overdue debts. Ongoing credit risk monitoring, pro-active response to changes in credit insurance/exposure.
	Inventory obsolescence: Holding inventory levels that are not in excess of normal demand.	Possible / High	Further improvements arising from continuous manufacturing capability to deliver against customer orders in H1. Provisions reviewed against demand requirements, obsolete reserves on finished products as part of customer buy-back/returns.
	Exchange rates: Monitoring global economic events and mitigating any resulting significant exchange rate impacts.	Possible / Low	Ongoing review to mitigate impact of exposure through USD/EUR movements – development of new treasury strategy in H2.

Corporate governance

Within the Annual Report for 2019 on pages 54 to 58 was a new element under the s.172 statement, effectively extending the review of corporate governance across the individual stakeholders, and the engagement undertaken by the Directors.

Stakeholders	Engagement activities in H1 / Impact of Covid / expectation for H2
Shareholders: All Board decisions are made to promote the long-term success of the Group for the benefit of our shareholders	Board members have engaged with corporate shareholders, holding virtual meetings to communicate the new strategy and progress. There will be significant investor roadshow undertaken in H2. Investec have been appointed as new corporate broker.
People: Our people are a highly skilled and technical workforce. They are an essential component of the Group's ability to stay ahead in a fast-moving world	There has been continuous communication with employees during Covid-19 with weekly e-mail business and Covid updates from the CEO. Employees have support with fully trained in house mental health first aiders and access to a confidential helpline, Worklife Solutions.
Community: As a Group, we have a wide-reaching indirect impact on the communities and environments we interact with and we are committed to making sure that this impact is as positive as possible	Activities have continued to improve the energy efficiency of the production facility in Huntingdon. Xaar has donated PPE to our local NHS trust and manufactured 3D printed headbands for protective masks.
Customers: Understanding our customers is critical for the success of the business. By developing long-term relationships with them we are well placed to support their evolving business requirements	Xaar has secured new trading relationships with OEMs in China and is securing a pipeline of orders for both existing and new products. The relationship with Stratasys progresses as the first 3D products have been shipped for beta testing prior to the go to market launch.
Suppliers & partners: Our relationships with our suppliers and partners are integral to the delivery of quality products to our customers and the operational success of the business	We have maintained positive relationships with suppliers ensuring payment in line with agreed payment terms, and working to secure supply of sufficient raw materials in advance of the year end.

Directors – Board & governance

In the first six months of the year there have been a number of changes within the membership of the Executive and Non-Executive Board:

Date	Role	Retirement	Appointment
1 March 2020	Chief Finance Officer	–	Ian Tichias
1 April 2020	Chairman	Robin Williams	Andrew Herbert
1 April 2020	Chair of Audit Committee	Andrew Herbert	Chris Morgan
1 April 2020	Chair of Nomination Committee	Robin Williams	Andrew Herbert
1 May 2020	Non-Executive Director	–	Alison Littlely
30 June 2020	Non-Executive Director	Margaret Rice-Jones	–
30 June 2020	Chair of Remuneration Committee	Margaret Rice-Jones	Alison Littlely

All Directors were re-appointed at the AGM on 2 June 2020, except for Alison Littlely, who was formally re-appointed by the Board post AGM.

Directors' responsibilities statement

We confirm that to the best of our knowledge:

- the condensed set of financial statements has been prepared in accordance with International Accounting Standard 34 – Interim Financial Reporting as adopted by the EU
- the interim management report includes a fair review of the information required by:
 - DTR 4.2.7R of the Disclosure Guidance and Transparency Rules, being an indication of important events that have occurred during the first six months of the financial year and their impact on the condensed set of financial statements; and a description of the principal risks and uncertainties for the remaining six months of the year; and
 - DTR 4.2.8R of the Disclosure Guidance and Transparency Rules, being related party transactions that have taken place in the first six months of the current financial year and that have materially affected the financial position or performance of the entity during that period; and any changes in the related party transactions described in the last Annual Report that could do so.

By Order of the Board



John Mills
Chief Executive Officer

29 September 2020

Condensed consolidated income statement

for the six months ended 30 June 2020

	Notes	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (restated-unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Revenue	3	23,728	25,472	49,397
Cost of sales		(17,359)	(18,503)	(37,435)
Gross profit		6,369	6,969	11,962
Research and development expenses		(4,230)	(1,582)	(3,502)
Research and development expenditure credit		336	–	260
Sales and marketing expenses		(2,975)	(4,290)	(8,410)
General and administration expenses		(2,745)	(3,849)	(8,689)
Impairment gains / (losses) of financial assets		388	(81)	(2,715)
Restructuring costs	2	(170)	(105)	(896)
Gain / (loss) on derivative financial liabilities	8	1,094	(21)	106
Other operating income	2	819	–	–
Operating loss		(1,114)	(2,959)	(11,884)
Investment income		45	58	103
Finance costs for leases		(57)	(46)	(110)
Loss before tax		(1,126)	(2,947)	(11,891)
Income tax (expense) / credit	5	(429)	400	(3,501)
Loss for the period from continuing operations		(1,555)	(2,547)	(15,392)
Loss from discontinued operations after tax	9	(3,267)	(47,650)	(56,082)
Loss for the period		(4,822)	(50,197)	(71,474)
Attributable to:				
Owners of the Company		(3,522)	(50,088)	(71,051)
Non-controlling interest		(1,300)	(109)	(423)
Loss for the period		(4,822)	(50,197)	(71,474)
Earnings / (loss) per share – Total				
Basic	6	(4.6p)	(65.0p)	(92.1p)
Diluted	6	(4.6p)	(65.0p)	(92.1p)
Earnings / (loss) per share – Continuing operations				
Basic	6	(0.3p)	(3.2p)	(19.4p)
Diluted	6	(0.3p)	(3.2p)	(19.4p)

No dividends were paid in the current or prior period.

Condensed consolidated statement of comprehensive income

for the six months ended 30 June 2020

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Xaar plc
Interim Report 2020

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (restated-unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Loss for the period attributable to shareholders	(4,822)	(50,197)	(71,474)
Exchange differences on translation of net investment	(22)	(32)	(192)
Other comprehensive loss for the period	(22)	(32)	(192)
Total comprehensive loss for the period	(4,844)	(50,229)	(71,666)
Total comprehensive loss attributable to:			
Owners of the Company	(3,548)	(50,095)	(71,208)
Non-controlling interest	(1,296)	(134)	(458)
	(4,844)	(50,229)	(71,666)

Condensed consolidated statement of financial position

as at 30 June 2020

	Notes	As at 30 June 2020 (unaudited) £'000	As at 31 December 2019 (audited) £'000
Non-current assets			
Goodwill		5,398	5,333
Other intangible assets		5,212	5,543
Property, plant and equipment		19,327	20,908
Right of use asset		3,100	3,561
Deferred tax asset		-	130
		33,037	35,475
Current assets			
Inventories		14,251	16,164
Trade and other receivables		8,152	9,109
Current tax asset		1,110	1,788
Treasury deposits		1,024	522
Cash and cash equivalents		22,834	24,800
Assets held for sale		43	-
		47,414	52,383
Total assets		80,451	87,858
Current liabilities			
Trade and other payables		(7,451)	(7,284)
Lease liabilities		(1,213)	(1,450)
Provisions		(1,669)	(2,947)
Derivative financial instruments	8	(1,902)	(2,996)
		(12,235)	(14,677)
Net current assets		35,179	37,706
Non-current liabilities			
Deferred tax liabilities		(46)	-
Lease liabilities		(2,249)	(2,521)
Total non-current liabilities		(2,295)	(2,521)
Total liabilities		(14,530)	(17,198)
Net assets		65,921	70,660
Equity			
Share capital		7,833	7,833
Share premium		29,328	29,328
Own shares		(2,029)	(2,676)
Other reserves		21,024	20,921
Translation reserve		634	660
Retained earnings		3,688	7,855
Equity attributable to owners of the Company		60,478	63,921
Non-controlling interest		5,443	6,739
Total equity		65,921	70,660

Condensed consolidated statement of changes in equity

for the six months ended 30 June 2020

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Xaar plc
Interim Report 2020

	Share capital £'000	Share premium £'000	Own shares £'000	Other reserves £'000	Translation reserve £'000	Retained earnings £'000	Total £'000	Non-controlling interest £'000	Total equity £'000
Balances at 1 January 2020	7,833	29,328	(2,676)	20,921	660	7,855	63,921	6,739	70,660
Loss for the period	-	-	-	-	-	(3,522)	(3,522)	(1,300)	(4,822)
Exchange differences on retranslation of net investment	-	-	-	-	(26)	-	(26)	4	(22)
Total comprehensive income for the period	-	-	-	-	(26)	(3,522)	(3,548)	(1,296)	(4,844)
Own shares sold in the period	-	-	647	-	-	(645)	2	-	2
Credit to equity for equity-settled share-based payments	-	-	-	103	-	-	103	-	103
Balance at 30 June 2020	7,833	29,328	(2,029)	21,024	634	3,688	60,478	5,443	65,921
Balances at 1 January 2019 restated for IFRS 16	7,833	29,328	(3,113)	15,144	817	79,343	129,352	2,026	131,378
Loss for the period (restated – note 10)	-	-	-	-	-	(50,088)	(50,088)	(109)	(50,197)
Exchange differences on retranslation of net investment	-	-	-	-	(7)	-	(7)	(25)	(32)
Total comprehensive income for the period	-	-	-	-	(7)	(50,088)	(50,095)	(134)	(50,229)
Issue of share capital	-	-	-	-	-	-	-	-	-
Own shares sold in the period	-	-	211	-	-	(211)	-	-	-
Credit to equity for equity-settled share-based payments	-	-	-	549	-	-	549	-	549
Balance at 30 June 2019	7,833	29,328	(2,902)	15,693	810	29,044	79,806	1,892	81,698

Condensed consolidated cash flow statement

for the six months ended 30 June 2020

	Notes	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Net cash from operating activities	7	(743)	(3,886)	(9,828)
Investing activities				
Investment income		45	57	103
Movement in treasury deposits		(503)	(15)	2,755
Purchases of property, plant and equipment		(606)	(817)	(1,071)
Proceeds on disposal of property, plant and equipment		136	–	–
Expenditure on software		–	(10)	(90)
Expenditure on capitalised product development		–	(1,118)	(2,255)
Net cash used in investing activities		(928)	(1,903)	(558)
Financing activities				
Payment of lease liabilities and related interest		(720)	(590)	(1,274)
Proceeds from non-controlling interest transactions		–	–	12,003
Net cash used in financing activities		(720)	(590)	(10,729)
Net decrease in cash and cash equivalents		(2,391)	(6,379)	343
Effect of foreign exchange rate changes		425	(2)	(212)
Cash and cash equivalents at beginning of period		24,800	24,669	24,669
Cash and cash equivalents at end of period		22,834	18,288	24,800

Cash and cash equivalents (which are presented as a single class of asset on the face of the condensed 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.

1. Basis of preparation and accounting policies

Basis of preparation

These interim financial statements have been prepared in accordance with the accounting policies set out in the Group's Annual Report and Financial Statements 2019 on pages 101 to 113 (available at www.xaar.com) and were approved by the Board of Directors on 29 September 2020. The interim financial statements for the six months ended 30 June 2020 have been prepared in accordance with IAS 34 "Interim Financial Reporting" as adopted by the European Union. The interim financial statements do not include all the information and disclosures in the annual financial statements and should be read in conjunction with the Group's annual financial statements as at 31 December 2019.

The interim financial statements are unaudited but have been reviewed by the auditor Ernst & Young LLP. They do not constitute statutory financial statements as defined in section 434 of the Companies Act 2006. The comparative figures for the financial year ended 31 December 2019 are derived from the Company's statutory accounts for that financial year. Those accounts have been reported on by the Company's auditor and delivered to the Registrar of Companies. The report of the auditor was (i) unqualified, (ii) did not include a reference to any matters to which the auditor drew attention by way of emphasis without qualifying their report, and (iii) did not contain a statement under section 498(2) or 498(3) of the Companies Act 2006. The report of the auditor to the Group is set out at the end of this announcement.

Judgements and estimates

In preparing these interim financial statements, the significant judgements made by management in applying the Group's accounting policies and the key sources of estimation uncertainty were the same as those that applied to the consolidated Financial Statements for the year ended 31 December 2019. The judgements and estimates may be subject to further uncertainty due to Covid-19 in the second half of the financial year.

Significant accounting policies

The accounting policies adopted in the preparation of the interim condensed consolidated financial statements are consistent with those followed in the preparation of the Group's annual financial statements for the year ended 31 December 2019.

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. The treatment is consistent with IAS 20 Accounting for Government Grants and Disclosure of Government Assistance.

Principal risks and uncertainties

The Board has overall responsibility for the establishment and oversight of the Group's risk management framework. The Board has an established, structured approach to risk management, which includes continuously assessing and monitoring the key risks and uncertainties of the business. An outline of the key risks and uncertainties faced by the Group is detailed on pages 29 to 35 of the Xaar plc Annual Report and Financial Statements 2019.

The Board has reviewed these risks and concluded that they will continue to remain relevant for the second half of the financial year. The potential impact of these risks on our strategy and financial performance, together with details of our specific mitigation actions, are further set out on pages 8 to 9 of this interim report.

Brexit and other trade barriers

The Group operates globally and may be affected by any post Brexit developments, which could provide a number of challenges for the Xaar Group:

- One of the greatest challenges continues to be concerning EU workers, migration and the ability to secure appropriate staff with sector experience and knowledge in a global manufacturing, research and development operation.
- Dependent upon any trading agreement being finalised with the EU before the end of the year, or in the event of the UK falling back on 'WTO' terms of trade, trading with our EU customers and suppliers is likely to be more complex in supply chain movements and delays in clearing border controls. Any actual or perceived tariff or non-tariff barrier to free trade are an obvious area of concern for us.

The Group is continuously monitoring events and putting mitigating actions in place, and is working with suppliers to secure appropriate inventory levels in advance of the year end.

The Group is exposed to potential currency fluctuations whilst there is still uncertainty surrounding the exact trading agreement with the EU; although they are not significant, we do not expect the direct consequences of Brexit to have a material impact on the Group.

Going concern

The Board continuously reviews the performance of the business and its future prospects. Throughout the Covid-19 pandemic the Board has also reviewed numerous downside scenarios for each of the business units and the Group as a whole. As well as reviewing a number of downside scenarios, and possible mitigations, the Board has also performed a stress test of the business to assess the Group's ability to continue as a going concern. The results of the stress test indicate the business could withstand very significant changes in the trading environment whilst being able to continue to trade.

1. Basis of preparation and accounting policies (continued)

Going concern (continued)

To date the impact of Covid-19 on the Group's trading has been minimal and the Board remains cautiously optimistic. The Group continues to enjoy a strong cash position and is well positioned to cope with the current situation. The Board remains confident in the long-term future prospects for the Group and its ability to continue as a going concern for the foreseeable future. For this reason, we continue to adopt the going concern basis in preparing the financial statements.

2. Reconciliation of adjusted financial measures

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (restated-unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Loss before tax from continuing operations	(1,126)	(2,947)	(11,891)
Share-based payment charges	87	425	912
Exchange differences relating to intra-group transactions	(817)	(71)	601
Gain on derivative financial liabilities	(1,094)	21	(106)
Restructuring costs	170	105	896
Other operating income	(819)	-	-
Research and development expenditure credit	(336)	-	(260)
Adjusted (loss)/profit before tax from continuing operations	(3,935)	(2,467)	(9,848)
Interest	12	(11)	7
Depreciation of property, plant and equipment	2,279	1,613	3,427
Amortisation of intangible assets	301	59	150
Adjusted EBITDA from continuing operations	(1,343)	(805)	(6,264)

EBITDA is calculated as statutory operating profit before depreciation, amortisation and impairment of property, plant and equipment, intangible assets and goodwill. Adjusted EBITDA is calculated as EBITDA excluding other adjusting items as defined.

Share-based payment charges include the IFRS 2 charge for the period of £103,000 (H1 2019: £549,000) and the credit relating to National Insurance on the outstanding potential share option gains of £16,000 (H1 2019: £124,000). These costs were included in the general and administrative expenses in the consolidated income statement.

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

Gain on derivative financial instruments relate to gains and losses made on written call option contracts. These amounts are included in the consolidated income statement under gain on derivative financial liabilities.

Restructuring costs of £170,000 in the current period mainly relate to costs incurred and provisions made in relation to reorganisation. Restructuring and investment income of £105,000 in H1 2019 relates to costs incurred and provisions made in relation to a reorganisation, the closure of the manufacturing facility in Sweden in 2016, and investment related expenditure. Cash expenditure arising from restructuring costs related to re-organisation and redundancy in the first half of 2020 was £323,000.

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 consolidated income statement. Cash receipts of £929,000 were received in relation to 2018 RDEC claims submitted.

Other operating income of £819,000 (2019: £nil) relates to a forgivable \$1m loan between Engineered Print Solutions (EPS) and TD bank and is backed by the US Federal Government (Small Business Administration); further details are provided under note 4. The loan was taken out as part of the government backed scheme. There is reasonable assurance that EPS will meet the terms for forgiveness and is therefore accounted as a government grant under IAS 20.

	Six months ended 30 June 2020 (unaudited) Pence per share	Six months ended 30 June 2019 (unaudited) Pence per share	Twelve months ended 31 December 2019 (audited) Pence per share
Basic and diluted loss per share from continuing operations (note 6)	(0.3p)	(3.2p)	(19.4p)
Share-based payment charges	0.1p	0.6p	1.2p
Exchange differences relating to the intra-group transactions	(1.1p)	(0.1p)	0.8p
(Gain) / Loss on derivative financial liability	(1.4p)	–	(0.2p)
Restructuring costs	0.2p	0.1p	1.2p
Other operating income	(1.1p)	–	–
Tax effect of adjusting items	0.6p	(0.1p)	(0.4p)
Adjusted basic and diluted loss per share from continuing operations	(3.0p)	(2.7p)	(16.9p)

This reconciliation is provided to align with how the Board measures and monitors the business at an underlying level.

3. Business segments

For management reporting purposes, the Group's operations are analysed according to the three operating segments of 'Printhead', 'Product Print Systems' and '3D'. These three 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:

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (restated note 10, unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Revenue			
Printhead	16,795	18,927	33,681
Product Print Systems	6,878	6,538	15,698
3D Printing	55	7	18
Total revenue	23,728	25,472	49,397

3. Business segments (continued)

Result – Continuing operations

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (restated note 10, unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Printhead	(645)	(2,001)	(9,723)
Product Print Systems	1,365	(71)	34
3D Printing	(1,747)	(463)	(1,283)
Total segment result	(1,027)	(2,535)	(10,972)
Net unallocated corporate expenses	(87)	(424)	(912)
Operating loss	(1,114)	(2,959)	(11,884)
Investment income	45	58	103
Finance costs	(57)	(46)	(110)
Loss before tax	(1,126)	(2,947)	(11,891)
Tax	(429)	400	(3,501)
Loss for the period	(1,555)	(2,547)	(15,392)

Unallocated corporate expense relates to administrative activities which cannot be directly attributed to any of the principal product groups, consisting of share-based payment charges.

4. Government grants

The accounting policy in relation to the adopted and applicable treatment of government grants is disclosed in note 1 to the Interim report.

Xaar plc and its UK based subsidiaries have not taken part in any of the Government support schemes arising from the Covid-19 crisis.

- No employees have been placed on furlough and no claims made via the Coronavirus Job Retention Scheme (CJRS).
- No submissions have been made for financial support via either the Coronavirus Business Interruption Loan Scheme (CBILS) or Bounce Back Loan Scheme (BBLs).
- The UK entities operate primarily under a VAT repayment position due to the significant level of export sales, so do not utilise the government scheme in deferring VAT payments.

Xaar 3D ApS based in Denmark has also not taken part in any government support measures in response to Covid-19.

- No submission has been made for salary compensation, which could arise due to employees being retained that could otherwise have been released. No employees have left the business.
- Xaar 3D ApS operates in a repayment position for Danish VAT, and like the UK has not utilised the extension available for payments.

Xaar group companies based in the USA, Engineered Print Solutions (EPS), have taken part in a US Federal Government Loan scheme which has provided a \$1m loan, which under certain provisions linked to maintaining employment and avoiding redundancy can be waived. EPS is expected to meet the requirements of the waiver, and the loan has therefore been treated as a government grant, having met all the qualifying criteria.

The Group has presented this amount as other operating income in the condensed consolidated income statement. Government support grants are recognised in the condensed consolidated income statement on a systematic basis over the periods in which the related revenue or expense for which the grants are intended to compensate. Further details are provided under note 2.

5. Income tax

The major components of income tax expense in the income statement are as follows:

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Current income tax			
Income tax charge / (credit)	265	(1,439)	547
Deferred income tax			
Relating to origination and reversal of temporary differences	173	(987)	(964)
Income tax expense	438	(2,426)	(417)
Income tax charge / (credit) reported in the statement of profit and loss	429	(400)	3,501
Income tax charge / (credit) attributable to discontinued operations	9	(2,026)	(3,918)
Income tax charge / (credit)	438	(2,426)	(417)

Whilst the Board believes in the long-term potential and profitability of the Printhead business unit, the forecast losses over the next couple of years mean that the tax losses will not be utilised in the short term. Therefore, no deferred tax asset has been recognised relating to losses for 2020.

In the period ending 30 June 2019, the Group includes a surrender of qualifying R&D losses, as allowable under the HMRC Small or medium-sized enterprise (SME) R&D tax relief scheme. However, in the year ending 31 December 2019 as well as the current reporting period, the Group has decided to claim R&D expenditure credit (RDEC), where the R&D credit receivable is included in operating loss.

6. Earnings per ordinary share – basic and diluted

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

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Earnings			
Earnings for the purposes of earnings per share being net loss attributable to equity holders of the parent	(3,522)	(50,088)	(71,051)
from Continuing operations	(255)	(2,438)	(14,969)
from Discontinued operations	(3,267)	(47,650)	(56,082)
Number of shares			
Weighted average number of ordinary shares for the purposes of basic earnings per share	77,259,359	77,070,748	77,116,331
Effect of dilutive potential ordinary shares:			
Share options	–	–	–
Weighted average number of ordinary shares for the purposes of diluted earnings per share	77,259,359	77,070,748	77,116,331
Earnings / (Loss) per share	30 June 2020	30 June 2019	31 Dec 2019
Basic	(4.6p)	(65.0p)	(92.1p)
Diluted	(4.6p)	(65.0p)	(92.1p)
Earnings / (Loss) per share – Continuing operations			
Basic	(0.3p)	(3.2p)	(19.4p)
Diluted	(0.3p)	(3.2p)	(19.4p)

7. Notes to the cash flow statement

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (restated-unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Loss before tax from continuing operations	(1,126)	(2,947)	(11,891)
Loss before tax from discontinued operations	(3,258)	(49,676)	(60,001)
Total loss before tax	(4,384)	(52,623)	(71,892)
Adjustments for:			
Share-based payments	87	425	912
Depreciation of property, plant and equipment	2,148	1,935	3,776
Depreciation of right of use assets	598	552	1,061
Impairment of assets	117	39,013	39,013
Amortisation of intangible assets	334	887	1,024
Research and development expenditure credit	(385)	(1,983)	(2,610)
Investment income	(45)	(58)	(103)
Interest expense – finance cost for leases	57	46	110
Foreign exchange losses / (gains)	(1,098)	(65)	447
(Gain) / loss on re-measurement of derivative liability	(1,094)	20	(106)
(Profit) / loss on disposal of property, plant and equipment	6	(15)	(18)
Decrease / (Increase) in provisions	(1,278)	(173)	1,267
Operating cash flows before movements in working capital	(4,937)	(12,039)	(27,119)
Decrease/(Increase) in inventories	2,193	6,524	12,172
Decrease in receivables	1,877	6,254	11,059
(Decrease)/increase in payables	(666)	(8,307)	(9,332)
Cash (used in)/generated by operations	(1,532)	(7,568)	(13,220)
Income taxes refunded/(paid)	789	3,728	3,392
Interest paid	–	(46)	–
Net cash from operating activities	(743)	(3,886)	(9,828)

8. Derivative financial instruments

Fair value of the Group's financial assets and financial liabilities that are measured at fair value on a recurring basis:

Some of the Group's financial assets and financial liabilities are measured at fair value at the end of each reporting period. The following table gives information about how the fair values of these financial assets and financial liabilities are determined (in particular, the valuation technique(s) and inputs used).

Financial asset/ financial liabilities	Valuation technique(s) and key input(s)	Significant unobservable input(s)	Relationship and sensitivity of unobservable inputs to fair value
Derivative financial instrument (Level 3)	Black-Scholes model. The following variables were taken into consideration: current underlying price of the underlying share, options strike price, time until expiration (expressed as a percent of a year), implied volatility of the underlying share and LIBOR.	Underlying price of the share. Volatility of the underlying share.	8% increase / (decrease) would result in a £503,000 increase in the fair value and a £448,000 decrease. 10% increase / (decrease) would result in a £447,000 increase in the fair value and £427,000 decrease.

There were no transfers between Level 1 and 2 during the current or prior year.

Reconciliation of Level 3 fair value measurements of financial instruments:

The only financial liabilities measured subsequently at fair value on Level 3 fair value measurement represent written call options relating to a business combination. In July 2018 Xaar signed an investment agreement with Stratasys Solutions Limited ('Stratasys') which granted Stratasys a 15% share of Xaar 3D Limited ('Xaar 3D') and two written call options to acquire a further 10% and 5%. These options gave Stratasys the right, but not the obligation, to acquire GBP denominated shares in Xaar 3D for a fixed price which was denominated, and to be settled, in USD. On 1 January 2019 the fair value of these options was £936,000. On 4 December 2019 Stratasys exercised the first of the two options granting them a further 10% share in Xaar 3D. At the same time Xaar 3D and Stratasys agreed to extinguish the second option, thereby settling both options in the year. On 4 December 2019 Xaar 3D Holdings sold to Stratasys a 20% share in Xaar 3D. Consequently, Stratasys now owns 45% of Xaar 3D with the remaining 55% owned by Xaar 3D Holdings. As part of the agreement between Xaar 3D Holdings and Stratasys, Xaar 3D Holdings granted Stratasys a written call option to acquire its remaining 55% shareholding in Xaar 3D for a consideration of \$33m. As with the original option agreement between the Xaar 3D and Stratasys the new options are USD denominated giving rise to a new derivative financial liability.

This liability was valued at a fair value of £2,996,000 at 31 December 2019.

A revaluation of the option was undertaken by third party professional advisors as at 30 June 2020; the gain calculated from the re-valuation primarily arises from a reduction in the time to maturity, and changes in share valuations, foreign exchange rates and volatility and the reduction in the USD Treasury rate in the period.

	Six months ended 30 June 2020 (unaudited) £'000
Balance at 1 January 2020	(2,996)
Total gains or losses – in profit or loss	1,094
Balance at 30 June 2020	(1,902)

Notes to the interim financial information (continued)

for the six months ended 30 June 2020

9. Discontinued operations

In the current year, the Thin Film business which was discontinued in 2019 incurred some costs which mainly relate to stock provision movements and the final redundancy payments alongside administrative expenditure.

The results of Thin Film related activities for the period are shown below:

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (restated-unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Revenue	28	1,386	1,586
Expenses	(3,286)	(51,062)	(61,586)
Loss before income tax	(3,258)	(49,676)	(60,000)
Income tax (charge) / credit	(9)	2,026	3,918
Loss after income tax from discontinued operations	(3,267)	47,650	(56,082)

The net cash flows incurred by discontinued Thin Film operations are as follows:

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Net cash outflow from operating activities	(3,091)	(12,925)	(17,647)
Net cash outflow from investing activities	(25)	(321)	(321)
Net cash inflow / (outflow) from financing activities	–	–	–
Net cash outflow from discontinued operations	(3,116)	(13,246)	(17,968)

	Six months ended 30 June 2020 (unaudited) £'000	Six months ended 30 June 2019 (restated-unaudited) £'000	Twelve months ended 31 December 2019 (audited) £'000
Earnings per share			
Basic, loss for the year from discontinued operations	(4.3p)	(61.8p)	(72.7p)
Diluted, loss for the year from discontinued operations	(4.3p)	(61.8p)	(72.7p)

Potential ordinary shares are treated as dilutive if their conversion to ordinary shares would decrease earnings per share or increase loss per share. Therefore, the diluted earnings per share is not impacted by the effect of dilutive potential ordinary shares.

10. Restatement of prior period

The prior period restatement arises in respect of the allocation of profit / loss from continuing and discontinued operations (further information can be found in note 9). A further prior period restatement is in relation to the recognition of the derivative financial instrument; the adjustment relates to a correction to the fair value of the option granted to the non-controlling interest in Xaar 3D Limited at both the inception date and prior year-end. The revised fair value movement of £21k has then been reclassified from restructuring costs to loss on derivative liabilities. There has also been a change in accounting in treatment which has increased prior year revenue by £4,332,000, increased cost of goods sold by £4,097,000, and increased general and administrative expenses by £235,000. This change in accounting treatment relates to the buyback of inventory from a distributor, which was subsequently impaired given the discontinuance of the Thin Film business. This had originally been accounted for as a reversal of revenue. The following tables summarise the impact of the prior period restatement on the financial statements of the Group for the six-month period ended 30 June 2019:

Six months ended 30 June 2019

Consolidated income statement	As reported £'000	Discontinued operations £'000	3D option £'000	Revenue reversal £'000	Restated £'000
Revenue	22,526	(1,386)	–	4,332	25,472
Cost of sales	(25,119)	10,713	–	(4,097)	(18,503)
Gross profit	(2,593)	9,327	–	235	6,969
Research and development expenses	(4,315)	2,733	–	–	(1,582)
Research and development expenditure credit	1,983	(1,983)	–	–	–
Sales and marketing expenses	(4,532)	242	–	–	(4,290)
General and administrative expenses	(3,868)	254	–	(235)	(3,849)
Impairment gains/(losses) on financial assets	(81)	–	–	–	(81)
Restructuring costs	108	90	(303)	–	(105)
Loss on derivative financial liabilities	–	–	(21)	–	(21)
Thin Film impairment	(39,013)	39,013	–	–	–
Operating (loss) / profit	(52,311)	49,676	(324)	–	(2,959)
Investment income	58	–	–	–	58
Finance costs	(46)	–	–	–	(46)
(Loss)/profit before tax	(52,299)	49,676	(324)	–	(2,947)
Income tax credit/(expense)	2,426	(2,026)	–	–	400
(Loss)/profit for the year from continuing operations	(49,873)	47,650	(324)	–	(2,547)
Loss for the year from discontinued operations	–	(47,650)	–	–	(47,650)
Loss for the year	(49,873)	–	(324)	–	(50,197)
Attributable to:					
Owners of the Company	(49,813)	–	(275)	–	(50,088)
Non-controlling interests	(60)	–	(49)	–	(109)
	(49,873)	–	(324)	–	(50,197)
Earnings per share – Continuing operations					
Basic	(64.6p)	61.5p	(0.1p)	–	(3.2p)
Diluted	(64.6p)	61.5p	(0.1p)	–	(3.2p)

Six months ended 30 June 2019

Consolidated statement of comprehensive income	As reported £'000	Discontinued operations £'000	3D option £'000	Revenue reversal £'000	Restated £'000
Loss for the period attributable to shareholders	(49,873)	–	(324)	–	(50,197)
Exchange differences on translation of net investment	(32)	–	–	–	(32)
Other comprehensive (loss)/income for the year	(32)	–	–	–	(32)
Total comprehensive loss for the period	(49,905)	–	(324)	–	(50,229)
Total comprehensive loss attributable to:					
Owners of the Company	(49,820)	–	(275)	–	(50,095)
Non-controlling interest	(85)	–	(49)	–	(134)
	(49,905)	–	(324)	–	(50,229)

10. Restatement of prior period (continued)

Six months ended 30 June 2019

Consolidated statement of financial position	As reported £'000	3D option 2018 £'000	3D option 2019 £'000	IFRS 16 £'000	Restated £'000
Equity					
Retained earnings	29,097	276	(275)	(54)	29,044
Non-controlling interest	1,881	48	(49)	12	1,892

Six months ended 30 June 2019

Consolidated cash flow statement	As reported £'000	Discontinued operations £'000	3D option £'000	Revenue reversal £'000	Restated £'000
Loss before tax	(52,299)	–	(324)	–	(52,623)
Other (gains) / losses	(304)	–	324	–	20

11. Related party transactions

There have been no material transactions with related parties during the period.

There have been no material changes to the related party arrangements as reported in note 35 to the Annual Report and Financial Statements for the year ended 31 December 2019.

Transactions between the Company and its subsidiaries, which are related parties, have been eliminated on consolidation and are not disclosed in this note.

12. Date of approval of interim financial statements

The interim financial statements cover the period 1 January 2020 to 30 June 2020 and were approved by the Board on 29 September 2020.

Further copies of the interim financial statements are available from the Company's registered office, 316 Science Park, Cambridge CB4 0XR, and can be accessed on the Xaar plc website, www.xaar.com.

Independent review report to Xaar plc

for the six months ended 30 June 2020

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Xaar plc
Interim Report 2020

We have been engaged by the Company to review the condensed set of financial statements in the half-yearly financial report for the six months ended 30 June 2020 which comprises the condensed consolidated income statement, condensed consolidated statement of comprehensive income, condensed consolidated statement of financial position, condensed consolidated statement of changes in equity, condensed consolidated cash flow statement and related notes 1 to 13. We have read the other information contained in the half-yearly financial report and considered whether it contains any apparent misstatements or material inconsistencies with the information in the condensed set of financial statements.

This report is made solely to the Company in accordance with International Standard on Review Engagements (UK and Ireland) 2410 'Review of Interim Financial Information Performed by the Independent Auditor of the Entity' issued by the Auditing Practices Board. Our work has been undertaken so that we might state to the Company those matters we are required to state to it in an independent review 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, for our review work, for this report, or for the conclusions we have formed.

Directors' responsibilities

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

As disclosed in note 1, the annual financial statements of the Group are prepared in accordance with IFRSs as adopted by the European Union. The condensed set of financial statements included in this half-yearly financial report has been prepared in accordance with International Accounting Standard 34, 'Interim Financial Reporting', as adopted by the European Union.

Our responsibility

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

Scope of review

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

Conclusion

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

Ernst & Young LLP
Cambridge, United Kingdom

29 September 2020

Registered office

316 Science Park
Cambridge CB4 0XR

Registered number

3320972

Company Secretary

Ian Tichias

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63-64 St Andrews Street
Cambridge CB2 3BZ

Registrars**Link Asset Services**

The Registry
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Beckenham
Kent BR3 4TU

Unsolicited mail:

The Company is obliged by law to make its share register publicly available should a request be received. As a consequence, shareholders may receive unsolicited mail from organisations that use it as a mailing list. Shareholders wishing to limit the amount of such mail should either write to Mailing Preference Service, DMA House, 70 Margaret Street, London W1W 8SS, register online at www.mpsonline.org.uk or call the Mailing Preference Service ('MPS') on +44 (0)845 703 4599. MPS is an independent organisation which offers a free service to the public.

Warning to shareholders – boiler room scams

Each year in the UK, £1.2bn is lost to investment fraud, with the average victim losing around £20,000. What is more, it is estimated that only 10% of the people that become victims of investment fraud actually report it.

Investment scams are becoming ever more sophisticated – designed to look like genuine investments, they are increasingly difficult to spot. They are targeted at those most at risk, typically people in retirement who are actively seeking an investment opportunity.

Protect yourself**1. Reject cold calls**

If you have been cold called with an offer to buy or sell shares, it is likely to be a high-risk investment or scam. You should treat the call with extreme caution. The safest thing to do is hang up.

If you are offered unsolicited investment advice, discounted shares, a premium price for shares you own, or free company or research reports, you should get the name of the person and organisation contacting you and take these steps before handing over any money.

2. Check the firm on the Financial Services Register at www.fca.org.uk/register

The Financial Services Register is a public record of all the firms and individuals in the financial services industry that are regulated by the FCA.

Use the details on the Financial Services Register to contact the firm.

3. Get impartial advice

Think about getting impartial financial advice before you hand over any money. Seek advice from someone unconnected to the firm that has approached you.

REMEMBER, if it sounds too good to be true, it probably is!

If you use an unauthorised firm to buy or sell shares or other investments, you will not have access to the Financial Ombudsman Service or Financial Services Compensation Scheme if things go wrong.

Report a scam

If you suspect you have been approached by fraudsters please tell the FCA using the share fraud reporting form at www.fca.org.uk/scams, where you can find out more about investment scams.

You can also call the FCA Consumer Helpline on +44 (0)800 111 6768.

If you have lost money to investment fraud, you should report it to Action Fraud on +44 (0)300 123 2040 or online at www.actionfraud.police.uk.

Find out more at www.fca.org.uk/scamsmart



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