Independent auditor's report
to the members of Xaar plc

Opinion

In our opinion:

- Xaar plc's group financial statements and parent company financial statements (the "financial statements") give a true and fair view of the state of the group's and of the parent company's affairs as at 31 December 2022 and of the group's profit for the year then ended;
- the group financial statements have been properly prepared in accordance with UK adopted International Accounting Standards (UK IAS);
- the parent company financial statements have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- the financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of Xaar plc (the 'parent company') and its subsidiaries (the 'group') for the year ended 31 December 2022 comprise:

Group	Parent company
Statement of financial position as at 31 December 2022	Balance sheet as at 31 December 2022
Consolidated income statement for the year then ended	Statement of changes in equity for the year then ended
Consolidated statement of comprehensive income for the year then ended	Related notes 1 to 11 to the financial statements including a summary of significant accounting policies
Consolidated statement of changes in equity for the year then ended	
Consolidated statement of cash flows for the year then ended	
Related notes 1 to 38 to the financial statements, including a summary of significant accounting policies	

The financial reporting framework that has been applied in the preparation of the group financial statements is applicable law and UK adopted international accounting standards. The financial reporting framework that has been applied in the preparation of the parent company financial statements is applicable law and United Kingdom Accounting Standards, including FRS 101 "Reduced Disclosure Framework" (United Kingdom Generally Accepted Accounting Practice).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We are independent of the group and parent in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

The non-audit services prohibited by the FRC's Ethical Standard were not provided to the group or the parent company and we remain independent of the group and the parent company in conducting the audit.

Conclusions relating to going concern

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate. Our evaluation of the directors' assessment of the group and parent company's ability to continue to adopt the going concern basis of accounting included:

- We walked through the process undertaken by management to perform the going concern assessment, including any impacts of the macroeconomic environment on the Group and the Group's access to available sources of liquidity;
- We obtained management's going concern assessment, including the cash flow forecasts for the going concern period to 30 June 2024;
- We challenged the key assumptions underpinning the Group's forecasts. This has been performed by:
    - Checking the arithmetical and logical accuracy of management's model;
    - Reconciling opening cash to the audited position as at 31 December 2022;
    - Testing the historical forecasting accuracy of the Group by comparing actual revenue and operating profit to forecast for the previous four years;
    - Challenging the revenue and margin forecasts compared to the recurring revenues and margins generated in 2022;
    - Understood and challenged the factors leading to the fluctuations in the monthly cashflow analysis, compared these fluctuations to the order book. We performed sensitivity analysis to determine the impact on liquidity of not achieving these monthly forecasts;
    - Tested the credit ratings and other indicators of credit worthiness of key customers to determine the robustness of cash inflows; and
    - Confirmed the consistency of the forecasts with other areas of the audit including the impairment assessment.
- We compared 2023 year to date trading performance to management's going concern forecast by obtaining the latest available management accounts to challenge and identify any issues with current trading and cashflows;
- We reviewed the terms and conditions of the existing debt facilities to establish their availability across the going concern period. We have also reviewed the terms of the revolving credit facility that has received credit preapproval subsequent to the year end along with the associated covenants and other conditions which must be complied with to maintain that availability;
- We considered the impact of Xaar's climate commitments on the cash flow forecasts;
- We performed sensitivity analysis to determine the impact of reasonably possible fluctuations in key assumptions on the Group's available liquidity and covenant compliance for the credit approved revolving credit facility;
- We considered the results of management's reverse stress test scenario and independently calculated what changes to key assumptions would result in the Group having insufficient cash and cash equivalents. We also challenged the mitigating actions such as reducing non-essential capital expenditure and performance related pay, assessing whether they were within management's control and whether they were supported by the actual mitigation achieved in response to recent economic crises such as COVID-19. We considered whether the combination of changes to key assumptions that would lead to the Group's liquidity being eliminated within the period assessed were plausible or remote; and
- We assessed the appropriateness of the Group's disclosures concerning the going concern basis of preparation.

We observed that the Group reported a profit before tax for the year ended 31 December 2022 of £0.8m (2021: £1.0m profit). This includes an increase in revenue from continuing operations from £59.3m for the year ended 31 December 2021 to £72.8m for the year ended 31 December 2022. The reverse stress testing performed by management demonstrates revenue would need to reduce by more than 25% compared to the base case for the cash and cash equivalents to be fully consumed over the going concern period and would require both revenues and margins to be below the current year actuals. This is considered remote by management given the nature and size of the order book and the trading experience of the printhead and EPS segments during COVID-19 conditions to date.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the group and parent company's ability to continue as a going concern for a period to 30 June 2024.

In relation to the group and parent company's reporting on how they have applied the UK Corporate Governance Code, we have nothing material to add or draw attention to in relation to the directors' statement in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report. 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.

Overview of our audit approach

Audit scope	• We performed an audit of the complete financial information of four components and audit procedures on specific balances for one further component. • The components where we performed full or specific audit procedures accounted for 96% of Revenue, 85% of Adjusted Profit Before Tax and 77% of Total Assets.
Key audit matters	• Revenue recognition • Impairment of non-current assets • Contingent consideration (3D) • Acquisition accounting (Megnajet and Technomation)
Materiality	• Overall group materiality of £364k which represents 0.5% of revenue.

An overview of the scope of the parent company and Group audits

Tailoring the scope

Our assessment of audit risk, our evaluation of materiality and our allocation of performance materiality determine our audit scope for each company within the Group. Taken together, this enables us to form an opinion on the consolidated financial statements. We take into account size, risk profile, the organisation of the group and effectiveness of group-wide controls, changes in the business environment, the potential impact of climate change when assessing the level of work to be performed at each company.

In assessing the risk of material misstatement to the Group financial statements, and to ensure we had adequate quantitative coverage of significant accounts in the financial statements, of the 12 reporting components of the Group, we selected 5 components covering entities within the UK and US, which represent the principal business units within the Group.

Of the 5 components selected, we performed an audit of the complete financial information of 4 components ("full scope components") which were selected based on their size or risk characteristics. For the remaining 1 component ("specific scope component"), we performed audit procedures on specific accounts within that component that we considered had the potential for the greatest impact on the significant accounts in the financial statements either because of the size of these accounts or their risk profile.

The reporting components where we performed audit procedures accounted for 96% (2021: 100%) of the Group's Revenue, 77% (2021: 89%) of the Group's Adjusted Profit Before Tax and 85% (2021: 100%) of the Group's Total assets. For the current year, the full scope components contributed 96% (2021: 82%) of the Group's Revenue, 77% (2021: 73 loss%) of the Group's Adjusted Profit Before Tax and 73% (2021: 78%) of the Group's Total assets. The specific scope component contributed 0% (2021: 18%) of the Group's Revenue, 0% (2021: 16%) of the Group's Adjusted Profit Before Tax and 11% (2021: 22%) of the Group's Total assets. The audit scope of these components may not have included testing of all significant accounts of the component but will have contributed to the coverage of significant accounts tested for the Group.

The remaining 7 components together represent 4% of the Group's revenue. For these components, we performed other procedures, including analytical review, testing of consolidation journals and intercompany eliminations and foreign currency translation recalculations to respond to any potential risks of material misstatement to the Group financial statements.

Changes from the prior year

Due to the level of revenue recognised in the current year FFEI has been included as a full scope entity, whereas in the prior year this was treated as a specific scope component only given the entity was only part of the Group for part of the year in 2021 (due to the timing of its acquisition by the Group).

Following the acquisition of Megnajet Limited during the year, this was included as a review scope component in the 2022 audit.

Involvement with component teams

All audit work performed for the purposes of the audit was undertaken by the Group audit team.

Climate change

Stakeholders are increasingly interested in how climate change will impact Xaar plc. The Group has determined that the most significant future impacts from climate change on their operations will be from risks of flooding at Group and supplier sites. These are explained on pages 42 to 44 in the Task Force on Climate related Financial Disclosures and on pages 48 to 57 in the principal risks and uncertainties. The Group have also explained their climate commitments on pages 29 to 41. All of these disclosures form part of the "Other information," rather than the audited financial statements. Our procedures on these unaudited disclosures therefore consisted solely of considering whether they are materially inconsistent with the financial statements or our knowledge obtained in the course of the audit or otherwise appear to be materially misstated, in line with our responsibilities on "Other information".

In planning and performing our audit we assessed the potential impacts of climate change on the Group's business and any consequential material impact on its financial statements.

The Group has explained in its Risk Management Report how they have considered the impact of climate on the Group.

Our audit effort in considering the impact of climate change on the financial statements was focused on evaluating management's assessment of the impact of climate risk, physical and transition and their climate commitments. As part of this evaluation, we performed our own risk assessment to determine the risks of material misstatement in the financial statements from climate change which needed to be considered in our audit.

We also challenged the Directors' considerations of climate change risks in their assessment of going concern and viability and associated disclosures.

Based on our work we have not identified the impact of climate change on the financial statements to be a key audit matter or to impact a key audit matter.

Key audit matters

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

Risk	Our response to the risk	Key observations communicated to the Audit Committee
Revenue recognition (£72.8 million – continuing operations, 2021: £59.3 million – continuing operations) *Refer to the Audit Committee Report (page 79); Accounting policies (page 121); and Note 5 of the Consolidated Financial Statements (page 131)* We consider there to be a risk in relation to the manipulation by central management of the amount of revenue recorded through manual journal entries. Management reward and incentive schemes are based on achieving profit targets which may also place pressure on management to manipulate revenue recognition. As part of the financial statement close process, certain manual adjustments are required to account for contracts with customers. There is risk that the manual adjustments are incorrectly recorded in the period. In the product print segment (EPS) and Digital Imaging (FFEI's) R&D revenue, judgement is required to determine whether revenue should be recognised over time or at a point in time. Where revenue is recognised over time, estimation is required to establish how much of the performance obligation has been satisfied and how much is recorded as a contract liability.	We understood the group's revenue recognition policies and how they are applied, including the relevant controls, and performed a walkthrough to validate our understanding. In respect of the main UK trading entity, which comprised 54% of the group's revenue, we used data analytics to analyse the whole population of transactions from invoicing to cash journals, including adjustments to arrive at revenue recognised in the year. Where the journal postings did not follow our expectation, we investigated and assessed the integrity of these entries and tested a sample to assess their validity by agreeing the transactions back to source documentation. We performed tests of detail for a sample of revenue transactions to confirm the transactions had been appropriately recorded in the income statement in accordance with IFRS 15 and corroborated that control of the products had been transferred to the customer by: • analysing the contract and/or terms of the sale to determine that the group had fulfilled the requirements of the contract; • confirming revenue could be reliably measured by reference to underlying documentation; and • confirming collectability of the revenue was reasonably assured by considering recent collection history and the ageing of receivables. We performed cut-off testing by tracing a sample of revenue items recorded either side of year-end to delivery note to determine whether revenue was recognised in the same period in which the performance obligations have been fulfilled. We selected a sample of post year-end credit notes to assess whether, where the credit note relates to the audit period, these credit notes were appropriately provided for in the financial statements. We tested journal entries posted to revenue accounts, applying parameters designed to identify entries that were not in accordance with our expectations. This included analysing and selecting journals for testing which appeared unusual in nature either due to size, preparer or being manually posted. To assess their validity, we verified the journals to validate originating documentation. We performed full and specific scope audit procedures over this risk area in 3 components which covered 96% of the revenue from continuing operations.	Revenue was recognised in accordance with the Group's accounting policies and we identified no evidence of management override in respect of inappropriate manual journals recorded in revenue. In respect of the revenue recognised over time we identified the IFRS 15 criteria were fulfilled for each item selected and the stage of completion was appropriately reflected within the accounting entries.

Risk	Our response to the risk	Key observations communicated to the Audit Committee
Revenue recognition (£72.8 million – continuing operations, 2021: £59.3 million – continuing operations) continued	**Revenue recognised over time** For a sample of revenue transactions, we reviewed the respective sales contract to determine whether the contract met the criteria in IFRS 15 for being revenue recognised over time. For the sampled transactions, we evaluated judgements and estimates made by management regarding the expected costs to complete and the timing and recognition of variation orders, by obtaining and reviewing the variation order and comparing the cost assumptions to similar projects. We also verified a sample of actual costs incurred to date through to purchase invoice or timesheet records. To further assess the stage of completion at year end we also physically inspected a sample of work in progress projects within the EPS business and reviewed the impact of post year-end changes on labour hour and cost estimates. Where the criteria for over time recognition were not met, we confirmed management has recognised revenue at a point in time, when the relevant performance obligation has been satisfied. We performed full scope audit procedures over this risk area covering 100% of the risk amount.	

Risk	Our response to the risk	Key observations communicated to the Audit Committee
Impairment of non-current assets (£40.0 million, 2021: £34.5m) *Refer to the Audit Committee Report (page 79); Accounting policies (page 121); and Note 15 of the Consolidated Financial Statements (page 140)* IFRS requires impairment testing to be undertaken when there are indicators that an impairment may exist, and in the case of goodwill at least annually. Given the significant balances in respect of goodwill and recent trading losses, there is a risk that the Group's cash generating units ('CGUs') may not achieve the anticipated business performance to support their respective carrying values. In particular the Group has goodwill of £7.2 million attributed to EPS (£5.8m), FFEI (£0.7m) and Megnajet (£0.7m). We have designated impairment as a key audit matter for EPS given the limited headroom in the impairment testing model in prior year. For FFEI and Megnajet, given they are recent acquisitions with limited track record of performance within the Xaar Group to date we have also designated impairment of goodwill for these CGUs as a key audit matter for the 2022 audit.	We examined management's impairment assessment methodology and model to understand the composition of management's future cash flow forecasts, and the process and related controls undertaken to prepare them. This included confirming the underlying cash flows were consistent with the Board approved budget and strategic plan, did not include reorganisations and enhancements not committed at the balance sheet date. We also assessed the identified CGUs for appropriateness. We also re-performed the calculations in the model to test the mathematical integrity. We assessed the cash flow forecasting models, including consistency with the strategic plans for the group and assessment of historical forecast accuracy and impact of COVID-19 to date and over the forecast period. We tested the key inputs to management's impairment models by: • analysing the historical accuracy of budgets to actual results to determine whether forecast cash flows are reliable based on past experience; • assessing the discount rate used by obtaining the underlying data used in the calculation and benchmarking it against an EY range derived from comparable organisations and market data, involving EY internal specialists to assist us with this assessment; and • comparing the forecast growth rates to the order backlog/pipeline, using observable market data to validate the addressable market and challenging whether the forecast growth rates have been appropriately adjusted to reflect the changes in the group's strategy. We calculated the degree to which the key inputs and assumptions would need to fluctuate before an impairment was triggered and considered the likelihood of this occurring. We performed our own sensitivities on the FFEI forecasts and determined whether adequate headroom remained. We assessed whether there were any other indicators of impairment, which would give rise to the impairment of an individual asset. We audited the related disclosures with reference to the requirements of IAS 36 and confirmed their consistency with the audited impairment models.	We agree with management's conclusion that no impairment of goodwill is required in the current year. We have concluded that the methodology applied is reasonable, that the forecast period is appropriate and that management's models are mathematically accurate. The additional sensitivity disclosures in Note 15 of the Group financial statements adequately reflect that a reasonably possible change in certain key assumptions could lead to a different conclusion in respect of the recoverability of goodwill.

Risk	Our response to the risk	Key observations communicated to the Audit Committee
Contingent consideration (3D) (£11.6 million, 2021: £11.9 million) *Refer to the Audit Committee Report (page 79); Accounting policies (page 121); and Note 22 of the Consolidated Financial Statements (page 147)* Stratasys Solutions Limited acquired the remaining 55% equity stake held by Xaar 3D Holdings Limited in Xaar 3D on 6 October 2021. The consideration included £9.3m paid in cash and a further amount of up to up to $21.2m which is contingent on the achievement of certain milestones and a 3% earn-out consideration in respect of the future revenues of Xaar 3D. The Group recorded a financial asset of £10.9m on the date of the transaction which was remeasured to £11.6m at 31 December 2022 (£11.9m at 31 December 2021) in respect of the contingent consideration. The estimation of the fair value of this consideration is complex and relies on significant unobservable inputs. The Group engaged an external specialist to estimate the fair value of the contingent consideration. For this valuation, management's external specialist used a Monte Carlo Simulation model given the complex conditions associated with the contingent consideration. As at 31 December 2022 the Group has recorded a financial asset of £11.6m with the movement from the prior year due to an earn out payment received of £0.2m.	We have used EY internal valuation specialists to review the methodology and reasonableness of key assumptions used within Management's Monte Carlo Simulation. We have engaged a separate EY internal specialist to assess the discount rates assumed within the Monte Carlo Simulation, by obtaining the underlying data used in the calculation and benchmarking it against an EY range derived from comparable organisations and market data. We have assessed the consistency of the forecasts with the strategic plans for the Xaar 3D and impact of COVID-19 through validating the forecast with Stratasys management. Given the contingent consideration is held at fair value, we have performed these procedures at both the date of disposal and at year end and recalculated the fair value movement recorded in the income statement. We have audited the related disclosures with reference to the requirements of UK IAS and confirmed they are consistent with the specialist's valuation report.	The methodology used by management to establish the fair value of the contingent consideration is appropriate and the resulting valuation based upon key inputs is within our independently established range.

Risk	Our response to the risk	Key observations communicated to the Audit Committee
Acquisition accounting (Megnajet and Technomation) *Refer to the Audit Committee Report (page 79); Accounting policies (page 121); and Note 36 of the Consolidated Financial Statements (page 159)* Megnajet Limited was acquired in March 2022 for £2.5m. (£2.3m million cash consideration with the remaining £0.2m to be paid out as a deferred consideration over three years). The acquisition price of Technomation Limited which was acquired in March 2022 was £3,038,000. Management have up to 12 months from the date of acquisition to finalise the acquisition accounting in accordance with IFRS 3 – Business Combinations. Our risk focus is around: • Classification and measurement of deferred consideration and conditions attached • Fair value estimation for acquired intangibles • Opening balance sheet testing • Transition from FRS 102 to UK adopted international accounting standards • Resulting updates to tax and deferred balances	We have reviewed the sale and purchase agreement and due diligence report to determine the completeness of the identified acquired assets and liabilities. We have reviewed the journals posted to transition the opening balances from FRS 102 to UK IAS. We have also performed a walkthrough of the significant processes to determine any further areas that require consideration in terms of GAAP transition adjustments that were not previously considered by Management. We have reviewed management's accounting paper and reporting received from management's specialist in relation to the fair value of intangible assets and useful economic life assigned as part of the Purchase Price Allocations. We reviewed the sale and purchase agreement for Technomation Limited, audited the net assets of the entity and compared the separately identifiable balances to the total consideration paid. This demonstrated that the assets were concentrated within a single asset and the optional IFRS 3 concentration test was appropriately applied by management. We have engaged our EY internal valuation specialists to review the methodology and key assumptions in respect of the Purchase Price Allocation. We have engaged our EY internal tax specialists to assess the tax methodology and rates applied by management when calculating the associated deferred tax adjustments arising from the acquisition accounting. We have audited the disclosures within the annual report and accounts in relation to the business combination and resulting changes.	We concluded that the transaction was properly accounted for in accordance with IFRS 3, and the fair value adjustments and Purchase Price Allocation were appropriate. The relevant tax considerations have been recorded and disclosed appropriately in the financial statements.

In the prior year, our auditor's report included a key audit matter in relation to inventory provisioning within the EPS business. In the current year, this no longer represents a key audit matter given the steps management have taken to remediate the previously reported significant control deficiencies.

Our application of materiality

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

Materiality

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

We determined materiality for the Group to be £364k (2021: £300k), which is 0.5% (2021: 0.5%) of Group revenue. We believe that revenue provides us with the most appropriate basis given it is the main KPI for the Group, and given the Group's recent history of losses.

We determined materiality for the Parent Company to be £364k (2021: £300k), which we capped at the Group materiality.

During the course of our audit, we reassessed initial materiality and updated for final result for the year.

Performance materiality

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

On the basis of our risk assessments, together with our assessment of the Group's overall control environment, our judgement was that performance materiality was 50% (2021: 50%) of our planning materiality, namely £182k (2021: £150k). We have maintained performance materiality at this percentage reflecting our observations of the Group's systems and processes, susceptibility of the financial statements to management override and historical audit findings.

Audit work at component locations for the purpose of obtaining audit coverage over significant financial statement accounts is undertaken based on a percentage of total performance materiality. The performance materiality set for each component is based on the relative scale and risk of the component to the Group as a whole and our assessment of the risk of misstatement at that component. In the current year, the range of performance materiality allocated to components was £68k to £130k (2021: £30k to £112k).

Reporting threshold

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

We agreed with the Audit Committee that we would report to them all uncorrected audit differences in excess of £18k (2021: £15k), which is set at 5% of planning materiality, as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds.

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

Other information

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

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

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

We have nothing to report in this regard.

Opinions on other matters prescribed by the Companies Act 2006

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

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

- the information given in the strategic report and the directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements and those reports have been prepared in accordance with applicable legal requirements;
- the information about internal control and risk management systems in relation to financial reporting processes and about share capital structures, given in compliance with rules 7.2.5 and 7.2.6 in the Disclosure Rules and Transparency Rules sourcebook made by the Financial Conduct Authority (the FCA Rules), is consistent with the financial statements and has been prepared in accordance with applicable legal requirements; and
- information about the company's corporate governance statement and practices and about its administrative, management and supervisory bodies and their committees complies with rules 7.2.2, 7.2.3 and 7.2.7 of the FCA Rules.

Matters on which we are required to report by exception

In the light of the knowledge and understanding of the group and the parent company and its environment obtained in the course of the audit, we have not identified material misstatements in:

- the strategic report or the directors' report; or
- the information about internal control and risk management systems in relation to financial reporting processes and about share capital structures, given in compliance with rules 7.2.5 and 7.2.6 of the FCA Rules.

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

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

Corporate Governance Statement

We have reviewed the directors' statement in relation to going concern, longer-term viability and that part of the Corporate Governance Statement relating to the group and company's compliance with the provisions of the UK Corporate Governance Code specified for our review by the Listing Rules.

Based on the work undertaken as part of our audit, we have concluded that each of the following elements of the Corporate Governance Statement is materially consistent with the financial statements or our knowledge obtained during the audit:

- Directors' statement with regards to the appropriateness of adopting the going concern basis of accounting and any material uncertainties identified set out on page 69;
- Directors' explanation as to their assessment of the company's prospects, the period this assessment covers and why the period is appropriate set out on page 69;
- Directors' statement on whether they have a reasonable expectation that the Group will be able to continue in operation and meets its liabilities set out on page 69;
- Directors' statement on fair, balanced and understandable set out on page 78;
- Board's confirmation that it has carried out a robust assessment of the emerging and principal risks set out on page 50;
- The section of the annual report that describes the review of effectiveness of risk management and internal control systems set out on page 49; and
- The section describing the work of the audit committee set out on page 79.

Responsibilities of directors

As explained more fully in the directors' responsibilities statement set out on page 105, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

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

Auditor's responsibilities for the audit of the financial statements

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

Explanation as to what extent the audit was considered capable of detecting irregularities, including fraud

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect irregularities, including fraud. The risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below.

However, the primary responsibility for the prevention and detection of fraud rests with both those charged with governance of the company and management.

- We obtained an understanding of the legal and regulatory frameworks that are applicable to the group and determined that the most significant are those that relate to the reporting framework (IFRS, FRS 101, the Companies Act 2006 and the UK Corporate Governance Code) and the relevant tax compliance regulations in the jurisdictions in which the Group operates. In addition, we concluded that there are certain significant laws and regulations which may have an effect on the determination of the amounts and disclosures in the financial statements being the Listing Rules of the UK Listing Authority, and those regulations relating to health and safety and employee matters.
- We understood how Xaar plc is complying with those frameworks by making enquiries of management, the Company Secretary, and those responsible for legal and compliance procedures. We corroborated our enquiries through our review of board minutes, papers provided to the Audit Committee, discussion with the Audit Committee and any correspondence received from regulatory bodies.
- We assessed the susceptibility of the group's financial statements to material misstatement, including how fraud might occur by audit. We also considered performance targets and their influence on efforts made by management to manage earnings or influence the perceptions of analysts. We considered the programmes and controls that the Group has established to address risks identified, or that otherwise prevent, deter and detect fraud and how senior management monitors those programmes and controls. Where the risk was considered to be higher, we performed audit procedures to address each identified fraud risk including revenue recognition as discussed above. These procedures included testing manual journals and were designed to provide reasonable assurance that the financial statements were free from fraud or error.
- Based on this understanding we designed our audit procedures to identify non-compliance with such laws and regulations. Our procedures involved journal entry testing, with a focus on manual consolidation journals and journals indicating large or unusual transactions based on our understanding of the business; enquiries of the Company Secretary, head of legal, audit committee, management; and focussed testing, as referred to in the key audit matters section above. In addition, we completed procedures to conclude on the compliance of the disclosures in the Annual Report and Accounts with the requirements of the relevant accounting standards, UK legislation and the UK Corporate Governance Code.

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

Other matters we are required to address

- Following the recommendation from the audit committee, we were appointed by the company on 28 June 2022 to audit the financial statements for the year ending 31 December 2022 and subsequent financial periods.
- The period of total uninterrupted engagement including previous renewals and reappointments is 4 years, covering the years ending 31 December 2019 to 31 December 2022.
- The non-audit services prohibited by the FRC's Ethical Standard were not provided to the group or the parent company and we remain independent of the group and the parent company in conducting the audit.
- The audit opinion is consistent with the additional report to the audit committee.

Use of our report

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

Ruth Logan
Senior statutory auditor
for and on behalf of Ernst & Young LLP, Statutory Auditor
Cambridge

27 March 2023

Consolidated income statement
for the year ended 31 December 2022

	Notes	2022 £'000	2021 £'000
Revenue	5	**72,782**	59,254
Cost of sales		**(44,138)**	(39,064)
Gross profit		**28,644**	20,190
Other income	7	**139**	–
Research and development expenses		**(6,718)**	(5,706)
Research and development expenditure credit		**379**	270
Sales and marketing expenses		**(6,669)**	(6,342)
General and administrative expenses		**(14,050)**	(10,070)
(Impairment)/impairment reversals on financial assets		**(28)**	388
Restructuring and transaction expenses		**(450)**	(1,404)
Fair value (loss)/gain on financial assets at FVTPL	22	**(8)**	987
Gain on derivative financial liabilities	22	**–**	2,919
Operating profit		**1,239**	1,232
Investment income	10	**38**	4
Finance costs	10	**(453)**	(242)
Profit before tax		**824**	994
Income tax credit/(expense)	12	**967**	(299)
Profit for the year from continuing operations		**1,791**	695
(Loss)/profit from discontinued operations after tax	11	**(159)**	13,533
Profit for the year		**1,632**	14,228
Attributable to:			
Owners of the Company		**1,632**	16,219
Non-controlling interest	35	**–**	(1,991)
Profit for the year		**1,632**	14,228
Earnings per share – Total			
Basic	14	**2.1p**	20.9p
Diluted	14	**2.0p**	20.6p
Earnings per share – Continuing operations			
Basic	14	**2.3p**	0.9p
Diluted	14	**2.2p**	0.9p

There were no dividends paid during the current and preceding year.

Consolidated statement of comprehensive income
for the year ended 31 December 2022

	Notes	2022 £'000	2021 £'000
Profit for the year		**1,632**	14,228
Items that may be reclassified subsequently to profit or loss:			
Exchange differences on retranslation of net investment	29	**617**	143
Other comprehensive income for the year		**617**	143
Total comprehensive income for the year		**2,249**	14,371
Total comprehensive income attributable to:			
Owners of the Company		**2,249**	16,366
Non-controlling interests	35	**–**	(1,995)
		2,249	14,371

Consolidated statement of financial position
as at 31 December 2022

	Notes	2022 £'000	Restated 2021 £'000
Non-current assets			
Goodwill	15	**7,163**	5,894
Other intangible assets	16	**8,681**	4,043
Property, plant and equipment	17	**16,104**	16,226
Right-of-use asset	18	**8,068**	8,829
Financial asset at fair value through profit or loss	22	**11,089**	11,850
Deferred tax asset	23	**726**	–
Other non-current assets	21	**136**	–
		51,967	46,842
Current assets			
Inventories	20	**29,148**	18,839
Trade and other receivables	21	**11,527**	10,161
Current tax asset	21	**735**	531
Financial asset at fair value through profit or loss	22	**517**	–
Cash and cash equivalents	21	**8,546**	25,051
		50,473	54,582
Total assets		**102,440**	101,424
Current liabilities			
Trade and other payables	24	**(14,862)**	(15,971)
Provisions	25	**(405)**	(264)
Contract liabilities	5	**(3,799)**	(3,541)
Borrowings and financial liabilities	22	**(379)**	–
Lease liabilities	18	**(1,032)**	(692)
		(20,477)	(20,468)
Net current assets		**29,996**	34,114
Non-current liabilities			
Deferred tax liabilities	23	**–**	(1)
Lease liabilities	18	**(7,800)**	(8,499)
Provisions	25	**(300)**	(300)
Other financial liabilities	24	**(2,094)**	(3,354)
Total non-current liabilities		**(10,194)**	(12,154)
Total liabilities		**(30,671)**	(32,622)
Net assets		**71,769**	68,802
Equity attributable to owners of the parent company			
Share capital	26	**7,844**	7,844
Share premium	27	**29,427**	29,427
Own shares	28	**(775)**	(1,923)
Translation reserve	29	**1,628**	1,011
Other reserves	30	**23,379**	21,820
Retained earnings	30	**10,266**	10,623
Total equity		**71,769**	68,802

The financial statements of Xaar plc, registered number 3320972, were approved by the Board of Directors and authorised for issue on 27 March 2023. They were signed on its behalf by:

John Mills
Chief Executive Officer

Ian Tichias
Chief Financial Officer

Consolidated statement of changes in equity
as at 31 December 2022

	Notes	Share capital £'000	Share premium £'000	Own shares £'000	Translation reserves £'000	Other reserves £'000	Retained earnings £'000	Total £'000	Non-controlling interest £'000	Total equity £'000
Balance at 1 January 2021 (as restated)		7,833	29,328	(1,957)	864	21,167	(5,564)	51,671	3,771	55,442
Profit/(loss) for the year		–	–	–	–	–	16,219	16,219	(1,991)	14,228
Tax on items taken directly to equity		–	–	–	–	–	–	–	–	–
Exchange differences on retranslation of net investment		–	–	–	147	–	–	147	(4)	143
Total comprehensive loss for the year as reported		–	–	–	147	–	16,219	16,366	(1,995)	14,371
Own shares sold in the period	28	–	–	34	–	–	–	34	–	34
Share option exercises		11	99	–	–	–	(32)	78	–	78
Credit to equity for equity-settled share-based payments	32	–	–	–	–	653	–	653	–	653
Derecognition of non-controlling interest	35	–	–	–	–	–	–	–	(1,776)	(1,776)
Balance at 31 December 2021		7,844	29,427	(1,923)	1,011	21,820	10,623	68,802	–	68,802
Profit for the year		–	–	–	–	–	1,632	1,632	–	1,632
Tax on items taken directly to equity		–	–	–	–	–	–	–	–	–
Exchange differences on retranslation of net investment		–	–	–	617	–	–	617	–	617
Total comprehensive income for the year		–	–	–	617	–	1,632	2,249	–	2,249
Own shares purchased in the period	28	–	–	(1,000)	–	–	–	(1,000)	–	(1,000)
Own shares sold in the period	28	–	–	2,148	–	–	–	2,148	–	2,148
Share option exercises and settlements	30	–	–	–	–	–	(1,989)	(1,989)	–	(1,989)
Credit to equity for equity-settled share-based payments	32	–	–	–	–	1,559	–	1,559	–	1,559
Balance attributable to owners of the parent company at 31 December 2022		**7,844**	**29,427**	**(775)**	**1,628**	**23,379**	**10,266**	**71,769**	**–**	**71,769**

The nature of retained earnings and other reserves in equity is described in note 30.

Consolidated cash flow statement
for the year ended 31 December 2022

	Notes	2022 £'000	2021 £'000
Profit before tax from continuing operations		**824**	994
(Loss)/profit before tax from discontinued operations	11	**(159)**	13,503
Total Profit/(loss) before tax		**665**	14,497
Adjustments for:			
Share-based payments	32	**1,748**	758
Depreciation of property, plant and equipment	17	**2,654**	3,318
Depreciation of right-of-use assets	18	**1,071**	871
Amortisation of intangible assets	16	**1,067**	475
Impairment of assets	17	**147**	–
Research and development expenditure credit		**(379)**	(582)
Investment income		**(38)**	(4)
Interest expense		**453**	252
Unrealised foreign exchange gains		**(797)**	(23)
Gain on remeasurement of derivative liability	22	**–**	(2,919)
Payment of cash settled share-based payments		**(249)**	–
Fair value loss/(gain) on financial assets at FVTPL	22	**8**	(987)
Loss on disposal of property, plant and equipment		**80**	77
Profit on disposal of investment in subsidiary		**–**	(17,899)
Increase/(decrease) in provisions	25	**141**	(74)
Operating cash flows before movements in working capital		**6,571**	(2,240)
Increase in inventories		**(9,462)**	(7,964)
Decrease/(increase) in receivables		**(812)**	(1,525)
(Decrease)/increase in payables		**(1,914)**	9,525
Cash utilised by operations		**(5,617)**	(2,204)
Net Income taxes received		**112**	150
Net cash used in operating activities		**(5,505)**	(2,054)
Investing activities			
Investment income		**38**	13
Treasury deposits (deposited)/withdrawn		**–**	161
Purchases of property, plant and equipment		**(2,456)**	(1,876)
Proceeds from disposal of property, plant and equipment		**17**	209
Purchases of Intangible assets		**(2,933)**	(38)
Cash earn-out received from financial assets at FVTPL	22	**236**	–
Proceeds from disposal of investment in subsidiary		**–**	9,272
Cash attributable to subsidiary sold		**–**	(96)
Acquisition of subsidiary (Megnajet) net of cash acquired (2021:acquisition of FFEI)		**(1,202)**	168
Asset acquisition (Technomation), net of cash acquired		**(2,334)**	–
Net cash (used in)/provided by investing activities		**(8,634)**	7,813
Financing activities			
Proceeds from sale of own shares		**408**	150
Payment for own shares acquired	28	**(1,000)**	–
	31		
Payment of lease liabilities and interest	31	**(914)**	(824)
Net inflows from invoice discounting facility	31	**346**	–
Other interest paid		**(22)**	–
Net cash used in financing activities		**(2,915)**	(674)
Net (decrease)/increase in cash and cash equivalents		**(17,054)**	5,085
Effect of foreign exchange rate changes on cash balances		**549**	(110)
Cash and cash equivalents at the beginning of the year		**25,051**	20,076
Cash and cash equivalents at the end of the year		**8,546**	25,051

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 callable deposits with a notice period 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 2022

1. General information

Xaar plc ('the Group') 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 are set out in the Strategic Report on pages 4 to 59.

The Strategic Report can be found on pages 4 to 59

2. Key sources of estimation uncertainty and critical accounting judgements

The key assumptions concerning the future and other sources of estimation uncertainty at the date of the statement of financial position 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:

Accounting judgements – The Group applies judgement in how it applies its accounting policies, which do not involve estimation, which could materially affect the numbers disclosed in these financial statements. The key judgements, without estimation, that could have the most significant effect on the amounts recognised in these financial statements are as follows:

Capitalisation of development costs (accounting judgement) – note 16

As described in note 16, the Group capitalises development expenditure as an intangible asset where the criteria under IAS 38 'Intangible Assets' is met. This requires management to make judgement on when all of the criteria for capitalisation are met and when to cease capitalisation and start amortising the asset. In the current year £1.7 million of external development costs were capitalised and no internal development costs were capitalised. There were no capitalised development costs for the prior year. The technical feasibility criteria is only typically achieved at the end of a project for most of internal projects. During a printhead product development programme many sub-systems are evaluated in parallel and all of these systems carry their own risk.

Significant estimates – The preparation of financial statements in accordance with UK-adopted international accounting standards (IFRS) requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting year. Although these estimates are based on management's best knowledge of the amount, events or actions, actual results ultimately may differ from those estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

Climate change is a global challenge and an emerging risk to business, people and the environment across the world. We have a role to play in limiting warming by improving our energy management, reducing our carbon emissions and by helping our customers and suppliers do the same. Growing awareness of climate change will provide the impetus for business growth as we provide products, services and solutions that increase efficiency and reduce customers' energy use and carbon emissions.

Our plans allow for the upgrade, modification and improvements to our assets, to enable us to achieve our climate change strategy. We do not envisage any specific impact to the useful economic life of assets as a result of these changes.

Based on the results of the recent formal climate-related scenario planning , the climate risk for the Group has been assessed to be medium to low. Assuming we meet our target of becoming Net Zero by 2030, which is significantly sooner than most of the industry, the risk will be downgraded to low. So at this point of assessment, in our view climate change does not create any further key sources of estimation uncertainty. For further detail see the Risk management and Sustainability sections of the Strategic Report.

The Directors consider the following to be the key estimates applicable to the financial statements, which have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year or in the longer term:

Contingent consideration (estimation uncertainty) – notes 11 and 12

In November 2021, Stratasys Solutions Limited acquired the remaining 55% of Xaar 3D Limited for an initial consideration of US$13.5 million or £9.9 million in cash and a milestone consideration and 3% earn-out consideration which are contingent on the achievement of certain milestones in respect of the future revenue stream of Xaar 3D and should be estimated using a statistical simulation model. This contingent consideration is measured at fair value using a Monte Carlo Simulation model and the use of a recognised third party.

The Monte Carlo Simulation model uses a number of inputs that require estimation. The key ones are the risk-adjusted discount rate and revenue volatility. The milestone consideration and 3% earn-out consideration are calculated based on the terms of the proposed transaction and by reference to simulated revenue. This is then discounted back to the valuation date using a discount rate over a period commensurate with the year in which payments are payable.

The Group considers this model to be appropriate, given the complex conditions associated with the milestone consideration and 3% earn-out consideration

A sensitivity analysis is provided in note 22.

Impairment of goodwill and intangibles (estimation uncertainty) – notes 15 and 16

The Group tests goodwill and intangibles annually for impairment or more frequently if there are indications that goodwill might be impaired. Having performed appropriate testing, no impairment has been identified and therefore no impairment loss has been recognised in 2022 (2021: £nil). Management has performed sensitivity analysis on its reasonably worst case scenario for EPS, FFEI and Megnajet and it has been completed on each key assumption in isolation. Reasonably possible change sensitivities are included in note 15.

Revenue recognition – note 5

Engineered Printing Solutions and FFEI recognise revenue on the stage of completion for some of the customer contract and performance obligations in the manufacture of bespoke machinery and equipment as well as some of the research and development services for delivery to the customer.

Each month an assessment is undertaken of the work in progress and stage of completion in both supply of individual components and labour hours allocated to the project against the expected project manufacture costs. The revenue determined is recognised upon the proportion and stage of completion of the performance obligations. This assessment enables an estimate to be undertaken for the expected profitability of the customer contract, costs incurred to date, and costs to complete, but is subject to a level of uncertainty until the work in progress is finalised and the completed machinery and services are available for final delivery and acceptance by the customer.

The transaction price allocated to partially satisfied and unsatisfied obligations at 31 December 2022 is set out in note 5.

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

Acquisition of Megnajet Ltd and Technomation Ltd – note 36

There is a high level of judgement surrounding the valuation of goodwill and acquired intangibles for any material acquisitions and this applies to the acquisition of Megnajet and Technomation in the year. An additional judgement was required around the classification of Technomation as an asset purchase rather than a business purchase and it was concluded as such as a result of the applied concentration test under IFRS 3:B7(A)a.

Management involved a third party valuation expert to estimate the value of the acquired intangibles and goodwill to ensure the judgements are appropriately considered.

3. Significant accounting policies

Basis of accounting

The Group financial statements have been prepared in accordance with UK adopted International Accounting Standards (IAS). 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.

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 Xaar plc ("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. An investor controls another entity, an investee, if and only if the investor has all of the following: it has power over the investee, exposure or rights to variable returns from its involvement with the investee, and the ability to use its power over the investee to affect the amount of the investor's returns. To have power, an investor must have existing substantive rights that give it the current ability to direct the relevant activities. The investor reassesses whether it controls an entity if facts and circumstances indicate changes to one or more of the elements of control.

The results of subsidiaries acquired or disposed of during the year are included in the consolidated income statement from the date of acquisition or up to the 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.

Profit or loss and each component of other comprehensive income are attributed to the owners of the Company and to the non-controlling interests. Total comprehensive income of subsidiaries is attributed to the owners of the Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Changes in the Group's interests in subsidiaries that do not result in a loss of control are accounted for as equity transactions. The loss of control of a subsidiary results in the recognition of a gain or loss on the sale of the interest sold and the derecognition of all assets, liabilities and any retained non-controlling interest.

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 16 to 25. Notes 21 and 22 include a description of the Company'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's day-to-day working capital requirements are expected to be met through the current cash and cash equivalent resources (including treasury deposits) at the balance sheet date of 31 December 2022 of £8.5 million. As set out in note 22, the Group has a £5 million invoice discounting facility, of which £0.4 million was drawn as at 31 December 2022.

The Group has prepared and reviewed monthly profit and cash flow forecasts which cover a period up to 30 June 2024, the going concern period. This base case forecast position has been compiled by considering the performance of the different businesses across the Group and each of their funding requirements which represents the current Board approved forecasts. These forecasts reflect existing technologies and products, existing OEM adoption, the committed order pipeline, an increasing customer install base and demand for consumables such as fluids across the customer base and no specific risks around creditworthiness. This creates a high degree of predictability within the short-term cash flows, which have been factored in to the level of sensitivity testing and reverse stress testing performed below. As set out in note 6, there is no concentration of revenues from an individual customer. The operational steps described in the Strategic Report also provide increased predictability over future margins, which have been incorporated in this base case forecast. Using this base case, liquidity compliance has been assessed across the going concern period and is sufficient to enable the Group to settle its obligations as they fall due.

To support the going concern conclusion, a sensitivity analysis has been performed which models a 10% reduction in revenue and 2% reduction in gross margin in comparison to the base case and is below the reported FY22 actual result. The outcome of this sensitivity analysis is that the Group maintains liquidity across the going concern period and is able to meet all forecasted obligations as they fall due. A reverse stress scenario has also been performed to model the circumstances required to eliminate available liquidity during the going concern period. This includes reducing revenues and reducing gross margin. This reverse stress scenario requires a reduction in revenue in excess of 25% in comparison to the base case and is below the reported FY22 actual result, as is the assumed margin. The Directors believe the possibility of this combination of severe downsides arising to be remote given the recurring revenue base and predictability of forecasts, and that there are numerous controllable mitigating actions such as deferring non-committed capital expenditure and reducing performance related pay which could be taken to avoid a liquidity breach.

3. Significant accounting policies continued

Going concern continued

Should extreme downside scenarios occur, the Group has further options within its control to mitigate a cash shortfall which have not been factored into the above forecasts and stress testing, such as staffing reductions, further delaying/stopping capital and research and development expenditure and aligning performance related pay to actual results. The Group has also received credit pre-approval for a £5 million revolving credit facility. No drawdowns have been assumed during the going concern period, nor are they required in the sensitivity or reverse stress scenarios described above and as such the facility would provide additional liquidity headroom to the Group across the going concern period.

Based on the above, the Directors have a reasonable expectation that the Group has adequate resources to continue in operational existence for the period to 30 June 2024. For this reason, we continue to adopt the going concern basis in preparing the financial statements.

Adjusted financial measures

Adjusted financial measures relate to continuing operations and comprise adjusted profit/(loss) before tax, adjusted EBITDA, and adjusted basic and diluted earnings per share. These measures are alternative performance measures (APMs) which are not defined or specified under the requirements of IFRS. These APMs adjust for recurring and non-recurring items which management consider are not reflective of the underlying performance of the Group. These APMs are used in evaluating management's performance and in determining management and executive remuneration. Items adjusted for include share-based payment charges, exchange differences on intra-group transactions, gain on derivative financial instruments, restructuring and transaction expenses, the research and development expenditure credit, fair value gains on financial assets and amortisation of acquired intangible assets. See note 4 for further detail.

Recurring items are adjusted each year irrespective of materiality to ensure consistent treatment, and allow for variation transactions that can occur e.g. due to volatility in share prices in respect of share-based payment charges, or the significant impact of restructuring and transaction expenses. Non-recurring items are identified and adjusted for by virtue of their size or nature.

Share-based payment charges are excluded from the calculation of adjusted profit/(loss) before tax as these represent a non-cash accounting charge which represent long-term incentives designed for long-term employee retention. Share-based payment charges are not included in the analysis of segment performance used by the Chief Operating Decision Maker and their add-back is consistent with metrics used by a number of other companies in the technology sector, therefore this treatment remains appropriate.

Fair value gains and losses on financial assets at fair value through profit and loss are excluded from the calculation of adjusted profit/(loss) before tax as these represent a non-cash movement in accounting estimates related to divestment contingent consideration.

The movements are driven by external factors and not influenced by the Group. Fair value gains and losses on financial assets at fair value through profit and loss bear no relation to the Group's underlying ongoing operational performance, and are not included in the analysis of segment performance used by the Chief Operating Decision Maker.

Amortisation of acquired intangibles is excluded from the calculation of adjusted profit/(loss) before tax as these charges are the result of acquisition accounting, and whilst revenue recognised in the income statement benefits from the underlying intangibles that have been acquired, the amortisation costs bear no relation to the Group's underlying ongoing operational performance. In addition, amortisation of acquired intangibles is not included in the analysis of segment performance used by the Chief Operating Decision Maker.

Net cash includes cash, cash equivalents and treasury deposits. Gross R&D investment represents the cost of research and development on continuing operations in the year.

Business combinations

The acquisition of subsidiaries is accounted for using the acquisition method in accordance with IFRS 3.

Goodwill

Goodwill arising on acquisition is recognised as an asset and initially measured at cost, being the excess of the sum of consideration transferred, the amount of any non-controlling interests in the acquiree over the net of the acquisition-date fair values 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 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.

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.

3. Significant accounting policies continued

Revenue recognition

Overall policy

Revenue is measured based on the consideration to which the Group expects to be entitled in a contract with a customer and excludes amounts collected on behalf of third parties. The Group determines whether to recognise revenue, following a five-step process:

1. Identifying the contract with a customer;
2. Identifying the performance obligations;
3. Determining the transaction price;
4. Allocating the transaction price to the performance obligations; and
5. Recognising revenue when/as performance obligation(s) are satisfied.

Revenue streams

Revenue arises from a number of sources but mainly "product sales":

- the manufacture and sale of printheads
- engineered printing solutions and
- digital imaging devices

The Group also provides consulting and research and development services ("commissions and services"), and licenses intellectual property to third parties as part of royalty-based revenue ("licensee royalties").

Revenue is shown net of value-added tax, returns, rebates and discounts and after eliminating sales within the Group.

Identification of performance obligations

When the Group enters into an agreement with a customer, goods and services deliverable under the contract are identified as separate performance obligations ("obligations") to the extent that the customer can benefit from the goods or services on their own and that the separate goods and services are considered distinct from other goods and services in the agreement. Where individual goods and services do not meet the criteria to be identified as separate obligations they are aggregated with other goods and/or services in the agreement until a separate obligation is identified.

Typically each of the revenue streams listed above qualify as separate performance obligations, with consideration allocated accordingly. However, for certain of the Digital Imaging and Product Print Systems contracts, the performance obligations are not distinct, for example where the services are essential for the customer to be able to benefit from the product sale.

Timing of revenue recognition

Revenue is recognised in accordance with IFRS 15 when control has been transferred to the customer. For product sales, revenue is recognised at a point in time, unless specific conditions have been satisfied allowing revenue to be recognised over a period of time as identified in the five-step process (above); this can arise in the Product Print Systems and Digital Imaging segments for example where the asset produced does not have an alternative use and the Group has an enforceable right to payment for performance completed to date. An input methodology (based on estimated labour hours or costs) is used as this depicts the performance conditions when recognising revenue over time. Where this is the case, the performance obligations are typically not distinct as set out above. Payments for revenue recognised over time are typically in instalments whereas point in time revenue is typically invoiced in arrears.

Commissions and services revenue is recognised over time where the customer simultaneously receives and consumes the benefits of the Group's performance obligations. Where this is not the case, revenue is recognised at a point in time. Payments for this revenue stream are typically in arrears.

Royalties are recognised on an accruals basis, based on quarterly statements received from each licensee. The royalties arise from the licensee's use of their printheads and the Group's related intellectual property installed in equipment developed by original equipment manufacturers (OEMs).

Further details of payment terms are provided in note 21.

Receivables

A receivable is recognised when the performance obligations are satisfied (e.g. upon shipment for product sales, upon delivery as services are rendered or upon completion of service) as this is the point in time that the consideration is unconditional because only the passage of time is required before the payment is due, there will be a reservation of title until payment has been received, but control has been transferred.

Investment income

Investment 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.

Interest expense

Interest expense on lease liabilities is a component of finance costs which is required to be presented separately in the income statement.

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.

3. Significant accounting policies continued

Foreign currencies continued

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 date of the statement of financial position. Income and expense items are translated at the monthly average exchange rates for the period which are an approximation of actual rates.

Exchange differences arising on the translation of the net investment in foreign operations are recognised in other comprehensive income and taken to the translation reserve.

When the Group's foreign operations are liquidated or disposed, exchange differences previously recognised through other comprehensive income and the translation reserve will be recycled and recognised through the income statement.

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.

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.

Restructuring costs

Restructuring cost refers to the one-time expenses or infrequent expenses which are incurred by the Group in the process of reorganising its business operations with the motive of the overall improvement of the long-term profitability and working efficiency of the Group.

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 date of the statement of financial position.

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. 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 (taxable temporary differences only) 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.

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 the date of each statement of financial position and reduced to the extent that 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 charged or credited in the income statement, except when it relates to items charged or credited in other comprehensive income or directly in equity, in which case the deferred tax is also dealt with in other comprehensive income or directly in equity respectively.

To the extent that the Group receives a tax deduction relating to share-based payment transactions, a deferred tax asset is recognised 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 multiplied by the expired portion of the vesting period. As a result, the deferred tax impact of share options will not be derived directly from the expense reported in the consolidated income statement. Where the deductible difference exceeds the cumulative charge to the consolidated income statement the excess of the associated tax benefit is recorded directly to equity rather than in profit or loss.

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.

Freehold land is not depreciated.

3. Significant accounting policies continued

Property, plant and equipment continued

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: Shorter of the lease term and 20 years
- Plant and machinery: 3 to 20 years
- Furniture, fittings and equipment: 3 to 20 years
- Buildings: Up to 40 years

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.

Spare parts are capitalised within property, plant and equipment where it is expected that future economic benefits will flow to the entity and the cost can be measured reliably. This typically relates to critical spares, which must be maintained for business continuity. Depreciation of these assets commences both when the assets are bought and when they are put in use. The former has longer useful life of six years to account for the 'idle' time whilst the latter is shorter useful life of three years which is an approximation for the average useful life of a part in use.

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.

An internally generated intangible asset arising from the Group's development is recognised only if the conditions of IAS 38 paragraph 57 are met.

Internally generated intangible assets are amortised on a straight-line basis over 3 to 20 years. 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.

Acquired intangible assets as a result of business combinations are capitalised and amortised on a straight-line basis over their estimated useful lives.

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

- Capitalised development costs – Patents over the life of the patent; Development costs based on the project life
- Licences acquired shorter of the licence term and 20 years
- Software – three to fifteen years with IT equipment being three years and infrastructure up to fifteen years
- Customer relationships - six to eight years
- Brands - ten years
- Technology-based patents - six years

Impairment of tangible and intangible assets excluding goodwill

At the date of each statement of financial position, the Group reviews the carrying amounts of its tangible and intangible assets to determine 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 of disposal 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.

Leases

The Group assesses whether a contract is or contains a lease, at inception of the contract. The Group recognises a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low-value assets. For these leases, the Group recognises the lease payments as an operating expense on a straight-line basis over the term of the lease unless another systematic basis is more representative of the time pattern in which economic benefits from the leased assets are consumed.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate. Generally, an incremental borrowing rate approach is applied.

3. Significant accounting policies continued

Leases continued

Lease payments included in the measurement of the lease liability comprise:

- fixed lease payments (including in substance fixed payments), less any lease incentives;
- variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date;
- the amount expected to be payable by the lessee under residual value guarantees;
- the exercise price of purchase options, if the lessee is reasonably certain to exercise the options;
- payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease.

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made.

The Group re-measures the lease liability (and makes a corresponding adjustment to the related right-of-use asset) whenever:

- the lease term has changed or there is a change in the assessment of exercise of a purchase option, in which case the lease liability is re-measured by discounting the revised lease payments using a revised discount rate;
- the lease payments change due to changes in an index or rate or a change in expected payment under a guaranteed residual value, in which cases the lease liability is re-measured by discounting the revised lease payments using the initial discount rate (unless the lease payments change is due to a change in a floating interest rate, in which case a revised discount rate is used);
- a lease contract is modified and the lease modification is not accounted for as a separate lease, in which case the lease liability is re-measured by discounting the revised lease payments using an incremental borrowing rate at the effective date of the modification.

The right-of-use assets comprise the initial measurement of the corresponding lease liability, lease payments made at or before the commencement day and any initial direct costs. They are subsequently measured at cost less accumulated depreciation and impairment losses.

Whenever the Group incurs an obligation for costs to dismantle and remove a leased asset, restore the site on which it is located or restore the underlying asset to the condition required by the terms and conditions of the lease, a provision is recognised and measured under IAS 37.

The costs are included in the related right-of-use asset, unless those costs are incurred to produce inventories.

Right-of-use assets are depreciated over the shorter period of lease term and useful life of the underlying asset. If a lease transfers ownership of the underlying asset or the cost of the right-of-use asset reflects that the Group expects to exercise a purchase option, the related right-of use asset is depreciated over the useful life of the underlying asset. The depreciation starts at the commencement date of the lease. The Group does not have any leases that transfer ownership of the underlying asset. The Group does not have any leases with a purchase option where there is a reasonable expectation that the option will be exercised.

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.

Contract asset/contract liability

A contract asset is recognised when revenue recognised in respect of a customer contract exceeds amounts received or receivable from the customer. This situation arises when the recognition of revenue over time to date is greater than amounts invoiced to the customer and invoicing is conditional on further performance. The carrying amount is reduced by allowances for expected credit losses under IFRS 9.

When there is an unconditional entitlement, generally when invoices are raised, the contract asset values are reclassified to trade receivables.

Contract liabilities comprise the Group's obligation to transfer goods or services to a customer for which the Group has received payment from the customer in advance of revenue recognition. This situation arises when the customer is invoiced in advance and the revenue recognised over time is lower than the amounts invoiced to the customer.

Financial instruments

Financial assets and financial liabilities are recognised in the Group's statement of financial position when the Group becomes a party to the contractual provisions of the instrument.

Financial assets and financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognised immediately in profit or loss.

Recognition of financial assets

All regular way purchases or sales of financial assets are recognised and derecognised on a trade date basis. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace.

All recognised financial assets are measured subsequently in their entirety at either amortised cost or fair value, depending on the classification of the financial assets.

In order for a financial asset to be classified and measured at amortised cost or fair value through OCI, it needs to give rise to cash flows that are 'solely payments of principal and interest (SPPI)' on the principal amount outstanding. This assessment is referred to as the SPPI test and is performed at an instrument level. Financial assets with cash flows that are not SPPI are classified and measured at fair value through profit or loss, irrespective of the business model.

3. Significant accounting policies continued

Impairment of financial assets

The Group recognises an allowance for expected credit losses (ECLs) for all debt instruments not held at fair value through profit or loss.

ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

ECLs are recognised in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12 months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL). Trade receivables and contract assets are recognised using a lifetime ECL approach.

For financial assets carried at amortised cost, the amount of the impairment is the difference between the asset's carrying amount and the present value of the estimated future cash flows, discounted at the financial asset's original effective interest rate.

Derecognition of financial assets

The Group derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

The decision as to whether a transfer qualifies for derecognition is made by applying a combination of risks and rewards and control tests. The risks and rewards tests seek to establish whether, having transferred a financial asset, the entity continues to be exposed to the risks of ownership of that asset and/or continues to enjoy the benefits that it generates. The control tests are designed with a view to understanding which entity controls the asset (i.e. which entity can direct how the benefits of that asset are realised).

Inherent in the IFRS 9 derecognition model is the notion of 'stickiness', i.e. it is more difficult to remove an asset from an entity's statement of financial position than it is to recognise that asset in the first place. Derecognition cannot be achieved by merely transferring the legal title to a financial asset to another party. The substance of the arrangement must be assessed in order to determine whether an entity has transferred the economic exposure associated with the rights inherent in the asset (i.e. its risks and rewards) and, in some cases, control of those rights. On derecognition of a financial asset, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulative gain or loss that had been recognised in other comprehensive income and accumulated in equity is recognised in profit or loss.

Financial liabilities and equity

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangement.

Financial liabilities

All financial liabilities are measured subsequently at amortised cost using the effective interest method or at fair value through profit or loss (FVTPL).

Financial liabilities are classified at FVTPL when the financial liability is (i) contingent consideration of an acquirer in a business combination, (ii) held for trading or (iii) it is designated as at FVTPL.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortised cost of a financial liability.

Derecognition of financial liabilities

The Group derecognises financial liabilities when, and only when, the Group's obligations are discharged, cancelled or have expired. The difference between the carrying amount of the financial liability derecognised and the consideration paid and payable is recognised in profit and loss.

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 with an original maturity of three months or less 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 12 months and are subject to an insignificant risk of changes in value.

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.

The Group has entered into an invoice discounting arrangement. See note 22.

3. Significant accounting policies continued

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 date of the statement of financial position 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.

Provisions for the expected cost of warranty obligations under contracts with customers and 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. Provisions for leased property dilapidation are recognised at the commencement of the lease using the Group's best estimate to settle the obligation at the end of the lease term.

Share-based payments

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 based on the satisfaction of non-market based vesting and service 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 with market based vesting conditions. 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.

Non-current assets (or disposal groups) held for sale

Non-current assets (or disposal groups) are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. They are measured at the lower of their carrying amount and fair value less costs to sell, except for assets such as deferred tax assets, assets arising from employee benefits, financial assets and investment property that are carried at fair value and contractual rights under insurance contracts, which are specifically exempt from this requirement.

Non-current asset (or disposal group) is classified as held for sale only when two conditions are met:

- the asset (or disposal group) is available for immediate sale in its present condition subject only to terms that are usual and customary for sales of such assets (or disposal groups);
- and its sale is highly probable

Discontinued operations

A discontinued operation is a component of the Group that has been disposed of and that represents a separate major line of business and is part of a single co-ordinated plan to dispose of such a line of business. The results of discontinued operations are presented separately in the income statement and are shown net of tax.

Where an operation is classified as discontinued, the post-tax results of that operation will be presented as a single line item on the face of the income statement and the cash flows from the discontinued operations are shown in the discontinued operations note 11.

New and amended standards and interpretations

The Group adopted the following amendments to standards and interpretations, which are effective for the first time this year:

- Annual improvements to IFRS standards 2018–2020
- Amendment to IFRS 3 – Business Combinations
- Amendments to IAS 37 – Provisions, Contingent Liabilities and Contingent Assets
- Amendments to IAS 16 – Property, Plant and Equipment

The amendments have not had a material impact on the reported results.

International Accounting Standards in issue but not yet effective

The Group intends to adopt new and amended standards and interpretations, if applicable, when they become effective. The amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's financial statements are not expected to have an impact on the Group's reported financial position or performance.

4. Reconciliation of adjusted financial measures

	Note	2022 £'000	2021 £'000
Profit before tax from continuing operations		**824**	994
Share-based payment charges	9	**1,748**	758
Exchange differences on intra-group transactions		**(811)**	95
Gain on derivative financial liabilities	22	**–**	(2,919)
Restructuring and transaction expenses		**450**	1,404
Research and development expenditure credit		**(379)**	(270)
Fair value gain on financial assets at fair value through profit or loss	22	**8**	(987)
Amortisation of acquired intangible assets	16	**982**	354
Adjusted profit/(loss) before tax from continuing operations		**2,822**	(571)
Interest income	10	**(38)**	(4)
Finance costs		**453**	242
Depreciation of property, plant and equipment	17	**2,654**	3,318
Amortisation of intangible assets (other than acquired intangibles)	16	**85**	121
Loss on asset disposal		**80**	77
Impairment of assets	17	**147**	–
Adjusted EBITDA from continuing operations		**6,203**	3,183

EBITDA is calculated as statutory operating profit before depreciation (other than that arising from IFRS 16 accounting), amortisation and impairment of property, plant and equipment, intangible assets and goodwill. Adjusted EBITDA is calculated as EBITDA excluding other adjusting items as defined.

Adjusted financial measures are alternative performance measures, which adjust for recurring and non-recurring items that management consider to have a distorting effect on the underlying results of the Group.

Share-based payment charges include the IFRS 2 charge for the period of £1,559,000 (2021: £653,000) and the debit relating to National Insurance on the outstanding potential share option gains of £189,000 (2021: £105,000).

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 intra-group transactions in the United States and Sweden. These costs were included in general and administrative expenses in the consolidated income statement.

Gain on derivative financial instruments relates to gains made on call option contracts which were exercised in 2021. These amounts are included on the consolidated income statement under gain on derivative financial liabilities.

Restructuring and transaction expenses of £450,000 (2021: £1,404,000) relate to costs incurred and provisions made in relation to acquisition transactions of £194,000 (2021: £961,000) and reorganisation costs. The calculated impact of the restructuring and transaction expenses at the corporation tax rate of 19% would be £32,000 based on the expenses included that would be treated as tax deductible (2021: £52,000). The cash paid related to restructuring and investment expenses is £792,000 (2021: £992,000).

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 £198,000 received during the year were in relation to the Xaar RDEC claim which related to the claim for year ended 31 December 2020. In 2021 £219,000 was received in relation to the FFEI RDEC and R&D claim which related to their financial year 1 April 2020 to 31 March 2021.

The fair value loss of £8,000 (2021: £987,000 gain) on financial assets at fair value through profit and loss relates to the sale of Xaar 3D Limited. The net consideration includes contingent consideration that is valued and reported at fair value. The fair value movement is recognised in the income statement as fair value loss on financial assets at fair value through profit and loss. Further details are included in notes 11 and 22.

The amortisation of acquired intangible assets relates to the acquisition of FFEI Limited in 2021 and the acquisition of Megnajet Limited and Technomation Limited in 2022. These include software, patents and customer relationships for FFEI which are being amortised over six years and IP, brand and customer relationships for Megnajet and Technomation which are being amortised over eight to ten years. These costs were included in general and administrative expenses in the consolidated income statement.

4. Reconciliation of adjusted financial measures continued

	Note	2022 Pence per share	2021 Pence per share
Basic earnings per share from continuing operations	14	**2.3p**	0.9p
Share-based payment charges		**2.3p**	1.0p
Exchange differences on intra-group transactions		**(1.1p)**	0.1p
Gain on derivative financial liabilities		**–**	(3.8p)
Restructuring and transaction expenses		**0.6p**	1.8p
Research and development credit		**(0.5p)**	–
Fair value gain on financial assets at FVTPL		**–**	(1.3p)
Amortisation of acquired intangible assets		**1.3p**	0.5p
Tax effect of adjusting items		**(0.1p)**	(0.2p)
Adjusted basic earnings/(loss) per share from continuing operations	14	**4.8p**	(1.0p)

This reconciliation is provided to align with how the Board measures and monitors the business at an underlying level, and is a measure used in establishing remuneration.

5. Revenue

The Group derives its revenue from contracts with customers for the transfer of goods and services over time and at a point in time in the following major segments. This is consistent with the revenue information that is disclosed for each reportable segment under IFRS 8 Operating Segments in note 6.

Revenue from goods and services is recognised in accordance with IFRS 15 when control has been transferred to the customer. For sale of goods and services revenue is recognised at a point in time, unless specific conditions have been satisfied allowing revenue to be recognised over a period of time as identified in the five-step process (above), e.g. where the asset produced does not have an alternative use and the Group has an enforceable right to payment for performance completed to date. An input methodology (based on estimated labour hours or costs) is used as this depicts the performance conditions when recognising revenue over time.

2022 **Continuing operations**	**Product sales £'000**	**Commissions & services £'000**	**Licensee royalties £'000**	**Total £'000**
Printhead	**38,318**	**675**	**49**	**39,042**
Product Print Systems	**19,056**	**568**	**–**	**19,624**
Digital Imaging	**8,809**	**2,824**	**–**	**11,633**
Ink Supply Systems	**2,483**	**–**	**–**	**2,483**
	68,666	**4,067**	**49**	**72,782**

2021 **Continuing operations**	**Product sales £'000**	**Commissions & services £'000**	**Licensee royalties £'000**	**Total £'000**
Printhead	39,186	678	240	40,104
Product Print Systems	13,487	413	–	13,900
Digital Imaging	3,773	1,477	–	5,250
	56,446	2,568	240	59,254

Product Print Systems and Digital Imaging have contracts with customers where the performance obligations are partially unsatisfied at 31 December 2022. The transaction price allocated to partially satisfied and unsatisfied performance obligations at 31 December 2022 is as set out below. The transaction price allocated to partially satisfied performance obligations has been recognised in the year while the transaction price allocated to partially unsatisfied performance obligations has not been recognised.

Continuing operations	**2022 £'000**	2021 £'000
Transaction price allocated to partially satisfied performance obligations	**5,464**	4,569
Transaction price allocated to partially unsatisfied performance obligations	**6,437**	6,060
Total transaction price for partially completed contracts	**11,901**	10,629

Management expects that £6,310,000 of the partially unsatisfied performance obligations at 31 December 2022 will be recognised in 2023 with the remaining £127,000 in future periods (2021: £5,809,000 recognised in 2022, £251,000 in future periods).

During the year contract assets have increased by £181,000 from £1,319,000 in 2021 (restated) to £1,500,000 in 2022. Contract liabilities have increased by £258,000 from £3,541,000 in 2021 (restated) to £3,799,000 in 2022. Both of these movements are primarily due to the completion of Product Print Systems contracts. All contract liabilities are expected to be realised within the next year.

5. Revenue continued

	2022 £'000	2021 £'000
At a point in time	**67,318**	54,685
Over time	**5,464**	4,569
Total revenue	**72,782**	59,254

	2022 £'000	2021 £'000
Within one year	**6,310**	5,809
In between one and five years	**127**	251
Total transaction price for partially completed contracts	**6,437**	6,060

Asset/liability table	2022 £'000	2021 £'000 Restated
Trade and other receivables	**7,321**	5,192
Contract assets	**1,500**	1,319
Contract liabilities	**(3,799)**	(3,541)

The contract assets represent revenue recognised in the consolidated income statement, but not yet invoiced.

6. Business and geographical segments

For management reporting purposes, the Group's operations are analysed according to the four operating segments of 'Printhead', 'Product Print Systems', 'Digital Imaging' and 'Ink Supply Systems'. These four 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. Each business unit is run independently of the others and headed by a general manager. The Group's Chief Operating Decision Maker is the Chief Executive Officer. There is no aggregation of segments for disclosure purposes.

Digital Imaging was added in the second half of 2021 as a result of the acquisition of FFEI and Ink Supply Systems was added in the first half of 2022 as a result of the acquisition of Megnajet on 2 March 2022.

Segment information for continuing operations is presented below:

Year ended 31 December 2022	Printhead £'000	Product Print Systems £'000	Digital Imaging £'000	Ink Supply Systems £'000	Unallocated £'000	Consolidated £'000
Revenue						
Total segment revenue	**39,042**	**19,624**	**11,633**	**2,483**	**–**	**72,782**
Result						
Adjusted (loss)/gain from continuing operations before tax	**(754)**	**2,756**	**198**	**622**	**–**	**2,822**
Share-based payment charges	**–**	**–**	**–**	**–**	**(1,748)**	**(1,748)**
Exchange differences relating to intra-group transactions	**811**	**–**	**–**	**–**	**–**	**811**
Restructuring and transaction expenses	**(429)**	**–**	**–**	**(21)**	**–**	**(450)**
Gain on derivative financial liabilities	**–**	**–**	**–**	**–**	**–**	**–**
Research and development expenditure credit	**83**	**–**	**296**	**–**	**–**	**379**
Fair value gain on financial assets at FVTPL	**(8)**	**–**	**–**	**–**	**–**	**(8)**
Amortisation of acquired intangible assets	**–**	**–**	**(775)**	**(207)**	**–**	**(982)**
Profit/(loss) before tax from continuing operations	**(297)**	**2,756**	**(281)**	**394**	**(1,748)**	**824**

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 include the IFRS 2 charge for the year and the charge relating to National Insurance on the outstanding potential share options.

6. Business and geographical segments continued

Year ended 31 December 2021	Printhead £'000	Product Print Systems £'000	Digital Imaging £'000	Ink Supply Systems £'000	Unallocated £'000	Consolidated £'000
Revenue						
Total segment revenue	40,104	13,900	5,250	–	–	59,254
Result						
Adjusted (loss)/gain from continuing operations before tax	(526)	(766)	721	–	–	(571)
Share-based payment charges	–	–	–	–	(758)	(758)
Exchange differences relating to intra-group transactions	(95)	–	–	–	–	(95)
Restructuring and transaction expenses	(1,288)	(116)	–	–	–	(1,404)
Gain on derivative financial liabilities	2,919	–	–	–	–	2,919
Research and development expenditure credit	227	–	43	–	–	270
Fair value gain on financial assets at FVTPL	987	–	–	–	–	987
Amortisation of acquired intangible assets	–	–	(354)	–	–	(354)
Profit/(loss) before tax from continuing operations	2,224	(882)	410	–	(758)	994

In addition to the external revenue reported by operating segments, the Printhead segment made £1,399,000 (2021: £1,092,000) of intercompany sales, the Product Print Systems segment made nil (2021: £312,000) of intercompany sales and the Ink Supply Systems segment made £538,000 (2021: nil) of intercompany sales.

Segment assets – Continuing operations

	2022 £'000	2021 £'000
Printhead	**67,089**	73,247
Product Print Systems	**16,920**	16,793
Digital Imaging	**15,035**	13,900
Ink Supply Systems	**3,397**	–
Total assets	**102,441**	103,940

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 – Continuing operations

Year ended 31 December 2022	Notes	**Printhead £'000**	**Product Print Systems £'000**	**Digital Imaging £'000**	**Ink Supply Systems £'000**	**Unallocated £'000**	**Consolidated £'000**
Depreciation and amortisation	8	**3,265**	**244**	**1,260**	**23**	**–**	**4,792**
Impairment of PPE		**147**	**–**	**–**	**–**	**–**	**147**
Share-based payment charges	9	**–**	**–**	**–**	**–**	**1,748**	**1,748**
Capital expenditure (PPE)	17	**1,639**	**231**	**673**	**119**	**–**	**2,662**

Year ended 31 December 2021	Notes	Printhead £'000	Product Print Systems £'000	Digital Imaging £'000	Unallocated £'000	Consolidated £'000
Depreciation and amortisation	8	3,844	290	530	–	4,664
Impairment of PPE		–	–	–	–	–
Share-based payment charges	9	–	–	–	758	758
Capital expenditure (PPE)	17	2,153	160	127	–	2,440

6. Business and geographical segments continued

Revenues from major products and services – Continuing operations

	2022 £'000	2021 £'000
Printhead	**39,042**	40,104
Product Print Systems	**19,624**	13,900
Digital Imaging	**11,633**	5,250
Ink Supply Systems	**2,483**	–
Consolidated revenue (excluding investment income)	**72,782**	59,254

Geographical information

The Group operates in three principal geographical areas: EMEA, the Americas and Asia. 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 are detailed below:

	Revenue from external customers Continuing operations	
	2022 £'000	2021 £'000
EMEA	**28,418**	23,730
Asia		
– China	**6,748**	10,562
– Japan	**396**	575
– Other	**1,045**	828
The Americas (predominantly USA)	**36,175**	23,559
	72,782	59,254

Revenues are attributed to geographical areas on the basis of the customer's operating location.

Revenue attributed to the UK was £2,680,000 (2021: £3,733,000).

	Non-current assets	
	2022 £'000	2021 £'000
EMEA	**31,353**	27,784
Asia	**213**	90
The Americas (predominantly USA)	**8,450**	7,657
	40,016	35,531

Non-current assets being Goodwill, Other intangible assets, Property, plant and equipment and Right-of-use assets as these are attributed to the location where they are situated.

Information about major customers

There are no customers whose revenue exceeds 10% of total revenues from continuing operations during the current and preceding year.

Revenue from the top five customers represents 29% of revenues (2021: 28%).

7. Other income

The only other income is government grants. The accounting policy in relation to the adopted and applicable treatment of government grants is disclosed in note 3, in accordance with IAS 20 Accounting for Government Grants and Disclosure of Government Assistance.

During the year FFEI received a grant of £139,276 from the UKRI Future Leaders Fellowships scheme. The purpose of this grant is to increase throughput, quality and validity of imaging data for Biomedical AI. The full £139,276 was recognised and received in the year.

Xaar plc and its UK based subsidiaries decided not to take part in any of the government support schemes arising from the COVID-19 crisis in current, prior nor preceding years.

8. Profit/(loss) for the year

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

	2022 £'000	2021 £'000
Research and development expenses*	**6,718**	5,706
Grants towards research and development including the research and development expenditure credit	**(379)**	(227)
Depreciation of property, plant and equipment	**2,654**	3,318
Depreciation of right-of-use asset	**1,071**	871
Amortisation of capitalised development costs (included in research and development expenses)	**–**	77
Amortisation of other intangible assets (included in general and administrative expenses)	**1,067**	398
Loss on disposal of property, plant and equipment	**80**	77
Cost of inventories recognised as expense	**42,184**	36,227
Impairment (losses)/gains on financial assets	**46**	(388)
Net gain on foreign exchange	**(1,152)**	(158)
Total fees payable to the Company's auditor and its associates	**779**	651

* Total spend on research and development in 2022, including capitalised and amortised development costs included in note 16, was £8,375,000 (2021: £5,706,000).

Auditor's remuneration

	2022 £'000	2021 £'000
Fees payable to the Company's auditor		
– Group and Company audit	**695**	493
– Prior year overrun	**–**	120
Total audit fees	**695**	613
– Interim review	**84**	38
Total non-audit fees	**84**	38
Total fees payable for the continuing operations	**779**	651
Total audit fees payable for the discontinued operations	**–**	38
Total fees payable to the Company's auditor and its associates	**779**	689

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 73 to 78 and includes an explanation of how auditor's objectivity and independence is safeguarded when non-audit services are provided by the auditor.

9. Staff costs

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

	2022 Number	2021 Number
Research and development	**85**	86
Sales and marketing	**49**	46
Manufacturing and engineering	**235**	222
Administration	**66**	53
	435	407

Their aggregate remuneration comprised:

	Notes	2022 £'000	2021 £'000
Wages and salaries		**22,560**	20,958
Social security costs		**2,400**	2,014
Pension costs	32	**1,303**	930
Share-based payments		**1,748**	758
		28,011	24,660

Share-based payment charges comprise the IFRS 2 charge for the year £1,559,000 (2021: £653,000) and a charge relating to National Insurance on the outstanding potential share option gains £189,000 (2021: £105,000).

10. Interest receivable & payable

Investment income

	Group £'000	2022 Total £'000	Group £'000	2021 Total £'000
Interest receivable on cash and bank balances, and treasury deposits	**38**	**38**	4	4

There was no accrued interest receivable at year end (2021: £1,000). Cash interest received at year end was £39,000 (2021: £13,000).

Finance Costs

	Notes	2022 £'000	2021 £'000
Interest on invoice securitisation/discounting	22	**33**	–
Interest on leases	18	**242**	144
Other interest costs		**178**	98
		453	242

Interest on invoice securitisation/discounting is charged daily on amounts drawn at a rate equivalent to the appropriate base rate + 1.75% p.a.

Interest on leases is calculated at an effective interest rate depending upon the initial gross valuation of the lease and discounted repayment terms to calculate an Internal Rate of Return (IRR) required to achieve a nil value at the end of the lease term. Each lease is considered in isolation, a range of discount rates and interest rates are applicable between 2.0% and 4.0%.

11. Discontinued operations

The Thin Film business which was discontinued in 2019 incurred costs in 2021 and 2022 which mainly related to supplier and customer liabilities and inventory for last time buy sales. All liabilities have now been settled and we maintain an amount of inventory that is fully provided and not likely to be sold.

During the year ended 31 December 2021, the Xaar 3D business completed its divestment. Xaar received net cash of £9,272,000 and as specified in the sale agreement, additional cash consideration of up to $21,250,000. At the time of sale, the fair value of the consideration was determined to be £10,863,000. It was recognised as a financial asset at fair value through profit or loss. Further detail is disclosed in note 36.

During the year, Xaar received earn-out income amounting to €289,000 (£236,000). At year end, the fair value was re-estimated to be £11,606,000 (2021: £11,850,000). The loss of £8,000 (2021: £987,000 gain) is presented in the income statement as fair value gain on financial assets at fair value through profit or loss. The results of Xaar 3D business for the period ended 1 November 2021 are included in the discontinued operations in the income statement for the year ended 31 December 2021.

The results of Thin Film and 3D related activities for the year are shown below:

	Thin Film 2022 £'000	3D 2022 £'000	Total 2022 £'000	Thin Film 2021 £'000	3D 2021 £'000	Total 2021 £'000
Revenue	**–**	**–**	**–**	384	2,918	3,302
Expenses	**(159)**	**–**	**(159)**	(623)	(7,075)	(7,698)
Loss before income tax	**(159)**	**–**	**(159)**	(239)	(4,157)	(4,396)
Income tax credit	**–**	**–**	**–**	–	30	30
Net loss before gain on sale	**(159)**	**–**	**(159)**	(239)	(4,127)	(4,366)
Gain on sale of investment in subsidiary	**–**	**–**	**–**	–	17,899	17,899
(Loss)/profit after income tax from discontinued operations	**(159)**	**–**	**(159)**	(239)	13,772	13,533

The 2021 gain on sale of investment in subsidiary was not subject to income tax because it falls under the Substantial Shareholding Exemptions (SSE) Rule.

11. Discontinued operations continued

The 2021 £7,075,000 expenses in 3D are net of £297,000 that relates to service charge received from the Group undertaking which has to be eliminated in the Group's consolidated income statement.

	Thin Film 2022 £'000	3D 2022 £'000	Total 2022 £'000	Thin Film 2021 £'000	3D 2021 £'000	Total 2021 £'000
Attributable to:						
Owners of the Company	**(159)**	**–**	**(159)**	(239)	15,763	15,524
Non-controlling interest	**–**	**–**	**–**	–	(1,991)	(1,991)
	(159)	**–**	**(159)**	(239)	13,772	13,533

The net cash flows incurred by Thin Film and 3D are as follows.

	Thin Film 2022 £'000	3D 2022 £'000	Total 2022 £'000	Thin Film 2021 £'000	3D 2021 £'000	Total 2021 £'000
Net cash (outflow)/inflow from operating activities	**(150)**	**–**	**(150)**	103	(1,792)	(1,689)
Net cash outflow from investing activities	**–**	**–**	**–**	–	(122)	(122)
Net cash outflow from financing activities	**–**	**–**	**–**	–	(98)	(98)
Net cash (used)/generated from discontinued operations	**(150)**	**–**	**(150)**	103	(2,012)	(1,909)

	2022 Pence per share	2021 Pence per share
(Loss)/earnings per share		
(Loss)/earnings for the year from discontinued operations	**(0.2p)**	20.0p
Diluted (loss)/earnings for the year from discontinued operations	**(0.2p)**	19.7p

The sale of the Xaar 3D business is summarised below. The total consideration received includes the initial cash consideration and contingent consideration less transaction costs that are directly attributable to the sale. The carrying amount of the net assets sold represents 55% of the Xaar shareholding to 3D adjusted by an intra-company markup that relates to inventory.

	2021 £'000
Consideration received or receivable:	
Cash	**9,272**
Fair value of contingent consideration	**10,863**
Less: Transaction costs	**(246)**
Total disposal consideration	**19,889**
Carrying amount of net assets sold	**(1,990)**
Gain on sale of investment in subsidiary	**17,899**

12. Tax

Total tax calculation:

	Notes	2022 £'000	2021 £'000
Current tax – UK		(269)	100
Current tax – overseas		87	15
		(182)	115
Amounts under provided in previous years		96	71
Total current income tax (credit)/charge		(86)	186
Deferred tax – origination and reversal		(881)	45
Adjustment in respect of prior years		–	38
Total deferred tax credit		(881)	83
Total tax (credit)/charge for the year		(967)	269

The rate of tax for the year, based on the UK standard rate of corporation tax, is 19% (2021: 19%). Taxation for other jurisdictions is calculated at the rates prevailing in the respective jurisdictions.

The Finance Act 2021, which was substantively enacted on 10 June 2021, amended the main rate of corporation tax to 25% from 1 April 2023. As deferred tax assets and liabilities are measured at the rates that are expected to apply in the periods of the reversal, deferred tax balances at 31 December 2022 have been calculated at the rate at which the relevant balance is expected to be recovered or settled.

The cash flow statement shows repayments of tax for £113,000 during the year (2021: £150,000). The £113,000 is broken down as £199,000 for the RDEC claim received and £86,000 net income taxes paid (primarily in the US).

In the year ending 31 December 2022, the eligible UK companies in the Group are claiming R&D tax relief and RDEC for paid for development.

The closing deferred tax asset at 31 December 2022 is entirely related to the USA tax losses and has been calculated using the US tax rates at which the deferred tax asset is expected to be reversed in future periods. Details on deferred tax assets and liabilities are disclosed in note 23.

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

	Notes	2022 £'000	2021 £'000
Profit before tax from continuing activities		824	994
(Loss)/profit before tax from discontinued activities		(159)	13,503
Profit before income tax		665	14,497
Tax on ordinary activities at standard UK rate of 19% (2021: 19%)		126	2,754
Effect of:			
Expenses not deductible for tax purposes		878	398
(Non-taxable) income		(1,521)	(4,021)
R&D SME credit		(285)	(171)
Effect of different tax rates of subsidiaries operating overseas		6	(135)
Effect of change in UK corporation tax rate on deferred tax		3	–
Current year losses not recognised		541	1,195
Previously unrecognised amounts now recognised		(1,060)	–
Derecognition of previously recognised deferred tax balances		–	141
Prior year adjustments		82	108
Losses surrendered for tax credit		374	–
Foreign exchange on translation of balances		(111)	–
Total tax (credit)/expense for the year		(967)	269
Income tax (credit)/expense reported in the statement of profit and loss		(967)	299
Income tax credit attributable to discontinued operations		–	(30)
		(967)	269

The expenses not deductible for tax purposes mainly relate to depreciation on non-qualifying assets, R&D SME expenditure and share-based payments.

The effective tax rate for the year is -145.4%. Without recognising the previously unrecognised US tax losses, this would have been 14.0% (2021: 1.9%).

13. Dividends

No interim or final dividend was proposed or paid during the current and preceding year.

14. Earnings per share – basic and diluted

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

	2022 £'000	2021 £'000
Earnings		
Earnings for the purposes of basic earnings per share being net profit/(loss) attributable to equity holders of the parent	**1,632**	16,219
from continuing operations	**1,791**	695
from discontinued operations	**(159)**	15,524
Number of shares		
Weighted average number of ordinary shares for the purposes of basic earnings per share	**77,549,264**	77,528,064
Effect of dilutive potential ordinary shares:		
Share options	**4,085,096**	1,261,215
Weighted average number of ordinary shares for the purposes of diluted earnings per share	**81,634,360**	78,789,279

	2022 Pence per share	2021 Pence per share
Basic	**2.1p**	20.9p
Diluted	**2.0p**	20.6p
Continuing operations:		
Basic	**2.3p**	0.9p
Diluted	**2.2p**	0.9p
Discontinued operations:		
Basic	**(0.2p)**	20.0p
Diluted	**(0.2p)**	19.7p

Potential ordinary shares are treated as dilutive if their conversion to ordinary shares would decrease earnings per share or increase loss per share.

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 2022, there were share options granted over 276,547 shares that had not been included in the diluted earnings per share calculation because they were anti-dilutive at the year end (2021: 107,490 shares that would not have been included).

The performance conditions for LTIP awards over 172,492 shares (2021: 1,510,685 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 has 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 and is a measure used in establishing remuneration.

The calculation of adjusted EPS, excluding the items listed below, is based on the loss on continuing operations of:

	2022 £'000	2021 £'000
Earnings/(loss) on continuing operations for the purposes of basic earnings per share being net profit/(loss) attributable to equity holders of the parent	**1,791**	695
Shared-based payment charges	**1,748**	758
Exchange difference relating to intra-group transactions	**(811)**	95
Gain on derivative financial instruments	**–**	(2,919)
Restructuring and transaction expenses	**450**	1,404
Research and development credit	**(379)**	–
Fair value gain on financial assets at FVTPL	**8**	(987)
Amortisation of acquired intangible assets	**982**	354
Tax effect of adjusting items	**(100)**	(179)
Adjusted profit/(loss) after tax – continuing operations	**3,689**	(779)

Tax effect of adjusting items is calculated at current corporation tax rate (19%) less any disallowed tax items.

14. Earnings per share – basic and diluted continued

Adjusted earnings per share continued

The tax credit effect in the adjusted basic earnings per share reflects the fact that the FV gain/loss on financial assets at FVTPL and transaction costs were non-deductible. R&D tax credits are not taxable. In addition, deferred tax assets are largely unrecognised in respect of share-based payments.

The denominators used are the same as those detailed above for both basic and diluted earnings per share.

Adjusted earnings per share on continuing operations is earnings per share excluding the items adjusted for as detailed above:

	2022 Pence per share	2021 Pence per share
Adjusted basic	**4.8p**	(1.0p)
Adjusted diluted	**4.5p**	(1.0p)

15. Goodwill

The carrying amount of goodwill at 31 December 2022 was £7,163,000 (2021: £5,894,000).

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 occurred from the acquisition of Engineered Print Solutions (EPS) in July 2016, FFEI Limited in July 2021 and Megnajet Limited in March 2022.

	2022 £'000	2021 £'000
Balance at the beginning of the year	**5,894**	5,152
Addition – acquisition of Megnajet Limited (2021: FFEI Limited)	**661**	689
Foreign currency translation	**608**	53
Balance at the end of the year	**7,163**	5,894

As part of the reportable segments, goodwill amounting to £5,813,000 is attributed to Product Print Systems (2021: £5,205,000), £689,000 to Digital Imaging (2021: £689,000) and £661,000 to Ink Delivery Systems (2021: nil). These are all single CGUs.

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 during the current and preceding year.

The goodwill balance has been tested for annual impairment on the following basis:

- the carrying value of goodwill has been assessed by reference to value in use, which has been estimated using cash flow forecasts. The basis of these forecasts is the Board approved budget for the next year and management reviewed three-year plans, which have been extrapolated to a five-year view for each CGU, taking into consideration any expected inflationary pressures. Margins are broadly consistent with historic performance and revenues assumed take into account past experience and are reflective of a conservative view of Xaar's core strategy;
- discount rates range between 18.2 % and 14.5%, reflecting third party specialist advice, and have been determined by taking into account geographies, size of business and industry risk factors;
- long-term growth rates of 1% (2021: 1%) for UK based CGUs and 1.4% (2021: 1.4%) for those in the US (being Product Print Systems only) were used based on OECD growth rate.

The outcomes of the impairment assessments conducted are dependent on estimates which have been subject to sensitivity analyses before a conclusion on impairment was made. It is management's view that the key assumptions are revenue growth, gross margin % and discount rate. Any reasonably possible change to these sensitivities that could result in an impairment charge have been disclosed below:

Engineered Print Solutions (Product Print Systems) goodwill impairment review

Using a discount rate of 14.5% (2021: 13.7%) the recoverable amount calculated exceeds the carrying value of the CGU by $12.1 million (£10.1 million, 2021: £10.0 million). The carrying amount of goodwill would exceed its recoverable amount, when compared to the risk adjusted cash flows, if:

- forecast compound annual revenue growth over the five-year period were to decline from a forecast of 3.9% to 0.3%, representing a movement in revenue from $24.2 million in 2022 to $24.6 million in 2027, assuming no mitigating actions were taken.
- there was a reduction in assumed direct gross margin from 39% to 34%.

Digital Imaging goodwill impairment review

Using a discount rate of 18.2% (June 2022: 11.4%) the recoverable amount calculated exceeds the carrying value of the CGU by £5.1 million (£7.2 million, June 2022). No reasonably possible changes to assumptions that could result in an impairment charge have been identified.

Ink Delivery Systems goodwill impairment review

- Using a discount rate of 15.6% the recoverable amount calculated exceeds the carrying value of the CGU by £4.1 million. No reasonably possible changes to assumptions that could result in an impairment have been identified.

16. Other intangible assets

	Capitalised development costs £'000	Licences acquired £'000	Software £'000	Technology-based intangible asset £'000	Brands £'000	Customer relationships £'000	Total £'000
Cost							
At 1 January 2021	38,687	532	3,437	–	–	–	42,656
Additions	–	–	124	3,044	–	1,204	4,372
Transfers	–	–	(80)	–	–	–	(80)
Exchange movements	–	–	2	–	–	–	2
At 1 January 2022	**38,687**	**532**	**3,483**	**3,044**	–	**1,204**	**46,950**
Additions	1,657	1,100	33	–	–	–	2,790
Acquisitions	–	–	–	1,990	281	422	2,693
Transfers	222	–	–	–	–	–	222
Exchange movements	–	–	12	–	–	–	12
Disposals	–	–	(14)	–	–	–	(14)
At 31 December 2022	**40,566**	**1,632**	**3,514**	**5,034**	**281**	**1,626**	**52,653**
Amortisation							
At 1 January 2021	38,611	532	3,306	–	–	–	42,449
Charge for the year	77	–	44	254	–	100	475
Transfers	(1)	–	(16)	–	–	–	(17)
At 1 January 2022	**38,687**	**532**	**3,334**	**254**	**-**	**100**	**42,907**
Charge for the year	–	38	46	715	23	245	1,067
Exchange movements	–	–	12	–	–	–	12
Disposals	–	–	(14)	–	–	–	(14)
At 31 December 2022	**38,687**	**570**	**3,378**	**969**	**23**	**345**	**43,972**
Carrying amount:							
At 31 December 2022	**1,879**	**1,062**	**136**	**4,065**	**258**	**1,281**	**8,681**
At 31 December 2021	–	–	149	2,790	–	1,104	4,043

In 2022, Xaar acquired additional intangible assets in relation to the acquisition of Megnajet Limited.

Further details on the acquisition are in note 36.

Development costs of £1,657,000 were capitalised during the year. These were externally generated costs relating to the development of a new generation printhead platform. These assets were in the course of construction at the reporting date and consequently not amortised during the year. On completion, it is anticipated that these assets will have a useful economic life of up to 20 years.

The licences acquired during the year of £1,100,000 are being amortised over a period of between 13 and 15 years.

Amortisation periods are in line with the accounting policy in note 3.

Amortisation is recorded in administrative expenses of the consolidated accounts.

At 31 December 2022 the Group had entered into contractual commitments of £358,000 (2021: nil) for the acquisition of intangible assets.

All intangible assets are tested annually for impairment. The assessment of the intangibles in Megnajet, EPS and FFEI was determined using a discounted cash flow model and no impairment was identified.

17. Property, plant and equipment

	Land and buildings £'000	Leasehold property £'000	Plant and machinery £'000	Furniture, fittings and equipment £'000	Total £'000
Cost					
At 1 January 2021	1,811	13,520	66.881	3,992	86,204
Additions	31	693	1,259	457	2,440
Acquisitions	–	7	14	71	92
Transfers	65	(35)	1,095	(64)	1,061
Exchange movements	19	–	15	6	40
Disposals	–	(505)	(1,012)	(15)	(1,532)
At 1 January 2022	1,926	13,680	68,252	4,447	88,305
Additions	14	217	1,506	925	2,662
Acquisitions	–	1	50	2	53
Transfers	–	–	(222)	–	(222)
Exchange movements	225	4	286	73	588
Disposals	–	–	(931)	(255)	(1,186)
At 31 December 2022	**2,165**	**13,902**	**68,941**	**5,192**	**90,200**
Depreciation					
At 1 January 2021	388	8,785	56,395	3,489	69,057
Charge for the year	24	584	2,522	188	3,318
Transfers	39	(54)	1,081	(90)	976
Exchange movements	4	–	2	5	11
Disposals	–	(353)	(915)	(15)	(1,283)
At 1 January 2022	455	8,962	59,085	3,577	72,079
Charge for the year	61	586	1,614	393	2,654
Transfers	–	–	–	–	–
Exchange movements	48	1	201	53	303
Disposals	–	–	(833)	(254)	(1,087)
Impairment	–	–	147	–	147
At 31 December 2022	**564**	**9,549**	**60,214**	**3,769**	**74,096**
Carrying amount					
At 31 December 2022	**1,601**	**4,353**	**8,727**	**1,423**	**16,104**
At 31 December 2021	1,471	4,718	9,167	870	16,226

The impairment during the year is £147,000 (2021: nil). The impairment relates to Printhead machinery no longer in use.

Included within the plant and machinery assets is £651,000 assets in the course of construction (2021: £283,000).

As at 31 December 2022 the Group had entered into contractual commitments for the acquisition of property, plant and equipment amounting to £923,000 (2021: £1,330,000).

18. Leases

The Group has lease contracts for various items of buildings, equipment and vehicles used in its operations. The Group's obligations under its leases are secured by the lessor's title to the leased assets. Generally, the Group is restricted from assigning and subleasing the leased assets.

The Group also has certain leases of machinery with lease terms of 12 months or less and leases of office equipment with low value. The Group applies the 'short-term lease' and 'lease of low-value assets' recognition exemptions for these leases.

Set out below are the carrying amounts of right-of-use assets recognised and the movements during the year:

	Buildings £'000	Equipment £'000	Vehicles £'000	Total £'000
Cost				
At 1 January 2021	11,122	84	–	11,206
Additions (restated)	4,534	11	–	4,545
Acquisitions	3,057	16	–	3,073
Disposals	(6,341)	(14)	–	(6,355)
Exchange movements	4	–	–	4
At 31 December 2021 (restated)	12,376	97	–	12,473
Additions	246	28	24	298
Exchange movements	17	–	–	17
At 31 December 2022	**12,639**	**125**	**24**	**12,788**
Depreciation				
At 1 January 2021	9,078	50	–	9,128
Charge for the year	853	18	–	871
Disposals	(6,341)	(14)	–	(6,355)
Exchange movements	–	–	–	–
At 31 December 2021	3,590	54	–	3,644
Charge for the year	1,046	21	4	1,071
Disposals	(14)	–	–	(14)
Exchange movements	19	–	–	19
At 31 December 2022	**4,641**	**75**	**4**	**4,720**
Carrying amount				
At 31 December 2022	**7,998**	**50**	**20**	**8,068**
At 31 December 2021 (restated)	8,786	43	–	8,829

Please refer to note 37 for prior year restatement.

Of the £4,545,000 additions in the prior year, £2,733,000 represented the lease renewal of the Huntingdon main site.

Set out below are the carrying amounts of lease liabilities (included under current and non-current liabilities on the statement of financial position) and the movements during the period:

	2022 £'000	Restated 2021 £'000
At 1 January	**9,191**	2,579
Additions (2021 restated)	**323**	7,195
Accretion of interest	**242**	144
Payments	**(914)**	(726)
Exchange movement	**(10)**	(1)
At 31 December (2021 restated)	**8,832**	9,191
Current	**1,032**	692
Non-current	**7,800**	8,499
	8,832	9,191

Please refer to note 37 for prior year restatement.

18. Leases continued

The table below summarises the maturity profile of the Group's lease liabilities based upon the contractual undiscounted payments as at 31 December 2022.

	2022 £'000	2021 £'000
On demand	–	–
Less than three months	291	196
Four to 12 months	872	759
One to five years	5,057	5,047
More than five years	3,620	4,538
	9,840	10,540

The following are the amounts recognised in profit or loss:

	2022 £'000	2021 £'000
Depreciation expense of right-of-use assets	1,071	871
Interest expense on lease liabilities	242	144
Expense relating to short-term leases (included in administrative expenses)	59	375
Total amount recognised in profit or loss	1,372	1,390

Interest expense on lease liabilities consists of £242,000 (2021: £144,000) reported under continuing operations and nil in 2022 (2021: £9,000) relating to Xaar 3D business reported under discontinued operations.

Cash outflows in respect of right-of-use assets consisted of £914,000 (2021: £726,000) financing and £59,000 (2021: £375,000) operating cash flows.

19. Subsidiaries

A list of the investments in subsidiaries, including the name, country of incorporation and proportion of ownership interest, is given in note 11 to the Company's separate financial statements.

20. Inventories

	2022 £'000	2021 £'000
Raw materials and consumables	11,804	5,619
Work in progress	3,516	8,605
Finished goods	13,828	4,615
	29,148	18,839

The cost of inventories recognised as an expense includes a charge of £335,000 (2021: £1,189,000) in respect of inventory write-downs.

Gross stock was £37,973,000 (2021: £28,410,000) with inventory provisions of £8,826,000 (2021: £9,571,000). The provision included £6,143,000 (2021:£6,289,000) in relation to discontinued operations, all of which are fully written down. A significant proportion of this increase in inventory is attributable to the managed investment in our supply chain capability.

There is no specific impact on the valuation of the Company's inventories arising from climate related matters. Estimates are based upon the most reliable evidence available at the time the estimates are made.

21. Other financial assets

The fair value of all financial assets and financial liabilities approximates their carrying value.

Trade and other receivables	2022 £'000	2021 £'000
Amount receivable for the sale of goods	7,446	5,336
Allowance for doubtful debts	(125)	(144)
	7,321	5,192
Contract assets (2021 restated)	1,500	1,319
Other debtors	1,291	2,211
Prepayments	1,415	1,439
	11,527	10,161
Current tax asset	735	531

21. Other financial assets continued

Trade receivables

The average credit period taken on sales of goods is 37 days (2021: 32 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 from 1.5% to the greater of 4.0% per annum above the base rate of the Bank of England 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. Trade receivables over 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 in the liquidity section of note 22. 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. Of the trade receivables balance at the end of the year, seven customers each represented greater than 5% of the total receivables balance, totalling £2,857,000 (2021: £2,100,000). The total due from these customers represents 4% (2021: 4%) of the Group's revenue.

Included in the Group's trade receivables balance are debtors with a carrying amount of £1,700,000 (2021: £1,444,000) 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.

Ageing of past due but not impaired receivables:

	2022 £'000	2021 £'000
1–30 days overdue	**831**	885
30–60 days overdue	**417**	150
60–90 days overdue	**398**	264
90–120 days overdue	**55**	81
Over 120 days overdue	**(1)**	64
Total receivables	**1,700**	1,444

Movement in the allowance for doubtful debts:

	2022 £'000	2021 £'000
Balance at the beginning of the year	**144**	622
Impairment (reversal)/losses increased	**46**	(388)
Exchange difference	**4**	0
Amounts written off as uncollectible	**(69)**	(90)
Balance at the end of the year	**125**	144

The Group always measures the loss allowance for trade receivables at an amount equal to lifetime ECL. The expected credit losses on trade receivables are estimated using a provision matrix by reference to past default experience of the debtor and an analysis of the debtor's current financial position, adjusted for factors that are specific to the debtor, general economic conditions of the industry in which the debtor operates and an assessment of both the current as well as the forecast direction of conditions at the reporting date. The Group has recognised a loss allowance of 1% for receivables aged 60 days or less, 5% for receivables aged between 61 and 90 days and 15% for 91 and 120 days. A loss allowance of 25% is applied for receivables aged over 120 days. The loss allowance calculation excludes receivables with a specific provision. Most of the debt over 120 days has been provided in full and relates to a small number of customers where none of the debt is expected to be recovered through normal trading. A provision is made against trade receivables until such time as the Group believes the amount to be irrecoverable (such as the bankruptcy of a customer or emerging market risks, which would render the receivable irrecoverable), after which the trade receivable balance is written off.

Ageing of impaired trade receivables:

	2022 £'000	2021 £'000
Current	**3**	2
1–30 days overdue	**1**	2
30–60 days overdue	**–**	–
60–90 days overdue	**8**	–
90–120 days overdue	**46**	–
Over 120 days overdue	**67**	140
Total	**125**	144

The Directors have considered the sensitivity of doubtful debts and a 1% increase on the ECL percentage would equate to an additional £70,000 allowance (2021: £51,000). The Directors consider that the carrying amount of trade and other receivables approximates their fair value.

Contract assets

Contract assets consist of a small number of contracts relating to the design and production of bespoke machines or R&D services. Since there is regular contact with all those customers for project management purposes, with robust milestone payments, there is no generic risk in relation to any of those balances. The only time when expected credit loss provision would be in place is where we become aware of a risk of those customers becoming exposed to risk of bankruptcy. We were not aware of any such cases at year end so no such provision is in place.

21. Other financial assets continued

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:

	2022 £'000	2021 £'000
Cash	**8,546**	25,051

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.

Non-current assets

	2022 £'000	2021 £'000
Non-current assets	**136**	–

22. Financial instruments

Fair value measurements

The following table combines information about:

- classes of financial instruments based on their nature and characteristics;
- the carrying amounts of financial instruments;
- fair values of financial instruments (except financial instruments when carrying amount approximates their fair value); and
- fair value hierarchy levels of financial assets and financial liabilities for which fair value was disclosed.

Fair value hierarchy Levels 1 to 3 are based on the degree to which the fair value is observable:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

	Financial assets			Financial liabilities		
2022	**FVTPL – designated £'000**	**FVTPL – mandatorily measured £'000**	**Amortised cost £'000**	**FVTPL – mandatorily measured £'000**	**Amortised cost £'000**	**Total £'000**
Financial asset at FVTPL (Level 3) (note 11)	**–**	**11,606**	**–**	**–**	**–**	**11,606**
Trade and other receivables (note 21)	**–**	**–**	**10,114**	**–**	**–**	**10,114**
Cash and bank balances (note 21)	**–**	**–**	**8,546**	**–**	**–**	**8,546**
Trade and other payables (note 24)	**–**	**–**	**–**	**–**	**(14,862)**	**(14,862)**
Borrowings and invoice discounting	**–**	**–**	**–**	**–**	**(379)**	**(379)**
Lease liabilities (note 18)	**–**	**–**	**–**	**–**	**(8,832)**	**(8,832)**
Other financial liabilities due after one year (note 24)	**–**	**–**	**–**	**–**	**(2,094)**	**(2,094)**

Additional disclosure for lease liabilities is reported in note 18.

	Financial assets			Financial liabilities		
2021 (Restated)	FVTPL – designated £'000	FVTPL – mandatorily measured £'000	Amortised cost £'000	FVTPL – mandatorily measured £'000	Amortised cost £'000	Total £'000
Financial asset at FVTPL (note 11)	–	11,850	–	–	–	11,850
Trade and other receivables (note 21)	–	–	8,722	–	–	8,722
Cash and bank balances (note 21)	–	–	25,051	–	–	25,051
Trade and other payables (note 24)	–	–	–	–	(15,971)	(15,971)
Borrowings and invoice discounting	–	–	–	–	–	–
Lease liabilities (note 18)	–	–	–	–	(9,191)	(9,191)
Other financial liabilities due after one year (note 24)	–	–	–	–	(3,354)	(3,354)

The fair value of cash, trade and other receivables/payables and other financial liabilities is deemed to equal book value.

22. Financial instruments continued

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
Financial asset at fair value through profit or loss (Level 3)	Monte Carlo Simulation model. The following variables were taken into consideration: revenue projections and discount rate. The milestone consideration and 3% earn-out consideration are calculated based on the terms of the proposed transaction and by reference to simulated revenue. This is then discounted back to the valuation date using a discount rate over a period commensurate with the year in which payments are payable.	Revenue volatility (20% based on a median of comparable companies) Risk-adjusted discount rate. (10%)	10% increase/(decrease) in revenue volatility would result in £7,000 and £11,000 decreases respectively. 1% increase/(decrease) in discount rate would result in £12,000 decrease and £14,000 increase in fair value respectively.

Reconciliation of Level 3 fair value measurements of financial instruments

On 1 November 2021, the sale of Xaar 3D Limited to Stratasys was completed and Xaar received net cash of £9,272,000 and contingent consideration of £10,863,000 with a fair value of £11,850,000 as at 31 December 2021. The contingent consideration was recognised as financial asset at fair value through profit or loss. During the year, Xaar received earn-out income amounting to £236,000. The fair value of the contingent consideration as at 31 December 2022 is £11,606,000 with a fair value movement of £8,000.

	2022 £'000	2021 £'000
Balance at 1 January	**11.850**	–
Recognition of contingent consideration	**–**	10,863
Earn out received	**(236)**	–
Fair value (loss)/unrealised gain on financial assets at FVTPL	**(8)**	987
Balance at 31 December	**11,606**	11,850
Current asset	**517**	–
Non-current asset	**11,089**	11,850
	11,606	11,850

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 cash and treasury deposits. Other financial assets and liabilities, such as trade debtors and trade creditors, arise directly from the Group's operating activities.

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 21.

The Group's exposure has been calculated with reference to these balances as at the year-end.

Short-term borrowings

Short-term borrowings include an advance against customer invoices assigned to a third party as part of an invoice discounting arrangement. At the reporting date the carrying values of the customer invoices assigned and the associated liabilities were:

Invoice discounting facility	2022 £'000	2021 £'000
Gross invoice value assigned	**2,851**	–
Advance drawn	**(379)**	–
Net position	**2,472**	–

22. Financial instruments continued

Short-term borrowings continued

Interest on the invoice discounting facility is charged daily when the facility is in an overdrawn position at a rate equivalent to the Bank of England base rate +1.75% p.a. There is an annual service fee of £25,000 charged monthly, and a one-off arrangement fee to open the facility of £10,000. No interest is payable on the unutilised element of the facility.

The facility limit is £5 million and operates for a minimum of 12 months from inception (September 2022). The facility can be cancelled with a three month notice period. There are no covenants attached to the invoice discounting facility.

Eligible debts in GBP and USD denomination are legally assigned to the facility provider as or soon after they are raised. The facility makes available 90% of the debts to Xaar Jet Limited, subject to certain monetary funding limits and concentration percentages by customer. XaarJet Limited remain responsible for collecting the debts as the collection agent for the finance provider and the remittances are made into an account held for the benefit of the finance provider, the balance of which is held as a liability in XaarJet Limited. Receipts from debtors in full generally have the effect of increasing the available facility.

No fair value adjustments are deemed necessary for these amounts; however, the receivables are subject to an allowance for doubtful debt (see note 21).

The invoice discounting facility is secured with fixed rate charges over purchased debts and a floating charge over the assets of Xaar Jet Ltd.

It remains the entity's responsibility to appropriately insure, manage and recover the debts assigned under the terms of the arrangement, and the transferred assets are subject to recourse at any time. This means the Group retained substantially all the risks and rewards and the control over the assets, thus derecognition criteria of accounts receivable were not met.

Interest rate risk

The Group's borrowing facilities, including its invoice discounting facilities, are linked to Bank of England base rate for GBP values, and Federal Bank Base rate for USD values. An increase in these benchmarks would impact the Group's cost of borrowing which, in turn, would affect the Group's financial performance.

If interest rates had been 1% higher/reduced by 1%, and all other variables were held constant, the Group's profit for the year ended 31 December 2022 would decrease by £4,000 or increase by £4,000 based on the invoice discounting facility balance at the year end. There would be no effect on equity reserves.

	2022				2021			
	Fixed rate financial liabilities	**Floating rate financial liabilities**	**Interest free financial liabilities**	**Total**	Fixed rate financial liabilities	Floating rate financial liabilities	interest free financial liabilities	Total
Leases (2021 restated)	**(8,832)**	**–**	**–**	**(8,832)**	(9,191)	–	–	(9,191)
Invoice discounting facility	**–**	**(379)**	**–**	**(379)**	–	–	–	–
Other liabilities	**–**	**–**	**(16,956)**	**(16,956)**	–	–	(19,325)	(19,325)
	(8,832)	**(379)**	**(16,956)**	**(26,167)**	(9,191)	–	(19,325)	(28,516)

Foreign currency risk

The Group receives approximately 41% of its revenues in US Dollars and 6% 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 operations. The Group has R&D operations in Sweden, and therefore incurs costs and holds cash balances in Swedish Krona.

The Group is mainly exposed to foreign currency risk resulting from transactions in US Dollars, Euros and Swedish Krona. 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 intercompany 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 Krona currency impact**	
	2022 £'000	2021 £'000	**2022 £'000**	2021 £'000	**2022 £'000**	2021 £'000
Effect of a 10% increase in relevant exchange rate on:						
Profit or loss	**(63)**	(96)	**(1,489)**	(1,126)	**46**	67
Equity	**(63)**	(96)	**(1,489)**	(1,126)	**46**	67
Effect of a 10% decrease in relevant exchange rate on:						
Profit or loss	**77**	117	**1,819**	1,376	**(57)**	(82)
Equity	**77**	117	**1,819**	1,376	**(57)**	(82)

22. 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. No dividend is proposed for 2022.

Further information can be found on page 138 (note 13)

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 (excluding IFRS 16 leases) at the year-end is as follows:

	2022 £'000	2021 £'000
Borrowings excluding leases	**379**	–
Total equity	**71,769**	68,802
Gearing ratio	**1%**	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 insuring the suppliers, 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. Additional credit insurance coverage is maintained where appropriate against agreed credit terms with customers.

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 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.

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 continuously monitoring cash flows and matching the maturity profiles of financial assets and liabilities. Given the current level of cash availability there are currently no overdraft or bank loan facilities arranged with banks either drawn or undrawn.

Non-derivative financial liabilities of £14,854,000 (2021: £15,971,000) comprise trade creditors. The trade creditors are within current liabilities. The inherent liquidity risk of these financial liabilities is managed within the overall liquidity risk of the Group as described above. The maturity profile of lease liabilities is set out in note 18. The only other non-current financial liabilities are in relation to deferred consideration for the two acquisitions (FFEI and Megnajet) which will be fully settled in 2024.

The Group's policy is to invest any excess cash used in managing liquidity in financial instruments exposed to insignificant risk of changes in market value, being placed on interest-bearing deposit with maturities no more than 12 months.

2022	**Trade and other payables**	**Invoice discounting**	**Deferred consideration**	**Lease liabilities**	**Total**
In three months or less, or on demand	**10,459**	**379**	**–**	**291**	**11,129**
Four to twelve months	**2,757**	**–**	**1,733**	**872**	**5,362**
One to five years	**–**	**–**	**2,133**	**5,057**	**7,190**
More than five years	**–**	**–**	**–**	**3,620**	**3,620**
	13,216	**379**	**3,866**	**9,840**	**27,301**

2021	Trade and other payables	Invoice discounting	Deferred consideration	Lease liabilities	Total
In three months or less, or on demand	12,099	–	–	196	12,295
Four to twelve months	2,283	–	1,733	759	4,775
One to five years	–	–	3,467	5,047	8,514
More than five years	–	–	–	4,538	4,538
	14,382	–	5,200	10,540	30,122

23. 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:

	Accelerated tax depreciation £'000	Share-based payment £'000	Intangible assets £'000	Tax losses £'000	Other temporary difference £'000	Total £'000
At 1 January 2021	692	(1)	–	(721)	(178)	(208)
(Credit)/charge to income	(13)	–	(64)	235	(20)	138
(Credit)/charge for discontinued operations	(58)	–	–	(38)	–	(96)
Acquisitions	–	–	989	(989)	–	–
Disposals	(450)	–	–	419	195	164
Foreign exchange movement	–	–	–	–	3	3
At 31 December 2021*	171	(1)	925	(1,094)	–	1
(Credit)/charge to income	206		(142)	(834)	(127)	(897)
Acquisitions	–	–	170	–	–	170
At 31 December 2022	**377**	**(1)**	**953**	**(1,928)**	**(127)**	**(726)**

* Prior year included a misclassification disclosure which resulted in both the accelerated tax depreciation and the tax losses being overstated by £925k at 31 December 2021. There is no impact on the total deferred tax. Prior year also included a misclassification of items shown in the (Credit)/charge to income line that should have been shown through the Disposals line.

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.

	2022 £'000	2021 £'000
Deferred tax liabilities	**–**	1
Deferred tax (assets)	**(726)**	–
Being: Deferred tax (assets)/liabilities from continuing operations	**(726)**	1
Being: Deferred tax (assets)/liabilities from discontinued operations	**–**	–

As at 31 December 2022, the Group had unused tax losses of £119.925,000 (2021: £117,015,000) available to offset against future profits. As at 31 December 2022, in addition to the deferred tax asset recognised on losses in the table above, the Group has an unrecognised deferred tax asset in respect of these losses totalling £28,100,000 (2021: £28,200,000). These losses may be carried forward indefinitely.

Whilst the Board believes in the long-term potential and profitability of the Printhead business unit, the forecast taxable losses over the next couple of years mean that the UK tax losses will not be utilised in the short term. Therefore, no deferred tax asset has been recognised relating to UK losses for 2022. However, due to the forecasted taxable profits for the EPS business unit, a deferred tax asset in relation to brought forward US losses has been fully recognised resulting in a tax credit for the period, and is expected to be used over 2023 and 2024. USD 1,900,000 of US tax losses were utilised in 2022 with USD 4,200,000 carried forward.

As at 31 December 2022, the Group has unused capital losses of £1,100,000 (2021: £1,100,000) 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.

The impact of climate change has been considered in the forecast and valuation of future taxable profits and no impacts were noted.

24. Trade and other payables

	2022 £'000	2021 £'000 Restated
Current liabilities		
Trade payables and accruals	**13,216**	14,382
Other financial liabilities	**1,646**	1,589
	14,862	15,971
Non-current liabilities		
Other financial liabilities	**2,094**	3,354

Trade creditors and accruals principally comprise amounts outstanding for trade purchases and ongoing costs. The average credit taken for trade purchases is 36 days (2021: 28 days).

Contract liabilities are now shown separately on the balance sheet.

The other financial liabilities represent the deferred consideration in relation to the acquisitions of FFEI Ltd, Megnajet Limited and Technomation Limited, split between the current portion due in 2023 (£1,646,000) and non-current portion.

The Directors consider that the carrying amount of trade payables approximates to their fair value.

25. Provisions

	Warranty £'000	Restructuring £'000	Provision for dilapidation £'000	Total £'000
At 1 January 2021	77	280	–	357
Additional/(release) provision in the year	253	11	250	514
Acquisition	–	–	50	50
Utilisation of provision	(18)	(280)	–	(298)
Release of provision	(59)	–	–	(59)
At 1 January 2022	253	11	300	564
Additional/(release) provision in the year	225	93	–	318
Utilisation of provision	(166)	(11)	–	(177)
Release of provision	–	–	–	–
At 31 December 2022	**312**	**93**	**300**	**705**

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.

Additional restructuring provisions of £93,000 have been added primarily in relation to redundancy which will be utilised in 2023; the utilisation of the £280,000 in 2021 related to the relocation of HQ to Waterbeach.

Non-current provisions relate to provisions for dilapidation which form part of right-of-use assets and are depreciated over the lease term. Further details on leases are in note 18.

26. Share capital

	2022 £'000	2021 £'000
Issued and fully paid:		
78,446,230 (2021: 78,446,230) ordinary shares of 10.0p each	**7,844**	7,844

The movement during the year on the Company's issued and fully paid shares was as follows:

	2022 Number	2021 Number	**2022 £'000**	2021 £'000
Balance at 1 January	**78,446,230**	78,334,296	**7,844**	7,833
Exercise of share options	**–**	111,934	**–**	11
Balance at 31 December	**78,446,230**	78,446,230	**7,844**	7,844

The Company has one class of ordinary shares which carry no right to fixed income.

Scheme	Date of grant	**Number of shares under option as at 31 December 2022**	Number of shares under option as at 31 December 2021	Subscription price per share
Xaar plc 2004 Share Option Plan	1 May 12	**–**	90,000	226.5p
		–	90,000	
Xaar plc 2017 Share Save Scheme	1 November 17	**–**	–	344.0p
	1 November 18	**–**	34,975	142.0p
	1 December 19	**145,893**	893,038	34.0p
	2 November 20	**644,544**	681,104	102.0p
	4 November 21	**606,961**	632,995	129.0p
	3 November 22	**508,529**	–	140.0p
		1,905,927	2,242,112	
Xaar plc 2013 Share Incentive Plan	17 April 13	**–**	4,332	0.0p
	16 April 14	**–**	4,749	0.0p
	14 April 16	**–**	6,766	0.0p
	13 April 17	**–**	3,952	0.0p
		–	19,799	
Total share options outstanding at 31 December		**1,905,927**	2,351,911	

Options under the Xaar plc Share Save Scheme are ordinarily exercisable between 36 and 42 months after the date of grant.

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 2022**	Number of shares under option as at 31 December 2021
1 May 2012	**–**	5,229
2 April 2015	**25,096**	30,179
28 September 2015	**2,536**	2,536
1 April 2016	**15,733**	17,733
11 May 2016	**4,662**	4,977
27 June 2016	**–**	3,733
6 September 2016	**700**	700
1 December 2016	**–**	15,093
	48,727	80,180

All awards under this scheme are exercisable within three to ten years after the date of grant.

26. Share capital continued

Long-Term Incentive Plan continued

Performance Share Awards have been made under the Xaar plc 2017 Long-Term Incentive Plan as follows:

Date of grant	2022 Number of shares	2021 Number of shares
16 May 2017	**12,202**	18,804
2 April 2019	**–**	104,292
30 April 2019	**–**	59,789
4 October 2019	**180,328**	180,328
29 April 2020	**368,333**	394,000
4 June 2020	**535,000**	535,000
1 October 2020	**21,000**	21,000
14 October 2021	**937,528**	986,272
6 April 2022	**702,006**	–
14 Dec 2022	**204,317**	–
	2,960,714	2,299,485

All awards under this scheme are exercisable within three to ten years after the date of grant.

27. Share premium account

	2022 £'000	2021 £'000
Balance at 1 January	**29,427**	29,328
Premium arising on issue of equity shares	**–**	99
Balance at 31 December	**29,427**	29,427

28. Own shares

	2022 £'000	2021 £'000
Balance as at 1 January	**(1,923)**	(1,957)
Purchased in the year	**(1,000)**	–
Sold in the year	**2,148**	34
Balance at 31 December	**(775)**	(1,923)

Of this balance, £20,000 (2021: £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 £755,000 (2021: £1,903,000) represents the cost of 307,410 (2021: 692,575) 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.

During the year the ESOP purchased 474,971 shares (2021: nil) and sold 860,136 shares to satisfy exercised options in the year (2021: 12,508).

The market value of own shares at 31 December 2022 was £773,000 (2021: £1,427,000).

29. Translation reserves

	2022 £'000	2021 £'000
Balance at 1 January	**1,011**	864
Exchange differences on retranslation of net investment	**617**	147
Balance at 31 December	**1,628**	1,011

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.

30. 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 2021		1,105	14,911	5,151	21,167	(5,564)	15,603
Net profit for the year		–	–	–	–	16,219	16,219
Share option exercises		–	–	–	–	(32)	(32)
Charge to equity for equity-settled share-based payments	32	–	653	–	653	–	653
Balance at 31 December 2021		1,105	15,564	5,151	21,820	10,623	32,443
Net profit for the year		–	–	–	–	1,632	1,632
Cash-settled share-based payments		–	–	–	–	(249)	(249)
Share options exercises		–	–	–	–	(1,740)	(1,740)
Charge to equity for equity-settled share-based payments	32	–	1,559	–	1,559	–	1,559
Balance at 31 December 2022		**1,105**	**17,123**	**5,151**	**23,379**	**10,266**	**33,645**

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.

31. Reconciliation of liabilities arising from financing activities

	2021	Cash flows	Additions	Discontinued operations	Interest	Foreign exchange movement	2022
Lease liabilities (2021 restated)	9,191	(914)	323	–	242	(10)	8,832
Deferred consideration	4,943	(1,733)	374	–	156	–	3,740
Invoice discounting facility	–	346	–	–	33	–	379
Other interest incurred and paid	–	(22)	–	–	22	–	–
	14,134	(2,323)	697	–	453	(10)	12,951

	2020	Cash flows	Additions	Discontinued operations	Interest	Foreign exchange movement	2021
Lease liabilities (restated)	2,579	(824)	7,195	98	144	(1)	9,191
Deferred consideration	–	–	4,858	–	85	–	4,943
Other interest incurred and paid	–	(13)	–	–	13	–	–
	2,579	(837)	12,053	98	242	(1)	14,134

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.

Xaar plc 2004 Share Option Plan from 2011 onwards: The last remaining options either lapsed or were exercised during the year-ended 31 December 2022.

The Xaar 2017 Share Save Schemes provide an opportunity to all UK employees 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 Xaar Share Incentive Plan provided an opportunity for all UK employees to buy shares from their pre-tax remuneration up to the limit permitted by the relevant tax legislation and were awarded additional shares for free on a matching basis. The last remaining options granted under the scheme were exercised during the year-ended 31 December 2022.

Options and awards under the Xaar 2007 and 2017 Share Save Schemes 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 ordinarily lapse on an employee leaving the Group.

Details of the share options outstanding during the year are as follows:

	2022		2021	
	Number of share options	**Weighted average exercise price (£)**	Number of share options	Weighted average exercise price (£)
Outstanding at the beginning of the year	**2,351,911**	**0.88**	1,925,315	0.79
Granted during the year	**508,529**	**1.40**	632,995	1.29
Lapsed during the year	**(105,267)**	**1.49**	(104,614)	1.59
Exercised during the year	**(849,246)**	**0.49**	(101,785)	1.08
Outstanding at the end of the year	**1,905,927**	**1.16**	2,351,911	0.88
Exercisable at the end of the year	**145,893**	**0.34**	144,774	1.75

The weighted average share price at the date of exercise for share options exercised during the period was £2.05 (2021: £1.64). The options outstanding at 31 December 2022 had a weighted average remaining contractual life of two years (2021: two years). In 2022, options were granted on 3 November. The aggregate of the estimated fair values of the options granted on those dates is £559,000. In 2021, options were granted on 4 November. The aggregate of the estimated fair values of the options granted on those dates is £561,000.

The inputs into the Black-Scholes model are as follows:

	2022	2021
Weighted average share price	**£1.81**	£1.61
Weighted average exercise price	**£1.40**	£1.29
Weighted average expected volatility	**78%**	73%
Expected life	**3.25 years**	3.25 years
Risk-free rate	**3.12%**	0.69%
Weighted average expected dividends	**0.00%**	0.00%

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.

32. Share-based payments continued

Long-Term Incentive Plan

The Company's Long-Term Incentive Plan is open to all employees of the Group.

From 2018, revenue from new products in the third year in the vesting 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 revenue target or higher is achieved.

There are also a number of LTIP share awards granted that are subject to the achievement of different performance conditions for specific individuals, dependent on revenue or profit performance over a set performance period.

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 have previously been 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 for 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.

Details of Performance Share Awards outstanding during the year are as follows:

	2022	2021
Awards outstanding at the start of the year	**2,379,665**	1,587,450
Granted during the year	**941,240**	986,272
Lapsed during the year	**(190,043)**	(161,535)
Cash settled during the year	**(84,700)**	–
Exercised during the year	**(36,721)**	(32,522)
Awards outstanding at the end of the year	**3,009,441**	2,379,665
Exercisable at the end of the year	**60,929**	98,984

During the year ended 31 December 2022 the Remuneration Committee used its discretion to settle 84,700 awards that vested in the year in cash at their market value as at 31 March 2022 of £249,000 (2021: none).

The weighted average share price at the date of exercise for awards exercised during the period was £2.03 (2020: £1.67). The options outstanding at 31 December 2022 had a weighted average remaining contractual life of eight years (2021: nine years). In 2022, Performance Share Awards were made in April and December. The aggregate of the estimated fair values of the grants made during the year is £1,763,000. In 2021, Performance Share Awards were made in October. The aggregate of the estimated fair values of grants made on that date is £1,457,000.

The estimated fair values for grants with non-market based performance conditions were calculated using the Black-Scholes model. The inputs into the Black-Scholes model were as follows:

	2022	2021
Weighted average share price	**£2.54**	£1.77
Weighted average exercise price	**£nil**	£nil
Weighted average expected volatility	**77%**	81%
Weighted average expected life	**3.41 years**	2.44 years
Weighted average risk free rate	**1.87%**	0.67%
Weighted average expected dividends	**0.00%**	0.00%

The estimated fair values for grants with market based performance conditions were calculated using the Monte Carlo model. The inputs into the Monte Carlo model were as follows:

	2022	2021
Weighted average share price	**£2.46**	£1.77
Weighted average exercise price	**£nil**	£nil
Weighted average expected volatility	**75%**	90%
Weighted average expected life	**3.61 years**	2.44 years
Weighted average risk free rate	**2.04%**	0.55%
Weighted average expected dividends	**0.00%**	0.00%

32. Share-based payments continued

Deferred Bonus Plan

Under the Group's Deferred Bonus Plan, executives receive 70% of the participant's bonus achieved in cash and 30% in the form of rights to deferred shares of Xaar plc. These awards are subject only to service conditions, i.e. the requirement for recipients of awards to remain in employment with the Company over the vesting period. In 2022, the awards were granted in April and were in respect of participants' bonus for the Company's financial year which ended on 31 December 2021 and will vest on the dealing day following the announcement by the Company of its annual results for 2023 (assumed 24 March 2024) or, if later, the date on which the Committee determines. In 2021, the awards were granted in October in respect of the participants' bonus for the Company's financial year which ended on 31 December 2020 and will vest on the dealing day following the announcement by the Company of its annual results for 2022 (assumed 24 March 2023) or, if later, the date on which the Committee determines.

The executives do not receive any dividends and are not entitled to vote in relation to the deferred shares during the vesting period. If an executive ceases to be employed by the Group within this period, the rights will be forfeited, except in limited circumstances that are approved by the Board on a case-by-case basis.

The following table shows the deferred shares granted and outstanding at the beginning and end of the reporting period.

	2022	2021
Awards outstanding at the start ofthe year	**34,098**	–
Granted during the year	**18,633**	34,098
Lapsed during the year	**–**	–
Exercised during the year	**–**	–
Awards outstanding at the end of the year	**52,731**	34,098

The options outstanding at 31 December 2022 had a weighted average remaining contractual life of seven months (2021: one year and three months). The aggregate of the estimated fair value of grant made in 2022 was £50,000 and the estimated fair value of the grant made in 2021 was £60,000.

The estimated fair values for grants with non-market based performance conditions were calculated using the Black-Scholes model.

The inputs into the Black-Scholes model were as follows:

	2022	2021
Weighted average share price	**£2.70**	£1.77
Weighted average exercise price	**£nil**	£nil
Weighted average expected volatility	**77%**	81%
Weighted average expected life	**1.25 years**	1.25 years
Weighted average risk free rate	**1.87%**	0.67%
Weighted average expected dividends	**0.00%**	0.00%

The Group recognised total expenses of £1,559,000 and £653,000 related to all equity-settled share-based payment transactions in 2022 and 2021, respectively. A charge relating to National Insurance on the outstanding potential share option gains of £189,000 was recorded in 2022 (2021: £105,000).

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 total cost charged to the income statement in respect of all of the Group's retirement benefit schemes during 2022 was £1,303,000 (2021: £930,000). As at 31 December 2022 contributions of £165,000 (2022: £102,000) 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.

There were no other transactions during the year with related parties who are not members of the Group.

Remuneration of Directors

The actual remuneration of the Directors, who are the key management personnel of the Group, is disclosed in the Directors' Remuneration report. The contractual employee benefits are 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 pages 84 to 104

Remuneration of Directors

	2022 £'000	2021 £'000
Short-term employee benefits	**1,080**	924
Post-employment benefits	**36**	32
Share-based payments	**494**	168
	1,610	1,124

35. Non-controlling interest

Following the completion of the sale of Xaar 3D Limited to Stratasys during the year ended 31 December 2021, there are no non-controlling interests to report as at 31 December 2021 nor 31 December 2022.

On 1 November 2021, Stratasys exercised the call option and acquired the remaining 55% shareholding of Xaar 3D Limited. Xaar received $13.5 million as initial consideration and with the 3% revised earn-out and the earn-out payments allow Xaar to receive up to $34.75 million.

The 2021 income statement and the movement in cash flow as at and up to the date of sale (1 November 2021) are as follows:

Xaar 3D Limited

Income statement and other comprehensive income	2021 £'000
Revenue	2,918
Expenses	(7,342)
Loss for the year	(4,424)
Loss attributable to owners of the Company	(2,433)
Loss attributable to the non-controlling interests	(1,991)
Loss for the year	(4,424)
Total comprehensive loss attributable to owners of the Company	(2,433)
Total comprehensive loss attributable to the non-controlling interest	(1,995)
Total comprehensive loss for the year	(4,428)

Cash flow statement	2021 £'000
Net cash outflow from operating activities	(1,792)
Net cash outflow from investing activities	(122)
Net cash outflow from financing activities	(98)
Net cash outflow	(2,012)

Non-controlling interest equity	2021 £'000
Balance at 1 January	3,771
Share of total comprehensive expense for year	(1,995)
Derecognition of non-controlling interest	(1,776)
Balance at 31 December	–

36. Business combination

On 2 March 2022, Xaar completed the acquisition of 100% of the share capital of Megnajet Ltd and Technomation Ltd. The companies trade together under the name of Megnajet, and design and manufacture industrial ink management and supply systems for digital inkjet. The acquisitions will accelerate the Company's growth strategy by creating a more integrated inkjet solution whereby customers can access more of the printing ecosystem (such as ink supply systems and the electronics) from Xaar.

Technomation Ltd was acquired for its Intellectual Property and know-how. The acquisition has been accounted for as an asset acquisition using the optional concentration test within IFRS 3. The purchase price of £3,038,000, which includes £187,000 deferred consideration, was allocated to its Intellectual Property amounting £1,990,000 (being the purchase price net of £517,000 cash balance and £531,000 balance relating to working capital consisting of £816,000 receivables, £130,000 corporation tax creditor and £155,000 VAT creditor). Megnajet Ltd was accounted for as a business combination and the details of the net assets acquired, goodwill and purchase consideration are as follows:

Recognised amounts of identifiable assets acquired and liabilities assumed	Fair value £'000
Cash	1,067
Trade & other receivables	487
Corporate tax payable	(27)
Inventories	503
Property, plant and equipment	53
Intangible assets	703
Trade & other payables	(821)
Deferred Tax liability	(170)
Total net identifiable assets	**1,795**
Goodwill	661
Total consideration	**2,456**

Satisfied by:	£'000
Cash	2,269
Deferred consideration	187
Total consideration transferred	2,456

Net cash outflow arising on acquisition	£'000
Cash consideration	(2,269)
Less: cash and cash equivalents acquired	1,067
Total net cash outflow arising on acquisition	(1,202)

The fair value of acquired receivables is £250,000. The gross contractual amount for trade receivables due is £252,000, with a loss allowance of £2,000 recognised on acquisition. Other receivables relate to VAT amounting to £237,000.

The goodwill of £661,000 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 assembled workforce and potential new customer relationships and contracts which enable Megnajet to accelerate the development of ink management and supply systems through the shared expertise, technologies and resources across the Group. None of the goodwill recognised is expected to be deductible for income tax purposes.

The fair value of the intangible assets attributed to the acquisition of the business relates to customer relationships (£422,000) and brand (£281,000). These have an estimated useful life of eight and ten years respectively.

In addition to the cash consideration, deferred consideration shall be paid in the second year anniversary from the date of acquisition. The undiscounted amount of all future payments that the Company is required to make under the deferred consideration arrangement is £200,000.

Acquisition related costs which are included in administrative expenses in the consolidated income statement for the period ended 31 December 2022 amounted to £193,000.

The acquired business contributed revenues of £2,483,000 and net profit of £758,000 to the Group for the period from 2 March 2022 to 31 December 2022. If the acquisition had occurred on 1 January 2022, consolidated pro-forma revenue and profit for the period ended 31 December 2022 would have been £3,038,000 and £832,000 respectively. These amounts have been calculated using the subsidiary's results and adjusting them for differences in the accounting policies between the Group and the subsidiary; and the additional depreciation and amortisation that would have been charged assuming the fair value adjustments to property, plant and equipment and intangible assets had applied from 1 January 2022, together with the consequential tax effects.

During the prior year, on 11 July 2021, Xaar acquired 100% of the issued share capital of FFEI Limited for a total consideration of £8,762,000, comprising £3,907,000 in initial cash and deferred consideration of £4,855,000 (which is £5,200,000 discounted using 3.49% discount rate). Net assets acquired totalled £8,073,000, and goodwill of £689,000 arose on the acquisition. The fair value of the intangible assets attributed to the acquisition related to patents and software (£3,044,000) and customer relationships (£1,204,000) with an estimated useful life of six years. Net cash flow arising on the acquisition was an inflow of £168,000, being cash equivalents acquired of £4,075,000 minus the cash consideration paid. The deferred consideration is payable in three annual instalments, of which one instalment was paid during the year ended 31 December 2022 (£1,733,000). Acquisition costs included in the consolidated income statement for the prior year amounted to £618,000.

37. Restatement of prior period

The financial statements include prior period restatements in relation to leases and contract assets and liabilities.

Right-of-use asset and lease liabilities were both overstated by £539,000 due to an error in recording the renewal on one lease with no impact on net assets, cash flows or profit for the period. Since 2022 additional finance reviews have been introduced for all legal contracts. With the current control introduced in 2022, we believe the likelihood of such errors is substantially reduced.

Additionally, the EPS division had not been netting contract assets and liabilities and both balances were shown gross in the prior period. This error was identified by management in the current year and was corrected resulting in changes in processes and systems to ensure correct accounting is in place going forward. The respective adjustment for the prior year amounted to $2,672,000 (£1,977,000) with no impact on net assets, cash flows or profit for the period.

The following tables summarise the impact of the prior period restatement on the financial statements of the Group for the period ended 31 December 2021:

Consolidated statement of financial position	2021 as reported £'000	IFRS 16 lease correction £'000	Contract assets /liabilities correction £'000	2021 restated £'000
Non-current assets				
Right-of-use asset	9,368	(539)	–	8,829
Current assets				
Trade and other receivables	12,138	–	(1,977)	10,161
Total assets	**103,940**	**(539)**	**(1,977)**	**101,424**
Current liabilities				
Contract liabilities	(5,518)	–	1,977	(3,541)
Lease liabilities	(1,231)	539	–	(692)
Total liabilities	**(35,138)**	**539**	**1,977**	**(32,622)**
Net assets	**68,802**	**–**	**–**	**68,802**

38. Subsidiary audit exemption

The following companies are exempt from the requirements relating to the audit of individual accounts for the year ended 31 December 2022 by virtue of section 479A of the Companies Act 2006: XaarJet Limited (03375961), XaarJet (Overseas) Limited (04312431), Xaar Technology Limited (02469592), Xaar Digital Limited (03588121), Xaar Trustee Limited (03025096), Xaar 3D Holdings Limited (11425540), FFEI Limited (03244452) and Megnajet Limited (07160441).

Company balance sheet
as at 31 December 2022

	Notes	2022 £'000	2021 £'000 Restated
Fixed assets			
Tangible fixed assets	3	**942**	1,059
Investments	4	**99,282**	92,893
		100,224	93,952
Current assets			
Debtors	5	**1,619**	8,803
Cash at bank and in hand		**517**	9,979
		2,136	18,782
Total assets		**102,360**	112,734
Creditors: amounts falling due within one year			
Trade and other payables	6	**(17,793)**	(23,977)
Lease liabilities	3	**(113)**	(85)
		(17,906)	(24,062)
Net current assets		**(15,770)**	(5,280)
Total assets less current liabilities		**84,454**	88,672
Creditors: amounts falling due after more than one year			
Lease liabilities	3	**(689)**	(776)
Other financial liabilities		**(2,094)**	(3,354)
		(2,783)	(4,130)
Provisions for liabilities	7	**(250)**	(250)
Total liabilities		**(3,033)**	(4,380)
Net assets		**81,421**	84,292
Capital and reserves			
Called up share capital	9	**7,844**	7,844
Share premium account	9	**29,427**	29,427
Other reserves	9	**38,003**	37,108
Own shares	9	**(755)**	(1,903)
Share-based payment reserve	9	**4,443**	3,780
Profit and loss account		**2,459**	8,036
Equity shareholders' funds		**81,421**	84,292

Xaar plc reported a loss for the financial year ended 31 December 2022 of £3,588,000 (2021: loss of £1,867,000).

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.

The financial statements of Xaar plc, registered number 3320972, were approved by the Board of Directors and authorised for issue on 27 March 2023. They were signed on its behalf by:

John Mills
Chief Executive Officer

Ian Tichias
Chief Financial Officer

Company statement of changes in equity
for the year ended 31 December 2022

	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 2021		7,833	29,328	36,723	(1,937)	3,520	9,935	85,402
Loss for the financial year		–	–	–	–	–	(1,867)	(1,867)
Total comprehensive income for the period		–	–	–	–	–	(1,867)	(1,867)
Own shares sold in the period		–	–	–	34	–	–	34
Share option exercises		11	99	–	–	–	(32)	78
Capital contribution for share-based payments	4	–	–	385	–	–	–	385
Credit to equity for equity-settled share-based payments	10	–	–	–	–	260	–	260
At 31 December 2021		**7,844**	**29,427**	**37,108**	**(1,903)**	**3,780**	**8,036**	**84,292**
Loss for the financial year		–	–	–	–	–	(3,588)	(3,588)
Total comprehensive expense for the period		–	–	–	–	–	(3,588)	(3,588)
Own shares purchased in the period		–	–	–	(1,000)	–	–	(1,000)
Own shares sold in the period		–	–	–	2,148	–	–	2,148
Share option exercises		–	–	–	–	–	(1,740)	(1,740)
Cash settlement of share options		–	–	–	–	–	(249)	(249)
Capital contribution for share-based payments	4	–	–	895	–	–	–	895
Credit to equity for equity-settled share-based payments	10	–	–	–	–	663	–	663
At 31 December 2022		**7,844**	**29,427**	**38,003**	**(755)**	**4,443**	**2,459**	**81,421**

The share premium account and other reserves are non-distributable.

Other reserves represent the profit from the sale of a subsidiary, the non-distributable portion of the dividend received in Xaar plc from Xaar Digital Limited and the capital contribution to investments relating to share-based payments.

The share-based payment reserve represents the cumulative charge made under IFRS 2 in relation to share options and LTIP awards.

Full details of share capital, share premium and own shares are given in notes 26, 27 and 28 to the consolidated financial statements.

Notes to the Company financial statements
for the year ended 31 December 2022

1. Significant accounting policies

Basis of accounting

The separate financial statements of the Company are presented as required by the Companies Act 2006 and in accordance with FRS 101 (Financial Reporting Standard 101) 'Reduced Disclosure Framework' as issued by the Financial Reporting Council. 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 IFRSs issued but not effective, share-based payments, financial instruments, capital management, presentation of comparative information in respect of certain assets, presentation of a cash flow statement, fair value, key management 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.

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.

Share-based payments

The share-based payment reserve represents the cumulative charge made under IFRS 2 in relation to share options and LTIP awards. The costs related to employees contracted with other Group entities are recorded as an increase to investments as a capital contribution.

Going concern

The Company'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 16 to 25. Notes 21 and 22 include a description of the Company'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.

After making enquiries, and having regard to the principal risks the Directors have a reasonable expectation that the Company has adequate resources to continue in operational existence for the foreseeable future. The Directors have assessed the Company's forecasts and cash flow projections for the period to 30 June 2024, which have undergone reverse stress tests, significantly reducing revenue across the period, and identified cost mitigations. For this reason, we continue to adopt the going concern basis in preparing the financial statements.

Please refer to the Directors' report on page 69 for going concern and note 3 to the consolidated financial statements for more detail.

Investments

Fixed asset investments in subsidiaries are shown at cost less provision for impairment and includes capital contributions arising from share-based payments. Each year, the Company carries out impairment tests of its investments which require estimates to be made of the value in use of its CGUs and groups of CGUs. The value in use calculations are dependent on estimates of future cash flows, long-term growth rates and appropriate discount rates to be applied to future cash flows.

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. As the merger relief arose from transactions before the introduction of FRS 101, the transaction has utilised grandfathering relief rather than recalculating and presenting under appropriate FRS 101 treatment.

Leases

The Company assesses whether a contract is or contains a lease, at the inception of the contract. The Company recognises a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee, except for short-term leases (defined as leases with a lease term of 12 months or less) and leases of low-value assets. For these leases, the Company recognises the lease payments as an operating expense on a straight-line basis over the term of the lease unless another systematic basis is more representative of the time pattern in which economic benefits from the lease are consumed. Please refer to page 143, note 18 and page 126, note 3 to the consolidated financial statements for more detail.

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/(loss) 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.

The average number of employees throughout 2022 was 27 (2021: 31). Staff costs amounted to £4,688,060 (2021: £2,652,000) including share-based payments. Information about the remuneration of Directors is provided in the audited part of the Directors' Remuneration report on page 84. For the remuneration of key management personnel of the Company see note 34 – Related party transactions of the consolidated financial statements.

The Directors' Remuneration report can be found on page 84

The audit fee for the audit of the Company's financial statements in 2022 was £20,000 (2021: £20,000).

The figures for the auditor's remuneration for the Company required by regulation 5(1)(b) of the Companies (Disclosure of Auditor Remuneration and Liability Limitation Agreements) Regulations 2008 are not presented as the consolidated financial statements comply with this regulation on a consolidated basis.

3. Tangible fixed assets

	Right-of-use asset – building £'000
Cost	
At 1 January 2022	1,166
Additions	–
Transfer to subsidiary	–
At 31 December 2022	**1,166**
Depreciation	
At 1 January 2022	(107)
Charge for the year	(117)
Transfer to subsidiary	–
At 31 December 2022	**(224)**
Carrying amount	
At 31 December 2022	**942**
At 31 December 2021	1,059

Set out below are the carrying amounts of lease liabilities (included under interest-bearing loans and borrowings) and the movements during the period:

	2022 £'000	2021 £'000
At 1 January	**862**	35
Additions	**–**	896
Accretion of interest	**17**	17
Payments	**(77)**	(51)
Transfer to subsidiary	**–**	(35)
At 31 December	**802**	862
Current	**113**	85
Non-current	**689**	776
	802	861

The table below summarises the maturity profile of the Company's lease liabilities based upon the contractual undiscounted payments for the year.

	2022 £'000	2021 £'000
On demand	**–**	–
Less than three months	**26**	26
Four to 12 months	**77**	77
One to five years	**400**	384
More than five years	**342**	460
	845	947

The following are the amounts recognised in profit or loss:

	2022 £'000	2021 £'000
Depreciation expense of right-of-use assets	**117**	107
Interest expense on lease liabilities	**17**	17
Total amount recognised in profit or loss	**134**	124

4. Investments

	2022 £'000	2021 £'000
Subsidiary undertakings held at cost		
At the beginning of the year	**92,893**	82,055
Additions in the year	**5,494**	12,453
Impairment	**–**	(2,000)
Capital contributions arising from share-based payments	**895**	385
At the end of the year	**99,282**	92,893

In March 2022 Xaar plc acquired Megnajet Ltd for a total consideration of £2,455,942 and Technomation Ltd for a consideration of £3,038,000.

The impairment charge in the prior year was a result of intercompany dividends.

The Directors believe that the carrying value of the investments is at least equal to the recoverable amount.

5. Debtors

	2022 £'000	2021 £'000
Amounts receivable within one year		
Amounts owed by Group undertakings	**1,384**	8,638
Trade debtors	**–**	90
Prepayments and accrued income	**208**	–
Other debtors	**27**	75
	1,619	8,803

Amounts owed by Group undertakings are trading balances and interest is not charged and is payable on demand.

6. Creditors

	2022 £'000	2021 £'000
Amounts falling due within one year		
Amounts owed to Group undertakings	**13,869**	21,811
Other payables and accruals	**2,278**	577
Other financial liabilities	**1,646**	1,589
	17,793	23,977

Amounts falling due after one year	2022 £'000	2021 £'000
Other financial liabilities	**2,094**	3,354

Amounts owed to Group undertakings are trading balances under normal commercial terms and interest is not charged and is payable on demand.

The other financial liabilities represent the deferred consideration in relation to the acquisition of FFEI Limited, Megnajet Limited and Technomation Limited; split between the current due in 2023 (£1,646,000) and non-current portion. Further details are in note 24 to the consolidated financial statements.

7. Provisions

	2022 £'000	2021 £'000
Current		
At 1 January	–	–
Additional provision in the year	–	44
Utilisation of provision	–	(44)
At 31 December	–	–
Non-current		
Provision for dilapidation	250	250
	250	250

Current provision movements relate to restructuring costs arising in Xaar plc. Non-current provisions relate to provision for dilapidation of Xaar Waterbeach office which form part of right-of-use assets and are depreciated over the lease term.

8. Dividends

There were no dividends declared or paid during the current and preceding year. There are no dividends expected to be declared on the 2022 financial results.

Dividends were received during the year as follows:

- Xaar Digital Ltd £1,700,000 (2021: nil)
- Xaar US Holdings Inc £1,885,003 (2021: nil)

9. Share capital and share premium account

Full details of movements in share capital, share premium account, own shares, other reserves and the share option payment reserve are given in notes 26, 27 and 30 to the consolidated financial statements.

10. Share-based payments

Equity-settled share option scheme

The Company operates a number of equity-settled share-based payment schemes for its employees and the employees of its subsidiaries. The share-based payment charge in relation to the Company's employees is recognised in profit or loss and the share-based payments reserve, whilst the share-based payment charge in relation to the employees of the Company's subsidiaries is recognised as capital contribution to the subsidiary with the corresponding increase in other reserves. Details of the share-based payment schemes are included in note 32 to the consolidated financial statements.

For the year ended 31 December 2022, the share-based payment charge in relation to the Company's employees was £663,000 (2021: £260,000) and £895,000 (2021: £385,000) was recognised as a capital contribution to subsidiaries.

11. Subsidiary undertakings

The subsidiary undertakings of the Company are listed below: all companies are directly owned by the Company except where indicated otherwise.

Name	Country of incorporation	Address of registered office	Principal activity	Issued and fully paid up share capital	Proportion of ordinary share capital held by the Company
Xaar Technology Limited	England & Wales	Cambridge Research Park, Waterbeach, Cambridge, CB25 9PE	Research and development	4,445,322 ordinary £1 shares	100%
XaarJet Limited	England & Wales	Cambridge Research Park, Waterbeach, Cambridge, CB25 9PE	Manufacturing, research and development and sales and marketing	2 ordinary £1 shares	100%
XaarJet (Overseas) Limited	England & Wales	Cambridge Research Park, Waterbeach, Cambridge, CB25 9PE	Sales and marketing	1 ordinary £1 share	100%
Xaar Trustee Limited[1]	England & Wales	Cambridge Research Park, Waterbeach, Cambridge, CB25 9PE	Trustee	2 ordinary £1 shares	100%
Xaar Digital Limited	England & Wales	Cambridge Research Park, Waterbeach, Cambridge, CB25 9PE	Treasury	100 ordinary £1 shares	100%
Xaar 3D Holdings Limited	England & Wales	Cambridge Research Park, Waterbeach, Cambridge, CB25 9PE	Holding company	1,100 ordinary shares of £0.01 each	100%
Xaar US Holdings Inc.	USA	1209 Orange Street, Wilmington, New Castle County, Delaware, USA	Holding company	10,000 shares of common stock $1 each	100%
Engineered Printing Solutions[2]	USA	201 Tennis Way, East Dorset, VT 05253, USA	Manufacturing, sales and marketing	200 shares of common stock $1 each	100%
Xaar Americas Inc.[2]	USA	1000 Post and Paddock, Suite 405, Grand Prairie, TX 75050, USA	Sales and marketing	10,000 shares of common stock US$1 each	100%
Xaar Inkjet Technology (Shenzhen) Company Limited	China	Room 409, Floor 4, Building 13, Fuhai Industrial Zone, Fuzhou Avenue, Shenzhen, China	Sales and marketing	30 ordinary shares of £10,000 each	100%
FFEI Limited	England & Wales	Cambridge Research Park, Waterbeach, Cambridge, CB25 9PE	Manufacturing, sales and marketing	100,000 ordinary £1 shares	100%
Megnajet Ltd[3]	England & Wales	Cambridge Research Park, Waterbeach, Cambridge, CB25 9PE	Manufacturing, sales and marketing	1 ordinary £1 share	100%
Technomation Ltd[3]	England & Wales	Cambridge Research Park, Waterbeach, Cambridge, CB25 9PE	Research and development	100 ordinary £1 shares	100%

1 Xaar Trustee Limited shares are held by Xaar Technology Limited.
2 Xaar Americas Inc and Engineering Printing Solutions shares are held by Xaar US Holdings Inc.
3 Megnajet Ltd and Technomation Ltd were acquired by Xaar plc on 2 March 2022. See note 36 to the consolidated financial statements for more detail.

Five year record

	2022 Continuing operations £'000	2021 Continuing operations £'000	2020 Continuing operations £'000	2019 Continuing operations[1] £'000	2018 Continuing operations £'000
Summarised consolidated results					
Results					
Revenue	**72,782**	59,254	47,984	49,379	60,468
Gross profit	**28,644**	20,190	13,010	12,290	29,496
Adjusted profit/(loss) before tax (note 4)	**2,822**	(571)	(3,911)	(7,952)	4,523
Adjusted profit/(loss) after tax (note 14)	**3,689**	(779)	(4,038)	(11,632)	6,930
Adjusted diluted earnings per share (note 14)	**4.5p**	(1.0p)	(5.2p)	(15.1p)	10.0p
Statutory profit before tax	**824**	994	(4,322)	(10,937)	280
Basic earnings per share	**2.3p**	0.9p	(5.7p)	(19.4p)	3.6p
Diluted earnings per share	**2.2p**	0.9p	(5.7p)	(19.4p)	3.6p
Dividends pence per share	**–**	–	–	–	1.0p
Assets employed					
Net cash[2]	**8,546**	25,051	18,117	25,322	27,946

1 In the transition to IFRS 15 & 16, the Group used the modified approach and the impact on prior years was adjusted through retained earnings. Comparatives were not restated.

2 Net cash is made up of cash and cash equivalents and treasury deposits less assets held for sale.

Notice of the Annual General Meeting

Notice is hereby given that the twenty-sixth Annual General Meeting (AGM) of Xaar plc (the 'Company') will be held at Xaar plc, 1 Hurricane Close, Ermine Business Park, Huntingdon, Cambridgeshire, PE29 6XX on Wednesday 31 May 2023 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. THAT the Company's annual financial statements for the financial year ended 31 December 2022, together with the Directors' report and auditor's report on those financial statements, be received and adopted.
2. THAT Ernst & Young LLP be re-appointed as the Company's auditors 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. THAT the Directors be authorised to determine the remuneration of the auditors.
4. THAT John Mills be re-elected as a Director of the Company.
5. THAT Andrew Herbert be re-elected as a Director of the Company.
6. THAT Christopher Morgan be re-elected as a Director of the Company.
7. THAT Ian Tichias be re-elected as a Director of the Company.
8. THAT Alison Littley be re-elected as a Director of the Company..

Special business

To consider and, if thought fit, pass the following Resolutions which will be proposed in the case of Resolutions 9, 10 and 11 as Ordinary Resolutions and in the case of Resolutions 12 to 15 as Special Resolutions:

9. THAT the Directors' Remuneration Policy, the full text of which is contained in the Directors' Remuneration report for the year ended 31 December 2022 and which is set out in pages 87 to 95 of the Annual Report, which will take effect at the conclusion of this meeting, be approved.
10. THAT the Directors' Remuneration report (excluding the Directors' Remuneration Policy which is set out on pages 87 to 95 of the Annual Report) for the year ended 31 December 2022 be approved.
11. THAT, in substitution for all existing authorities including the authority conferred on the Directors of the Company by article 4(b) of the Company's articles of association, pursuant to and in accordance with section 551 of the Companies Act 2006 ('Act') the Directors of the Company be hereby 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 ('Rights'):

    (i) up to an aggregate nominal value of £2,614,874 (being the nominal value of approximately one third of the issued share capital of the Company); and

    (ii) up to an aggregate nominal value of £5,229,749 (being the nominal value of approximately two thirds of the issued share capital of the Company) (such amount to be reduced by the nominal amount of any equity securities allotted or Rights granted under paragraph (i)) in connection with an offer by way of 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) or other pre-emptive offer to:

    (a) the holders of ordinary shares of 10 pence each in the capital of the Company ('ordinary shares') in proportion (as nearly as may be practicable) to the respective numbers of ordinary shares held by them; and

    (b) holders of other equity securities, as required by the rights of those securities or, subject to such rights, as the Directors otherwise consider necessary,

    and so that, in each case, the Directors of the Company may impose any limits or restrictions and make any arrangements which they consider necessary or appropriate to deal with treasury shares, fractional entitlements, record dates, legal, regulatory or practical problems in, or under the laws of, any territory or the requirements of any regulatory body or stock exchange or any other matter.

    The authority granted by this Resolution will expire at the conclusion of the Company's next Annual General Meeting after the passing of this Resolution or, if earlier, at the close of business on the date 15 months after the passing of this Resolution, save that the Company may at any time before such expiry make any offer(s) or enter into any agreement(s) which would or might require shares to be allotted or Rights to be granted after such expiry and the Directors may allot shares or grant Rights in pursuance of any such offer(s) or agreement(s) as if the authority conferred hereby had not expired. This Resolution revokes and replaces all unexercised authorities previously granted to the Directors to allot shares or grant Rights but without prejudice to any allotment of shares or grant of Rights already made, offered or agreed to be made pursuant to such authorities.

Special business continued

12. THAT, subject to the passing of Resolution 11, the Directors of the Company be authorised to allot equity securities (as defined in section 560 of the Act) for cash under the authority conferred by that Resolution and/or to sell ordinary shares held by the Company as treasury shares as if section 561 of the Act did not apply to any such allotment or sale, provided that such authority shall be limited to:

(a) the allotment of equity securities in connection with an offer of equity securities (but, in the case of the authority granted under paragraph (ii) of Resolution 11, by way of a rights issue only):

(i) to the holders of ordinary shares in proportion (as nearly as may be practicable) to their respective holdings; and

(ii) to holders of other equity securities as required by the rights of those securities or as the Directors otherwise consider necessary,

but subject to such exclusions or other arrangements as the Directors of the Company 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 allotment of equity securities or sale of treasury shares (otherwise than pursuant to paragraph (a) of this Resolution) to any person up to an aggregate nominal amount of £392,231.

The authority granted by this Resolution will expire at the conclusion of the Company's next Annual General Meeting after the passing of this Resolution or, if earlier, at the close of business on the date 15 months after the passing of this Resolution, save that the Company may, before such expiry make offers or agreements which would or might require equity securities to be allotted (or treasury shares to be sold) after the authority expires and the Directors of the Company may allot equity securities (or sell treasury shares) in pursuance of any such offer or agreement as if the authority had not expired.

13. THAT, subject to the passing of Resolution 11, the Directors of the Company be authorised in addition to any authority granted under Resolution 12 to allot equity securities (as defined in section 560 of the Act) for cash under the authority conferred by Resolution 11 and/or to sell ordinary shares held by the Company as treasury shares as if section 561 of the CA 2006 did not apply to any such allotment or sale, provided that such authority shall be:

(a) limited to the allotment of equity securities or sale of treasury shares up to an aggregate nominal amount of £392,231; and

(b) used only for the purpose of financing (or refinancing, if the authority is to be used within six months after the original transaction) a transaction which the Directors of the Company determine to be an acquisition or other capital investment of a kind contemplated by the Statement of Principles on Disapplying Pre-Emption Rights most recently published by the Pre-Emption Group prior to the date of this notice.

The authority granted by this Resolution will expire at the conclusion of the Company's next Annual General Meeting after this Resolution is passed or, if earlier, at the close of business on the date 15 months after the passing of this Resolution, save that the Company may, before such expiry make offers or agreements which would or might require equity securities to be allotted (or treasury shares to be sold) after the authority expires and the Directors of the Company may allot equity securities (or sell treasury shares) in pursuance of any such offer or agreement as if the authority had not expired.

14. THAT the Company be generally and unconditionally authorised for the purposes of section 701 of the Act to make one or more market purchases (within the meaning of section 693(4) of the Act) of ordinary shares provided that:

(a) the maximum aggregate number of ordinary shares authorised to be purchased is 7,844,623 (representing 10% of the issued ordinary share capital);

(b) the minimum price (excluding expenses) which may be paid for an ordinary share is the par value of the shares;

(c) 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 higher of the price of the last independent trade and the highest current independent bid on the trading venue where the purchase is carried out;

(d) 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 the date which is 15 months after the passing of this Resolution unless renewed, revoked or varied before that time; and

(e) 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, with effect from the conclusion of the meeting, the articles of association produced to the meeting and, for the purposes of identification, initialled by the Chairman be adopted as the articles of association of the Company in substitution for, and to the exclusion of, the Company's existing articles of association including the relevant provisions of the memorandum of association that would otherwise be treated as provisions of the articles of association under section 28 of the Companies Act 2006.

By order of the Board

Julia Crane
Company Secretary

27 March 2023

Notes

1. A member entitled to attend the meeting may appoint one or more proxies to exercise all or any of the member's rights, to speak at the meeting. A proxy need not be a member of the Company. If a member appoints more than one proxy, each proxy must be appointed to exercise the rights attached to a different share or shares held by the member. If a member wishes to appoint one or more proxies they may do so at www.signalshares.com. If not already registered you will need your Investor Code to do so, this can be found on your share certificate. If you need help with voting online, or require a paper proxy form, please contact our registrar, Link Group by email at shareholderenquiries@linkgroup.co.uk, or you may call Link on 0371 664 0391. Calls are charged at the standard geographic rate and will vary by provider. Calls outside the United Kingdom will be charged at the applicable international rate. Link Group are open between 09:00 – 17:30, Monday to Friday excluding public holidays in England and Wales.
2. To be effective, the proxy vote must be submitted at www.signalshares.com so as to have been received by the Company's registrars not less than 48 hours (excluding weekends and public holidays) before the time appointed for the meeting or any adjournment of it. Any power of attorney or other authority under which the proxy is submitted must be returned to the Company's registrars, Link Group, PXS 1, Central Square, 29 Wellington Street, Leeds LS1 4DL. If a paper form of proxy is requested from the registrar, it should be completed and returned to Link Group, PXS 1, Central Square, 29 Wellington Street, Leeds LS1 4DL to be received not less than 48 hours before the time of the meeting.
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 close of business on 26 May 2023 (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 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 close of business on 26 May 2023 (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 vote at the meeting.
6. Copies of Directors' service agreements, the terms of appointment of Non-Executive Directors, and the register of Directors' interests kept by the Company under section 808 of the Companies Act 2006 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 page 63 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. A corporation that is a shareholder can appoint one or more corporate representatives who may exercise, on its behalf, all its powers as a shareholder provided that they do not do so in relation to the same shares.
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.
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 Euroclear UK & International Ltd's ('Euroclear') 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 9:30am on 26 May 2023. 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 Euroclear 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 (as amended).
14. As at 7am on 29 March 2023, the Company's issued share capital comprised 78,446,230 ordinary shares of 10 pence each. Each ordinary share carries the right to one vote at a general meeting of the Company, and, therefore, the total number of voting rights in the Company as at 7am on 28 March 2023 is 78,446,230.

Notes continued

15. Any member 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. You may vote your shares electronically at www.signalshares.com. On the home page, search "Xaar plc" and then log in or register, using your Investor Code. To vote, click on the "Vote Online Now" button.

17. A copy of this Notice, and other information required by section 311A of the Companies Act 2006, can be found at www.xaar.com.

18. Under section 338 of the Companies Act 2006, shareholders meeting the threshold requirements set out in that section, may, subject to conditions, require the Company to give to shareholders notice of a resolution which may properly be moved and is intended to be moved at that meeting.

19. Under section 338A of the Companies Act 2006, shareholders meeting the threshold requirements set out in that section may, subject to conditions, require the Company to include in the business to be dealt with at the meeting a matter (other than a proposed resolution) which may properly be included in the business.

Appendix 1 – Explanatory note to the principal changes to the Company's Articles of Association

It is consistent with good corporate governance to review the Company's articles of association on a regular basis. Accordingly, the Company's articles of association (the 'Current Articles') have been reviewed with a view to updating provisions to reflect current practice and to include flexibility with regard to virtual or hybrid meetings. As a result of this review, it is considered appropriate to propose to the Company's shareholders that a new set of articles of association (the "New Articles") be adopted.

An explanation of the main changes between the proposed New Articles and the Current Articles is set out below.

Some other changes being proposed which are of a minor, technical or clarifying nature. They have been included to reflect current market practice and to update the articles as a result of the ongoing evolution of the Companies Act 2006 ("CA 2006") and/or the Uncertificated Securities Regulations 2001.

A copy of the Current Articles marked to show the changes, and of the proposed New Articles, are available on the Company's website at www.xaar.com/en and the National Storage Mechanism of the FCA at https://data.fca.org.uk/#/nsm/nationalstoragemechanism, and will be made available for inspection at the Company's registered office at 3950 Cambridge Research Park, Waterbeach, Cambridge, England, CB25 9PE during normal business hours until the conclusion of the Annual General Meeting, and at the place of the Annual General Meeting from at least 15 minutes prior to the Annual General Meeting until its conclusion.

Electronic conduct of meetings

In view of the changes to the arrangements for holding general meetings which were caused by the response to the COVID-19 pandemic and the expectation of many shareholders that such flexible arrangements will be continued, the New Articles explicitly permit hybrid general meetings. Such general meetings can be held and arranged by the Board of Directors of the Company both at a physical location and electronically. Hybrid general meetings will give shareholders the option to attend the meeting either in person or virtually. Appropriate amendments have also been made throughout the New Articles to allow related matters, such as the lodging of proxy instructions, to be done electronically as well.

Electronic notices

Similarly, the New Articles provide explicitly for the provision of notices by electronic means (for example by means of posting on the Company's website). This would allow the Company to send notices in a way which is both cheaper and more sustainable.

Allotment (Amended Article 4)

In order to allot shares, the Directors must be granted authority either by the articles of association or by shareholders in general meeting. The authority can only be granted for a specified period (not exceeding five years). Therefore, a disadvantage of including such an authority in the articles is that the authorising provision will become redundant after the specified period has expired, but it will remain within the articles regardless. For this reason, many companies prefer to confer authority by passing an ordinary resolution at their annual general meeting. Up to now, the Current Articles had included an authorising provision but it has long been redundant (as it is replaced at each AGM by a new authority). The New Articles do not include an authorising provision. Instead, the provisions relating to allotment in the New Articles have been simplified and a resolution to grant the Directors the authority to allot shares will continue to be proposed at each AGM, in line with market practice.

Power to postpone (New Article 50a)

The New Articles contain a new power for the Directors to postpone a general meeting after the notice is issued but before the meeting is convened if they consider it impracticable or unreasonable to hold a general meeting on the date and time specified in the notice. This avoids the need to adjourn a general meeting, giving the Board additional flexibility to respond to any unexpected events which might make it impracticable to hold a general meeting on a given date.

Retirement of Directors (Amended Article 75)

The Current Articles require Directors to retire by rotation based on a calculation so that circa one third of the Directors retire each year. In keeping with best corporate governance standards and the Company's current practice, the New Articles require all the Directors to retire from office at each AGM and to stand for re-election.

Directors' fees (Amended Article 86)

The limit on aggregate fees for Non-Executive Directors has been increased to £400,000. The current limit on the aggregate fees for Non-Executive Directors, approved at the AGM held on 18 May 2016, is £300,000. The Board believes that additional headroom and flexibility is required in view of succession planning and ensuring that the Company is able to remain competitive and attract talented individuals.

Borrowing powers (Amended Article 102)

The borrowing limit is currently set at three times adjusted capital and reserves (as defined in the Current Articles). If the Company were to exceed this limit, it would require, in advance, an ordinary resolution from the requisite majority of the shareholders in general meeting. To bring this limit in line with best practice and the recommendations from guidance issued by institutional investor groups, the New Articles include a lower limit of two times adjusted capital and reserves; any borrowing in excess of this limit would require the sanction of an ordinary resolution.

Indemnity & insurance (Amended Article 142)

The indemnity provision in the Current Articles has been updated in the New Articles with a provision which allows the Company to indemnify its officers and former officers to the full extent allowed by the CA 2006. The article has also been amended in order to clarify that it is not intended to authorise the Company to grant an indemnity which is broader than what is allowed by the CA 2006. The insurance provision has been simplified such that the Company can purchase insurance for its Directors to the fullest extent allowed by law. These changes will bring the articles in line with standard market practice for D&O indemnity and insurance provision.

Company information and advisors

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Waterbeach
Cambridge CB25 9PE

Registered number
3320972

Company Secretary
Julia Crane

Brokers
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30 Gresham Street
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Ernst & Young LLP
Cambridge Business Park
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Cambridge CB4 0WZ

Solicitors
Mills & Reeve LLP
Botanic House
100 Hills Road
Cambridge CB2 1PH

Principal Bankers
HSBC Bank plc
63-64 St Andrews Street
Cambridge CB2 3BZ

Registrars
Link Group
10th Floor
Central Square
29 Wellington Street
Leeds LS1 4DL

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, £1.2 billion 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

Link Group, the Company's registrar, has launched a shareholder app: LinkVote+.

It is free to download and use and gives shareholders the ability to access their records at any time and attend virtual AGMs.

The app also allows users to submit a proxy appointment quickly and easily online rather than through the post.

The app is available to download on the Apple App Store and Google Play.

LINK VOTE+