

Risk management

PRUDENT RISK MANAGEMENT

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

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

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

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

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

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

Key risk areas

The risks around our existing business are set out in more detail on pages 30 to 33, but the key risk areas can be identified as being associated with the following:

Competition

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

Identification of market requirements

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

Commercialising and maintaining products with cutting edge technology

Creating value by generating innovative products

Merger and acquisition opportunities

Seek opportunities to expand, create synergies and generate greater shareholder value.

Organisational capability

Having the right people in the right roles.

Brexit

Tracking the potential impact of the UK Government's negotiations.

Manufacturing facility

Diversifying products, locations and manufacturing partners to alleviate operational issues.

Exchange rates

Monitoring global economic events and mitigating any resulting significant exchange rate impacts.

Partnerships

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

Risk management continued

A reminder of our strategic pillars

- ① Ceramics ② Product Printing & Packaging ③ Thin Film ④ Acquisitions & Partnerships

Principal risk and uncertainty	Link to strategic pillars	Impact	Mitigation	Likelihood	Magnitude	Change on 2016
1. Competition	① ② ③	<p>We compete on the basis of our technology, innovation, price, quality, reliability, brand, reputation and customer relationships.</p> <p>Failure to continually improve in these areas may mean that we lose market share or have to reduce prices. Since there are fixed factory costs reductions in sales volumes may substantially lower profit margins.</p> <p>We are the only true independent printhead company in the world and we are competing with vertically integrated large scale multi national companies.</p>	<p>Competitive pricing policies are employed and product portfolios and pricing are constantly monitored against competitors. Our recent strengthening of our Go-To-Market capabilities allows us to focus more on our customers and also increase our ability to monitor competitor activity.</p> <p>Manufacturing cost reduction programmes are established to ensure that products remain competitive.</p> <p>Information from customers, partners, market reports and other sources are collected, consolidated and reviewed to improve forecasting.</p> <p>Through selected partnership agreements we have extended our product range and expanded our market access.</p>	Probable	High	⬆️
2. Failure to identify market requirements	① ② ③	<p>Products need to meet the changing demands of the market, including regulatory changes.</p> <p>Failure to meet future market requirements/specifications could impact on long term revenue and profit.</p>	<p>Regular, specific and detailed reviews are held to assess current and anticipated market requirements, including expected regulatory changes. These reviews include input from customers and other external sources.</p> <p>Product developments are selected on appropriate criteria. Product development activity is properly managed with regular reviews of progress against project plans, and gated milestone reviews.</p> <p>Appropriate resource is applied to product development activity. We have a rigorous product lifecycle management process which ensures we focus on our customers.</p>	Possible	High	➡️

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3. Commercialising and maintaining products with cutting edge technology	① ② ③	<p>We aim to produce quality end products. Failure to meet the required quality standards could impact on products that have been sold or that are held in inventory.</p> <p>This could lead to:</p> <ul style="list-style-type: none"> • unexpected costs associated with resolving the issues • possible warranty costs, customer compensation or write-down in inventory values • potentially longer term revenue loss if customers move to competitors and damage of reputation <p>We operate in an increasingly dynamic and changing environment. To counter the risks associated with this and, most importantly, to exploit the opportunities it presents, we must embrace innovation, protect our Intellectual Property and capitalise on technology advancements to ensure we maintain our market position.</p>	<p>Standard operating procedures are in place for the manufacture of all products.</p> <p>The quality of supplies is constantly monitored. Quality performance is regularly reviewed by senior management who apply appropriate resources to systematically address recurrent problems. New products are thoroughly tested before launch.</p> <p>Xaar's manufacturing facilities are ISO 9001 accredited. Customer returns are reviewed quickly using a consistent and thorough investigation process.</p> <p>We have continued to focus on innovation. This is evidenced by our continued focus on R&D spend and the number of new products that we are now bringing to market.</p>	Possible	Medium	→
4. Merger and acquisition opportunities	② ④	<p>One of our goals is to increase growth both organically and by acquisition.</p> <p>There are many risks and opportunities arising from external acquisitions. Planning, implementation and management of changes are essential and failure to get this right could lead to lost synergies and increased costs.</p>	<p>We have robust due diligence procedures and plan for integration of the target as part of the due diligence process.</p> <p>At each stage of any acquisition process we undertake a thorough review with the Board.</p>	Possible	Medium	↓

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5. Organisational capability	① ② ③ ④	<p>Our people remain key to our business. Ensuring the right people are in the right roles is critical to our future success and growth. We need to attract and retain the right talent to enable achievement of our strategic aims. Failure to do this risks our delivery and growth as follows:</p> <ul style="list-style-type: none"> • lack of staff to meet a specific business need or contract requirement • loss of project specialisms • single point of failure • loss of key skills. 	<p>Our focus is to minimise the voluntary turnover of employees, through better hiring for fit, improved induction procedures and employee engagement initiatives.</p> <p>Xaar has a talent fast track programme in place to retain and progress key talent at all levels.</p> <p>During 2017 a suite of Learning and Development courses (XCEL) has been rolled out across the Company to ensure key skills are maintained and enhanced.</p> <p>There are also regular departmental reviews for succession planning.</p>	Possible	Medium	↓
6. Brexit	① ② ③ ④	<p>The United Kingdom's decision to leave the European Union presents both risk and opportunities to the Company. There is currently a prolonged period of uncertainty concerning EU workers, migration and trade.</p> <p>Some of our current workforce have migrated from other countries in the EU and the continued recruitment of world class talent is critical to our success in a technical and specialised industry.</p> <p>Another challenge continues to be free trade into the EU. Around one third of our customers are located in EU countries and so any actual or perceived barriers to free trade are an obvious area of concern.</p>	<p>We are actively monitoring the UK Government's position on the various matters for negotiation and the potential impact these may have on Xaar.</p>	Possible	Medium	→

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7. Loss of manufacturing facility	① ② ③	<p>We have one manufacturing facility in Huntingdon; and we rely on our strategic partners for key products and for key components for 1201, 5501 and 5601.</p> <p>If our manufacturing site or our partners' manufacturing sites were to experience an incident this could have operational and supply chain issues for the business.</p>	<p>Formal disaster recovery plans are maintained and reviewed.</p> <p>We are also able to use manufacturing partners to alleviate some operational issues.</p> <p>The Group's risk is spread by diversification in products and locations. Insurance coverage is regularly reviewed.</p>	Remote	High	⬇️
8. Volatility in exchange rates	① ② ③ ④	<p>Global economic events and uncertainty may cause currencies to fluctuate and currency volatility contributes to variations in our sales of products and services in impacted jurisdictions.</p> <p>The risk is that there could be significant adverse movements in currencies which cause a foreign exchange loss, reducing profit.</p>	<p>There is a partial natural hedge for foreign currency movements.</p> <p>Our treasury policy allows us to hedge.</p> <p>Cash flows are constantly reviewed and action is taken when appropriate.</p>	Possible	Medium	➡️
9. Partnerships	② ③ ④	<p>Companies with whom we have alliances in certain areas (i.e. manufacturing/research) may already be or may become our competitors in other areas. In addition, companies with whom we have partnerships may also acquire or form alliances with our competitors, which could reduce their business with us. If we are unable to effectively manage these complicated relationships with alliance partners, our business and results of operations could be adversely affected.</p>	<p>During 2016 a new role (Director of IP) was introduced. Part of the role focuses on the extensive review of legal agreements and in particular IP with such partners. Maintaining healthy partnerships is a key part of the role of our Chief Technical Officer.</p> <p>Partnerships are constantly reviewed both internally and with those partners at the most senior level.</p>	Possible	High	⬆️