2020 Half Year Results and Strategy Update

30th September 2020
Agenda

1. Introduction
2. Business Highlights
3. Financial Results
4. Business Review and Strategy
5. Business Unit Updates
6. Summary and Outlook
7. Q&A
8. Appendix
Introduction

John Mills
CEO

Ian Tichias
CFO

Graham Tweedale
General Manager – Printhead Business Unit
“We have great technology, great people and a large market opportunity. We will be successful”.

John Mills
CEO
Business Highlights

Strong progress made implementing new strategy across the different business units.

Change in go-to-market strategy for the Printhead Business has seen new accounts won and customers re-engaging. The restructured business is well positioned to navigate the current economic climate with clear product roadmap.

Engineered Printing Solutions has increased margins by 8ppt and reduced lead times.

First half revenue of £23.7m in line with H2 2019, down 7% year on year.

Gross margin of 27% in line with H1 2019, up 6ppt on H2 2019.

Positive EBITDA delivery from Printhead and EPS.

Strong balance sheet with net cash of £23.9m with positive cashflow from continued operations of £1.7m.

Corporate brand re-positioned to reflect new strategy and vision.

Positive outlook and continued focus on the medium-term objective of returning Xaar to profitable growth.
COVID-19 Response

Employee Engagement:
- Operations continued
- Adaption to working from home
- Workplace controls, flexible approach
- Weekly communication to all employees

Cash protection and self-help actions:
- Discretionary spend limited
- Travel ban and recruitment restricted to key roles
- Capex on essential spend only
- Focus on working capital management whilst implementing buffer stock to ensure continuity of supply for our customers
- Review office requirements and footprint

Social Response:
- Local community support
- Donating PPE to local NHS trust
- Manufacturing 3D printed headbands for protective masks
- No use of UK government subsidies
Financial Results
Group Financial Performance

<table>
<thead>
<tr>
<th>£M</th>
<th>H1 2020</th>
<th>H2 2019</th>
<th>H1 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Continuing Operations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>23.7</td>
<td>23.9</td>
<td>25.5</td>
</tr>
<tr>
<td>Gross Margin %</td>
<td>27%</td>
<td>21%</td>
<td>27%</td>
</tr>
<tr>
<td>aPBT</td>
<td>(3.9)</td>
<td>(7.8)</td>
<td>(2.5)</td>
</tr>
<tr>
<td>EBITDA</td>
<td>(1.3)</td>
<td>(5.5)</td>
<td>(1.0)</td>
</tr>
<tr>
<td>Cashflow¹</td>
<td>1.7</td>
<td>(3.5)</td>
<td>6.9</td>
</tr>
<tr>
<td><strong>Total Operations</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAT</td>
<td>(4.8)</td>
<td>(21.3)</td>
<td>(50.2)</td>
</tr>
<tr>
<td>Cashflow¹</td>
<td>(1.5)</td>
<td>(8.3)</td>
<td>(6.4)</td>
</tr>
</tbody>
</table>

1: Cashflow excludes £12m investment 3D made by Stratasys in H2 2019

- Revenue in line with expectations
- Gross margin 6ppt higher v H2/19
- PH and EPS EBITDA positive
- Cash inflows from Continuing Operations
- Thin Film costs and cash outflows driven legacy liabilities

- Working capital reductions driven by targeted inventory reductions and improved DSO
- Cash protection and continued investment
- Strong Balance sheet
Group Revenue

- Revenue flat v H2/19 down 7% y-o-y
- Printhead recovery driven by increased revenues in Asia and EMEA as the Ceramics/Glass & C&M and DTS sectors all grow
- EPS up on H1/19 but down on H2 – Pad Printing revenues declining due in part to COVID
- 3D machine sales commence in H2/20

Printhead Revenue by Sector

EPS Revenue by Technology

Revenue by Region and BU
## Divisional Performance: Printhead

<table>
<thead>
<tr>
<th></th>
<th>H1 20</th>
<th>H2 19</th>
<th>H1 19</th>
<th>H1 20 v H1 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>16.8</td>
<td>14.8</td>
<td>18.9</td>
<td>(2.1)</td>
</tr>
<tr>
<td>Gross Margin</td>
<td>23%</td>
<td>16%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>Total Opex</td>
<td>(5.4)</td>
<td>(9.2)</td>
<td>(7.0)</td>
<td>1.7</td>
</tr>
<tr>
<td>aPbt</td>
<td>(1.4)</td>
<td>(6.8)</td>
<td>(1.8)</td>
<td>0.5</td>
</tr>
<tr>
<td>EBITDA</td>
<td>0.4</td>
<td>(5.1)</td>
<td>(0.4)</td>
<td>0.9</td>
</tr>
</tbody>
</table>

- Revenue growth 13% v H2/19
- Gross profit increase with margin 7ppt higher v H2/19 and 1ppt higher than FY19
- Lower OPEX due to tight cost control and impact of restructuring implemented in H2/19
- R&D investment increase of £0.5m
- SG&A spend down £2.2m year-on-year
- EBITDA is now positive

*Positive EBITDA generation*
## Divisional Performance: EPS

- Revenue decline v H2/19 due to Pad printing machine sales impacted by COVID, 6% growth v H1/19
- Gross profit increases driven by improvements in the quotation process and increased cost controls
- Operating expenditure tightly controlled throughout H1
- Paycheck protection program loan of $1m taken out and expected to be forgiven in Q3/4. Cash and balance sheet remain strong

### EPS

<table>
<thead>
<tr>
<th></th>
<th>H1 20</th>
<th>H2 19</th>
<th>H1 19</th>
<th>H1 20 v H1 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>6.9</td>
<td>9.2</td>
<td>6.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Gross Margin</td>
<td>35%</td>
<td>29%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td>Total Opex</td>
<td>(1.8)</td>
<td>(2.5)</td>
<td>(1.9)</td>
<td>0.1</td>
</tr>
<tr>
<td>aPbt</td>
<td>0.5</td>
<td>0.0</td>
<td>(0.2)</td>
<td>0.6</td>
</tr>
<tr>
<td>EBITDA</td>
<td>0.6</td>
<td>0.2</td>
<td>0.0</td>
<td>0.6</td>
</tr>
</tbody>
</table>

*Increased gross margin by 8ppt*
Divisional Performance: 3D

<table>
<thead>
<tr>
<th></th>
<th>H1 20</th>
<th>H2 19</th>
<th>H1 19</th>
<th>H1 20 v H1 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Opex</td>
<td>(3.1)</td>
<td>(3.1)</td>
<td>(0.4)</td>
<td>(2.6)</td>
</tr>
<tr>
<td>aPbt</td>
<td>(3.0)</td>
<td>(3.2)</td>
<td>(0.5)</td>
<td>(2.6)</td>
</tr>
<tr>
<td>EBITDA</td>
<td>(2.4)</td>
<td>(2.4)</td>
<td>(0.4)</td>
<td>(2.0)</td>
</tr>
</tbody>
</table>

- Increased operating expenditure relates to the change in treatment of Development costs
- Capitalisation of R&D costs ceased & now being amortised
- 3D cash of £5.9m leaves the business well positioned to continued to fund investment in R&D and the Go-to-Market

Programme on target
Positive Operating Cash Flow

- Positive EBITDA from PH and EPS
- 3D investment
- Unwinding of Inventory and Receivables position
- PPP Loan in US in response to COVID
- Minimal CAPEX due to cash control
- Outflows linked to Thin Film liabilities present at the end of 2019

<table>
<thead>
<tr>
<th>Cash @ 31/12/2019</th>
<th>PH EBITDA</th>
<th>EPS EBITDA</th>
<th>3D EBITDA</th>
<th>Working Capital</th>
<th>PPP Loan</th>
<th>CAPEX</th>
<th>Other</th>
<th>Cash excluding Discontinued Ops</th>
<th>Discontinued Ops</th>
<th>Cash @ 30/06/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.3</td>
<td>0.4</td>
<td>0.6</td>
<td>2.4</td>
<td>3.4</td>
<td>0.8</td>
<td>0.6</td>
<td>0.3</td>
<td>26.9</td>
<td>3.0</td>
<td>23.9</td>
</tr>
</tbody>
</table>
Revenue is *in line with expectations* and v H2/19 showing stabilisation

Cost control management with *strong working capital discipline*

**Positive EBITDA and Operating Cash Flow**

Balance sheet is strong and provides *stable platform for future growth*

*Positive outlook and continued focus on the medium-term objective of returning Xaar to profitable growth*
Key Changes

Positives

- Passionate and committed World-class team of people
- Product with clear customer value
- Significant unexploited technology
- Learned lessons from the past
- EPS strong growth potential
- JV with Stratasys in the 3D space

Issues to address

- Xaar’s reputation has been damaged by withdrawal of 5601 and previous go to market strategies
- Customers not clear what direction of Xaar technology is taking
- Is Xaar’s bulk technology at the end of its life
- Found Xaar difficult to work with

How we are addressing the issues

- Clear Business model and route to market – Built for Partnerships
- Visibility of Bulk technology Roadmap – ImagineX Platform
- Communication changes to our customers – New Corporate Identity

‘The New Xaar’
Built for Partnerships

- Xaar will sell printheads that it has designed, developed and manufactured. It will not sell any third party printhead.
- Xaar will sell printheads to two customer types:
  - OEMs
  - User Developer Integrators (UDIs) who are developing their own digital solution
- Xaar will NOT sell through any competing channel.
- Xaar will become more vertically integrated provided it supports the primary business model of selling printheads to OEMs and UDIs. Additional capability will be achieved through either partnership, development of existing capabilities or acquisition.
- Primary markets are North America, Europe, Israel, China, Korea, Japan & Middle East.
- It is clear where there are gaps in our product offering and capabilities that will drive future acquisition strategies, as well as shaping the way that we organically grow the businesses and partnerships that we form.
Generation 2 IP – Introducing our ImagineX Platform
New Corporate Identity

Externally
- A clear signal to customers that Xaar has changed
- Re-attract attention through elevated communications
- The right management team in place to deliver new strategy

Internally
- Reflects the culture change and increases employee engagement
- Improve interaction and collaboration with internal stakeholders
- Establish and embed how we work and what we represent
Corporate Video
Printhead Division
Business Model Challenges

Dual route to market through OEMs and distributors caused confusion

- Sales of printheads via distribution has been stopped

Global pricing strategy established

- Clear understandable pricing with all customers

New value-add proposition for OEMs including technical and commercial support

- Product features explained as clear end user benefits
- Application development support

Rebuilding confidence in Xaar’s product range internally and externally

- Product development roadmap focused on market gaps and opportunities
- Expanding the capability of Xaar’s bulk technology and products
## Market Segmentation

<table>
<thead>
<tr>
<th>Markets</th>
<th>Ceramics and Glass</th>
<th>WFG and Labels</th>
<th>Packaging and Textiles</th>
<th>C&amp;M and DTS</th>
<th>3D and Adv Man</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reason for grouping</strong></td>
<td>Oil based inks with high pigment loadings</td>
<td>UV inks</td>
<td>Water-based inks</td>
<td>Different printing orientations size of the printhead</td>
<td>Challenging inks</td>
</tr>
<tr>
<td><strong>Market size for prinheads</strong></td>
<td>£100m</td>
<td>£500m</td>
<td>£100m</td>
<td>£100m</td>
<td>£50m</td>
</tr>
<tr>
<td><strong>Estimated Xaar share</strong></td>
<td>Ceramics 5% Glass &lt;1%</td>
<td>&lt;1%</td>
<td>0%</td>
<td>30%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Current product suitability</strong></td>
<td>High</td>
<td>Very low</td>
<td>Very low</td>
<td>Very high</td>
<td>High</td>
</tr>
<tr>
<td><strong>Key product requirements</strong></td>
<td>Robust nozzle Plug and play</td>
<td>Robust nozzle plate High speed 400-1200dpi</td>
<td>Water compatible 400-1200dpi</td>
<td>Long throw distance Material compatibility</td>
<td>Material compatibility 1200dpi High speed High Viscosity</td>
</tr>
<tr>
<td><strong>Market positions (management estimate)</strong></td>
<td>Dimatix SII TOSHIBA</td>
<td>Dimatix SII RICOH KYOCERA</td>
<td>Dimatix TOSHIBA RICOH KYOCERA</td>
<td>SII Xaar</td>
<td>Xaar</td>
</tr>
</tbody>
</table>

2020 Half Year Results and Strategy Update
## Xaar Roadmap – Powered by our ImagineX Platform

<table>
<thead>
<tr>
<th>Feature/Product</th>
<th>Status</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuned actuator and AcuChip</td>
<td>Launched 2020</td>
<td>Plug and play</td>
</tr>
<tr>
<td>High Viscosity</td>
<td>Launched 2020</td>
<td>Jetting new materials for new applications</td>
</tr>
<tr>
<td>High Laydown</td>
<td>Launched 2020</td>
<td>5X increase in productivity</td>
</tr>
<tr>
<td>Duty-based Compensation</td>
<td>In test</td>
<td>Improved image quality and reliability</td>
</tr>
<tr>
<td>High Frequency (48kHz)</td>
<td>In test</td>
<td>40% increase in speed and productivity</td>
</tr>
<tr>
<td>Aqueous compatibility</td>
<td>In test</td>
<td>Water based conductive inks and fluids</td>
</tr>
<tr>
<td>High Frequency (57kHz)</td>
<td>In test</td>
<td>60% increase in speed and productivity</td>
</tr>
<tr>
<td>Increased throw distance</td>
<td>In development</td>
<td>Image quality on curved media and reduced risk of head strike</td>
</tr>
<tr>
<td>Robust nozzle plate</td>
<td>In development</td>
<td>Image quality maintained</td>
</tr>
<tr>
<td>Ultra High Frequency (150+kHz)</td>
<td>In development</td>
<td>Three fold increase in speed</td>
</tr>
<tr>
<td>High Density Actuator</td>
<td>In development</td>
<td>Higher native resolution up to 1440npi</td>
</tr>
</tbody>
</table>

Funded within our planned operational spend
Expect delivery phased over the next 5 years
Printhead Summary

- World-class and award-winning manufacturing facility in the UK
- Well invested with the ability to scale capacity in the current footprint
- Leadtime operating model established significantly reducing inventory exposure
- Distribution model stopped, route to market and relationships re-established with OEMs
- ImagineX Platform delivers new product capabilities that increases the number of addressable markets
- Positive growth in revenue from new business with new and existing OEMs
EPS Division
EPS Overview

– **EPS design, develop and manufacture** bespoke print systems that are integrated to their customers production lines

– Good reputation in the US market leading for **high quality, reliable bespoke solutions**

– **Revenue growth** in recent years has not led to an increase in profitability and cash generation:
  
  – Lack of control in the quotation process leading to project overruns
  
  – Requirement to develop new solution for each customer leading to lower margins
  
  – Lack of focus on securing aftermarket ink and spares revenue

– Objective: **Increase revenue and margins without increasing R&D costs**

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**Implemented Modular Strategy**

Each bespoke system now leads to a standard machine that can be **configured for other customers with similar requirements**

Solution to new projects built around existing core system with pre and post print operations coming from **portfolio of pre-developed items**

Only if sub-system doesn’t exist will team **design new functions** (and then add it to the portfolio)
Modular Strategy - Starting to pay off

Now have two core print products XD70 and XD360

Improved margins by 8%

Defined core product

Team now has more focus

At present these form the basis of the over 80% of digital print projects

With lead time on project being reduced from 29 weeks to 22 weeks

Will allow more effective marketing to generate new business in adjacent markets

Securing aftermarket revenue. We will start to offer service packages including spares and ink on a contract basis to build annuity revenue stream
EPS and Xaar – The Future

Good cost control in place and improved margins have seen improvement in profitability

The future will see greater group integration of Business Units and the portfolio of products that EPS sell will form part of the vertical integration strategy of Xaar

Current trading – many projects pushed out till 2021 leading to a more challenging second half

Clarity of EPS fit in Xaar group – their customers are what we now call UDIs

Current opportunities exist for EPS to supply either a print engine or full system
Xaar 3D Division
Our core technologies are predominantly based on unique implementation of a powder bed fusion process (High Speed Sintering). Inkjet printheads and infrared heaters are used to manufacture products layer by layer from polymer powder materials at much higher speeds than other additive manufacturing processes.

Stratasys has the option to acquire remaining 55% stake of Xaar 3D at a valuation of $33m within 3 years of signing the deal in October 2019.

2020 objectives is for successful testing & shipping machines to Stratasys for beta trials whilst establishing go-to-market teams and infrastructure prior to product launch.

Despite some delays linked to COVID-19 testing has gone well and have made good progress against our targets.

<table>
<thead>
<tr>
<th>Stratasys</th>
<th>Xaar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand Leader in 3D Printing</td>
<td>High speed sintering knowhow and IP including printer design, process and thermal management</td>
</tr>
<tr>
<td>Extensive commercialisation experience in multiple segments</td>
<td>Experience in designing powder bed solutions with low cost industrialization</td>
</tr>
<tr>
<td>Best global additive go-to-market selling over 40001 industrial systems a year</td>
<td>Leading supplier of piezoelectric industrial printheads</td>
</tr>
<tr>
<td>Strategic partnerships in key verticals</td>
<td>HSS IP, process, powders &amp; ink knowledge</td>
</tr>
<tr>
<td>&gt;20K global installed base</td>
<td></td>
</tr>
</tbody>
</table>
Summary – Key Achievements

**EBITDA positive in PH & EPS**

- Built stable platform for the business:
  - Implemented re-structure
  - Cost discipline
  - New commercial strategy
  - Re-engagement of lost customers and gaining new customers
  - Strengthened management team in key positions
  - Employee engagement with common vision
  - Clear value proposition for bulk products and technology

**Launched ImagineX Platform**

- which will lead to new range of products across all market sectors

**EPS business model change**

- resulting in margin improvement & reduced lead times

**Strong working relationship with Stratasys**

- keeping Xaar 3D on schedule

**New corporate identity**

The New Xaar
Summary – Outlook

2020 priorities

- Continue to operationally and financially stabilise the Group – clear focus to ensure we grow from a stable footing
- Neutral operational cash flow in 2020 (excluding Xaar 3D)
- Ensure Xaar 3D executes on product delivery to Stratasys

Medium term aspirations

- Ambition grounded in philosophy of presenting achievable goals focused on delivery
- Profit “drop-through” will continue to be healthy given well invested facilities
- Return to profitability 2022

Further Upsides

- Delivery on product roadmap unlocks significant market opportunities offering huge upside potential
- Agility and flexibility to capitalise on significant new opportunities as they arise
- Communication of ImagineX Platform increases market share in existing customer base
“Great technology, great people and a billion dollar market”

John Mills
CEO
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