ASX Announcement

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A3D Completes Technology Development Pathway, Reaches Commercial Readiness with Strong Independent Validation

Highlights:

- A3D core printing technology offers a solution to current market gap for a high productivity, mid-range, mid-cost machine
- Independently validated by respected additive manufacturing experts as "Best-in-class optics, controlling 4 x 1.5kW lasers for high productivity printing"
- Printing demonstrates qualified parameters deliver to customer requirements for quality, functionality, and production cost
- Next phase of the go to market strategy to be launched at upcoming AGM (11 November 2021)

Aurora Labs Limited ("A3D" or "the Company") (ASX:A3D), is pleased to announce the completion of Milestone 4 and the Technology Development Pathway.

A3D Chief Executive Officer, Peter Snowsill, said that completing Milestone 4 was a significant step for Aurora Labs.

"With Milestone 4 we have demonstrated the validity of our technology and printing outputs. Critically, our technology fits a gap in the market for a high productivity, mid-range, mid-cost machine, which is a market segment with substantial growth potential as additive manufacturing use expands.

Now that we have expert opinion and validation from a reputable third party, it is time to move into the next phase, commercialising A3D technology. We are exploring and refining our thinking around our go to market strategy and the best partnership models to pursue for the most effective pathway to market for the technology. We will have an update for shareholders around our strategy to this effect at the forthcoming AGM," Mr Snowsill said.

HISTORY

The Technology Development Pathway was launched in July 2020 by a refreshed A3D Board and Executive, supported by a leaner technical team dedicated to reaching the commercial ready status, which is now achieved. In 2020, the Company faced several challenges. The impact of Covid-19 pandemic and other factors promoted an immediate internal restructure, moving away from the previous manufacturing and distribution model to a focus on developing commercial ready metal printing

technologies for partnerships and licensing. The pathway was developed to define and achieve commercial readiness for the Company's core technology, laying out key deliverables in a lily pad style sequenced in 4 Milestones.

MILESTONES 1-3

As the technology developed, the Development Pathway evolved, progressively refining to reach its ultimate target of proving the commercial viability of the A3D signature multi-laser, high-power system. Milestones 1 & 2 covered necessary groundwork for establishing print parameter sets and implemented a fume-extraction system upgrade to the RMP-1 Beta prototype, enabling subsequent technology development.

At Milestone 3, the Company had a clear picture of the core technology offering, and its potential applications. Milestone 3 printing outcomes qualified the A3D 1.5kW parameter set to industry standards in 316L stainless steel and defined the system as the Company's primary technology package. With an increased print production rate from power input exceeding any known competitor laser power, the results opened the gateway to meet customer quality requirements, provide improved performance, and reduce cost for complex parts.

	Milestone 1 ✓	Milestone 2 ✓	Milestone 3 ✓	Milestone 4 ✓
	Phase 1 Print Parameter Testing	**Fume Extraction System Upgrade**	**Phase 2 Print Parameter Testing**	**Customer Print Specification**
	Stable operation baseline	System upgrade	Improved stable operation baseline	Full-size customer prints
	Validated performance specifications	Measured performance improvement	Validated optimised performance specifications	Customer requirements met for quality, functionality, production cost
Power	300-1500W	1500W	1500W	4 x 1500W
Density	>99%	>99%	≥99.5%	≥99.5%[i] ≥99.0%[ii]
Tensile	ASTM[iii] Compliant	ASTM Compliant	ASTM Compliant	ASTM Compliant
Build rate[iv]	Low	4 x increase	54cc/h per laser[i]	95cc/h per laser[ii]
Material	316L SS	316L SS	316L SS	316L SS
Parts	Tensile Bars /Cubes	Valve trim	Impellers	BAE trial parts AdditiveNow gland followers AdditiveNow valve trims

Table of key achievements by milestone

COMMERCIAL READINESS

A3D defines reaching Commercial Readiness as having satisfied four main indicators:

- Customer Printing
- Third Party Validation and Assessment
- Intellectual Property (IP) Management
- Engagement with Technology Partners

CUSTOMER PRINTING

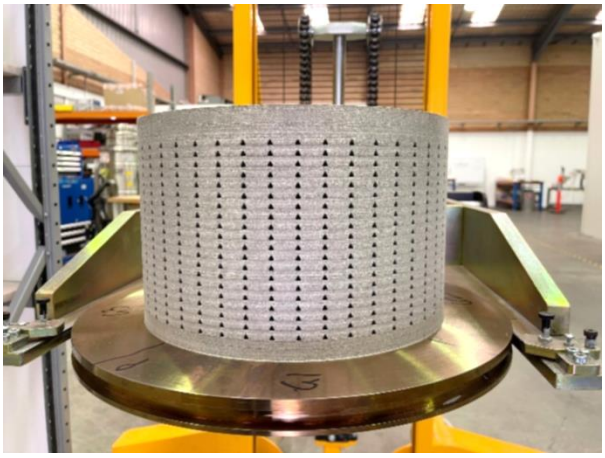
Through a series of successful projects, partially detailed below, the Company has demonstrated and qualified[i] procedures and parameters to produce parts to meet customer requirements.

Customer prints delivered in the Milestone 4 period included trial stainless steel components for BAE Systems Maritime Australia (BAESMA) for the Hunter Class Frigate Program (HCFP), a series of gland followers for an AdditiveNow client, and trial valve trim print investigation for AdditiveNow. Trial printing has afforded A3D the opportunity to work with customers to utilise qualified procedures and investigate development parameters to optimise production rates to achieve economic, "fit for purpose" quality for specific parts and their applications. Through this, the technical team have gained insight into the capabilities of the prototype printer and the investigative and design optimisation processes that must be undertaken for powder bed fusion metal parts printing success.

The various parts printed in the final phase of the Development Pathway demonstrate the effectiveness of the A3D 4-laser 1.5kW parameter sets over a range of components and their unique requirements.

CEO Peter Snowsill said;

"We're satisfied that we are printing effectively with 1.5kW laser power. We have demonstrated the capability to dedicate the lasers to one large print or apply them to lase multiple parts across the print bed. We've completed large volume and weight prints up to 70kg using our parameter sets. Crucially, the system is achieving high production rates while maintaining part quality to customer specs and the industry standard."



Gland followers (L) and large valve trim (R) printed using 4-laser 1.5kW parameter sets on the RMP-1 Beta

View the Milestone 4 printing video

The Company has ongoing engagement with customers, directly and via AdditiveNow, to identify broader print applications for its core technology offering, with a particular focus on industrial stainless steel parts including valves, pumps, and heat exchangers. The Company is focussing on this material and these part types due to their prevalence in local industries including mining and oil & gas.

THIRD PARTY VALIDATION

To reach this crucial stage, the Company engaged with respected Additive Manufacturing (AM) consulting firm The Barnes Global Advisors (TBGA) for a comprehensive analysis of the entire suite of technologies under development. TBGA specialise in systems, techno-economics, and strategy in the AM space.

Summarising the outcomes of the assessment, TBGA said;

"TBGA conducted a technology assessment of A3D's Laser Powder Bed Fusion (L-PBF) solution including high powered lasers, continuous lasing, scan strategies, and software/firmware elements.

The A3D team exhibited a high level of expertise and collaboration, allowing TBGA to critically assess each subsystem of the beta machine. We examined software and hardware designs, specifications, scan speed trials, and printed parts (including metallurgical results). We then derived process economic models to compare the A3D beta machine's productivity against industry L-PBF solutions.

Out of this assessment, TBGA concluded:

- *Aurora Labs has demonstrated best-in-class optics, controlling 4 x 1500W lasers for high productivity printing.*
- *Aurora Labs would benefit from partnerships with the following solutions or expertise: industrialized equipment design and production, process monitoring solutions, and user interface platforms.*
- *All subsystems necessary for producing parts are within Technology Readiness Level 6 to 7.*

TBGA sees A3D's technology contributing to a highly productive, affordable solution for the multi-laser market."

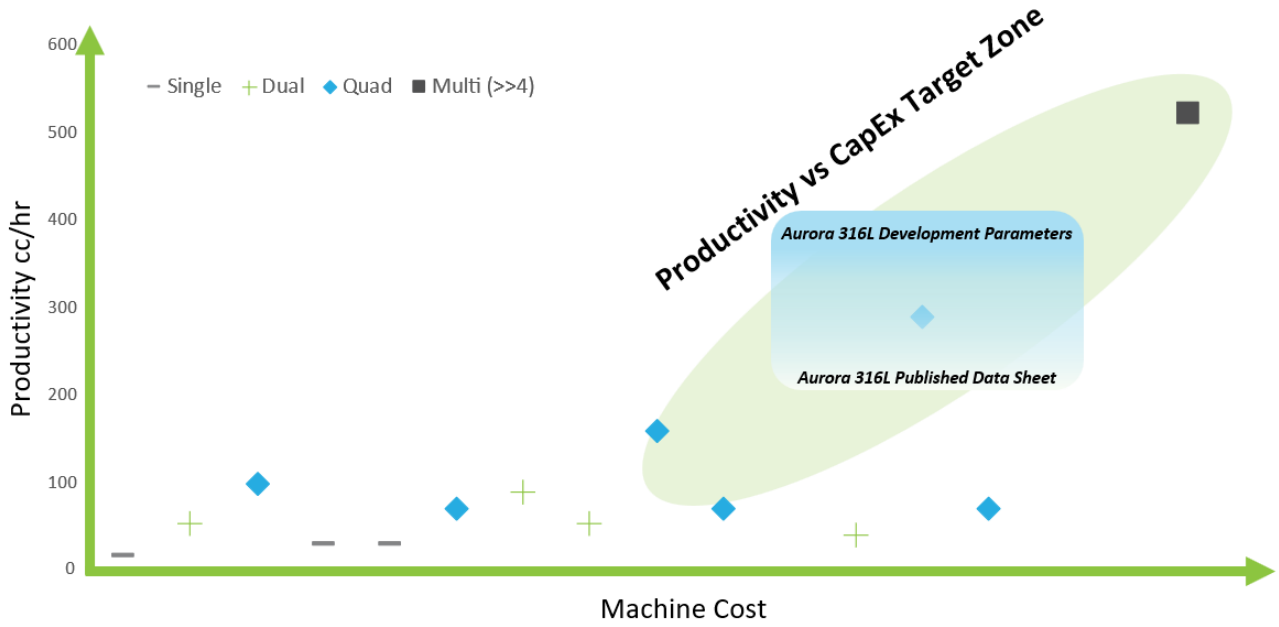
Technology Readiness Level Definition

TRL 6 – Prototype System Verified.
System/process prototype demonstration in an operational environment- (Beta prototype system level).

TRL 7 – Integrated Pilot System Demonstrated.
System/process prototype demonstration in an operational environment- (integrated pilot system level).

Note that TRL 8 & 9 are achieved through full product commercialisation including system incorporated in commercial design and system proven and ready for full commercial deployment.

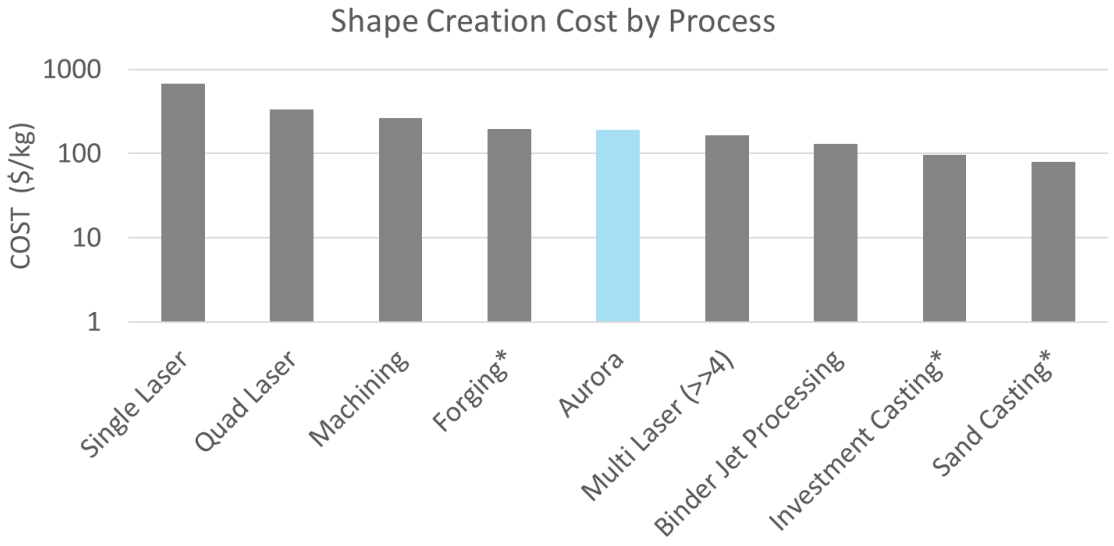
Source: Guidelines published by Australian Government Department of Defence Science and Technology Group



Laser PBF Machine Landscape
Source: The Barnes Global Advisors

The analysis indicates that A3D technology has significant potential to win customers and deliver on commercialisation in the current L-PBF market with an offering that delivers industry standard part density at highly productive build rates. Customer demand for increased productivity has led to growth in multi-laser machine demand. TBGA find that A3D offers a solution to a current market gap for high productivity, mid-range, mid-cost machine with a process competitive against both AM and traditional processes.

The assessment includes TBGA's recommendations for A3D as it enters the commercialisation phase, harnessing the need for high-productivity, multi-laser printing solutions in local industries such as mining and heavy equipment.



Cost Comparison for Shape Creation Processes (Valve Trim)
Source: The Barnes Global Advisors

A3D Chairman Grant Mooney, said;

"The Barnes endorsement is the cornerstone of Milestone 4's success. We were clear that independent, third party validation processes and scrutiny had to be applied to the team's thinking for us to be confident of our achievement of the goal. We are pleased to have our belief that we are a local solution for major regional industry ratified.

The technical team has worked extremely hard to earn these commendations. We as a Board are impressed with what we have witnessed over the various milestones, and the progression of the technology as a whole. The work TBGA has done confirms the merit of A3D's place in the AM space and sets a series of immediate steps for us to launch into the next phase. We look forward to updating shareholders at our AGM."

IP MANAGEMENT

Ongoing IP management for growing and defending new and existing A3D technology is recognised as a vital component of the overall commercialisation strategy. Protections are strengthened through consistent assessment and capture of inventions and filing and managing patents where appropriate. A3D's IP Management has successfully managed identification and packaging of IP for licensing opportunities and protects the company in those future partnerships and transactions. A3D is pursuing protection in 7 key "patent families" including print process techniques to provide future enhancement to the current multi-laser, high power technology.

ENAGAGEMENT FOR PARTNERSHIPS

Conversations around commercial opportunities for the high-power offering as a technology package are in progress with peers and potential partners. Collaborations have value in future research & development and joint printer development, and lead to potential partnerships for licensing for manufacture and distribution. Options for partnership include existing powder bed fusion printer manufacturers, or original equipment manufacturers exploring expansion into the L-PBF market, consistent with TBGA's findings regarding the benefit to A3D working with specialists in industrialised equipment design and production, process monitoring solutions, and user interface platforms. The Company continues discussions with various entities across these categories.

Ends

Approved for release by the Company's Board of Directors.
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ABOUT AURORA LABS

Aurora Labs Limited ("the Company"), an industrial technology and innovation company that specialises in the development of 3D metal printers, powders, digital parts and their associated intellectual property.

Aurora Labs is listed on the Australian Securities Exchange (ASX: A3D)

FORWARD LOOKING STATEMENTS

This announcement contains forward-looking statements which incorporate an element of uncertainty or risk, such as 'intends', 'may', 'could', 'believes', 'estimates', 'targets' or 'expects'. These statements are based on an evaluation of current economic and operating conditions, as well as assumptions regarding future events.

These events are, as at the date of this announcement, expected to take place, but there cannot be any guarantee that such events will occur as anticipated or at all given that many of the events are outside Aurora's control.

Accordingly, Aurora and the directors cannot and do not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this announcement will actually occur.

For further information, please contact: enquiries@auroralabs3D.com

[i] APS-006 Material Data Sheet
[ii] Development Parameters
[iii] American Society for Testing and Materials standard F3184 Standard specification for Additive Manufacturing Stainless Steel Alloy (UNS S31603) with Powder Bed Fusion
[iv] Theoretical melting rate bulk per laser