# Aurora Labs®

## Corporate Update
## November 2021

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# CORPORATE SNAPSHOT | ASX: A3D

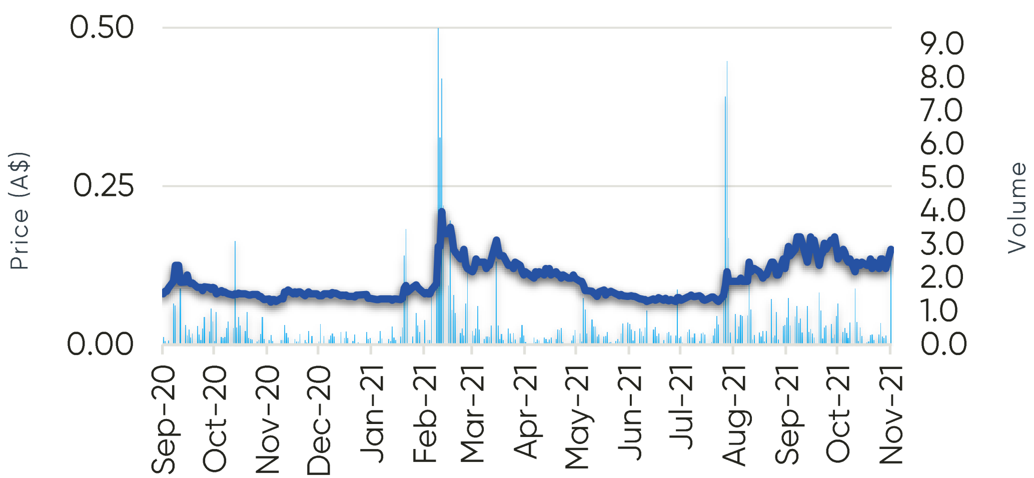
## MARKET CAPITALISATION[1]

| Total Ordinary Shares on issue | no. | 152.9 million |
|---|---|---|
| Share price (3 Nov 21) | A$/share | 0.14 |
| Market Capitalisation (3 Nov 21) | A$m | 21.40 |
| Cash (as at 30 Sept 21) | A$m | 1.33 |

## TOP SHAREHOLDERS (3 Nov 2021)

| Name | Shares Held | % of Shares on Issue |
|---|---|---|
| Barthen Beheer BV | 15,588,235 | 10.2% |
| David Budge | 8,548,932 | 5.59% |
| Top 20 Shareholders | 58,650,844 | 38.36% |

## SHARE PRICE / VOLUME HISTORY (A$; MILLIONS)




## KEY PEOPLE

| | |
|---|---|
| Grant Mooney | Chairman |
| Peter Snowsill | Chief Executive Officer |
| Mel Ashton | Non-Executive Director |
| Terry Stinson | Non-Executive Director |
| Ashley Zimpel | Non-Executive Director |

1. Excludes unquoted options and performance shares.

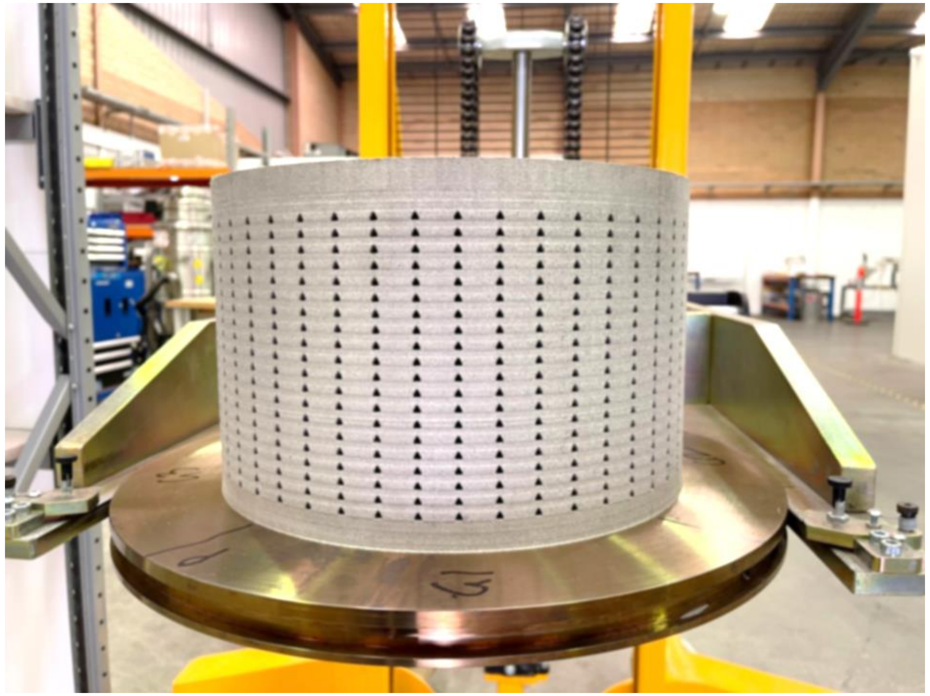
# A3D: WHO WE ARE

A3D is a West Australian industrial innovation company developing 3D metal printing technology. A3D has recently completed a Technology Development Pathway and is now transitioning to commercialisation.

The A3D Advantage:

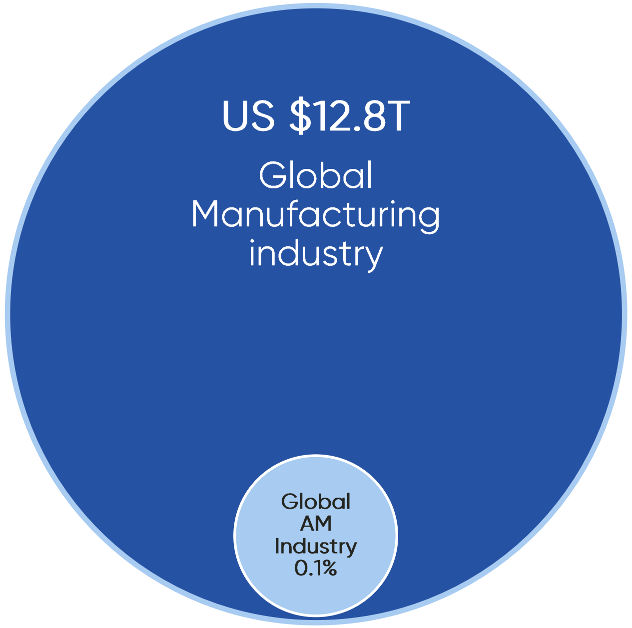
Breakthrough, high-productivity, multi-laser printing.

In-house AM expertise, unique local capability serving WA-based major industries.



# GLOBAL MARKET OPPORTUNITY

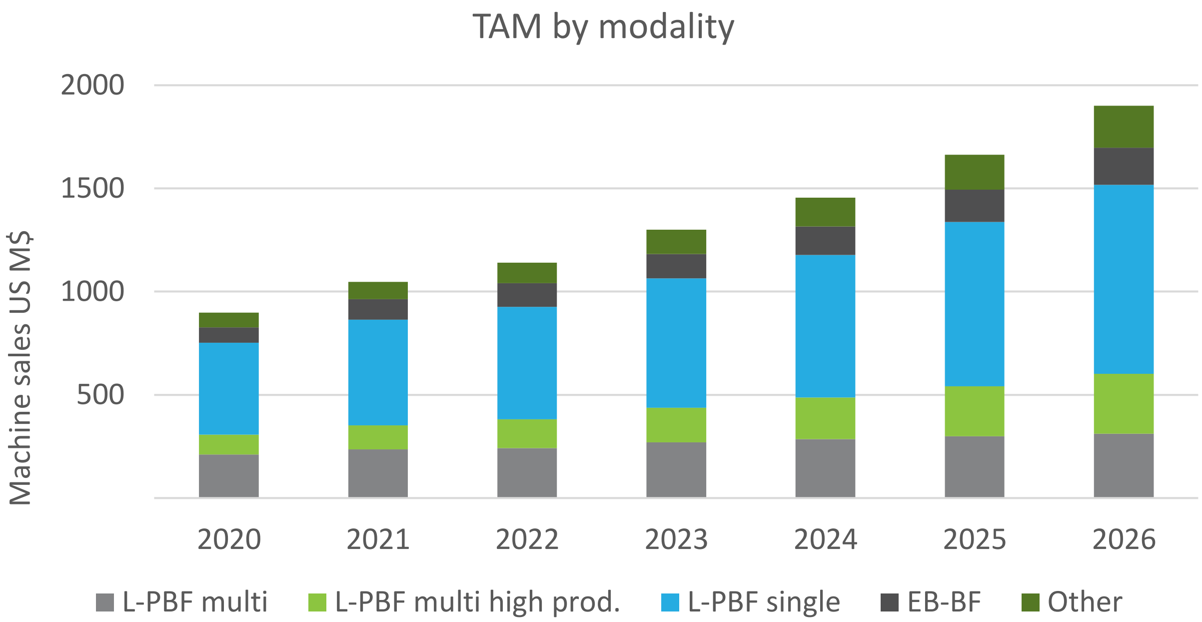
Large market, increasingly addressable based on high-power production advantage




In 1993 AM was worth $1b → In 2020 AM was worth $12.8b → By 2026 AM to grow to $47b*

In 2020, the worldwide sale of parts produced by AM reached USD $5.3 billion*

High-productivity, multi-laser market is predicted to triple within the next 5 years




Industrial powder bed fusion (PBF) addressable market**
>$300k sales price
High prod multi laser sub segment – ~$100M in 2021 growing to ~$300M by 2026

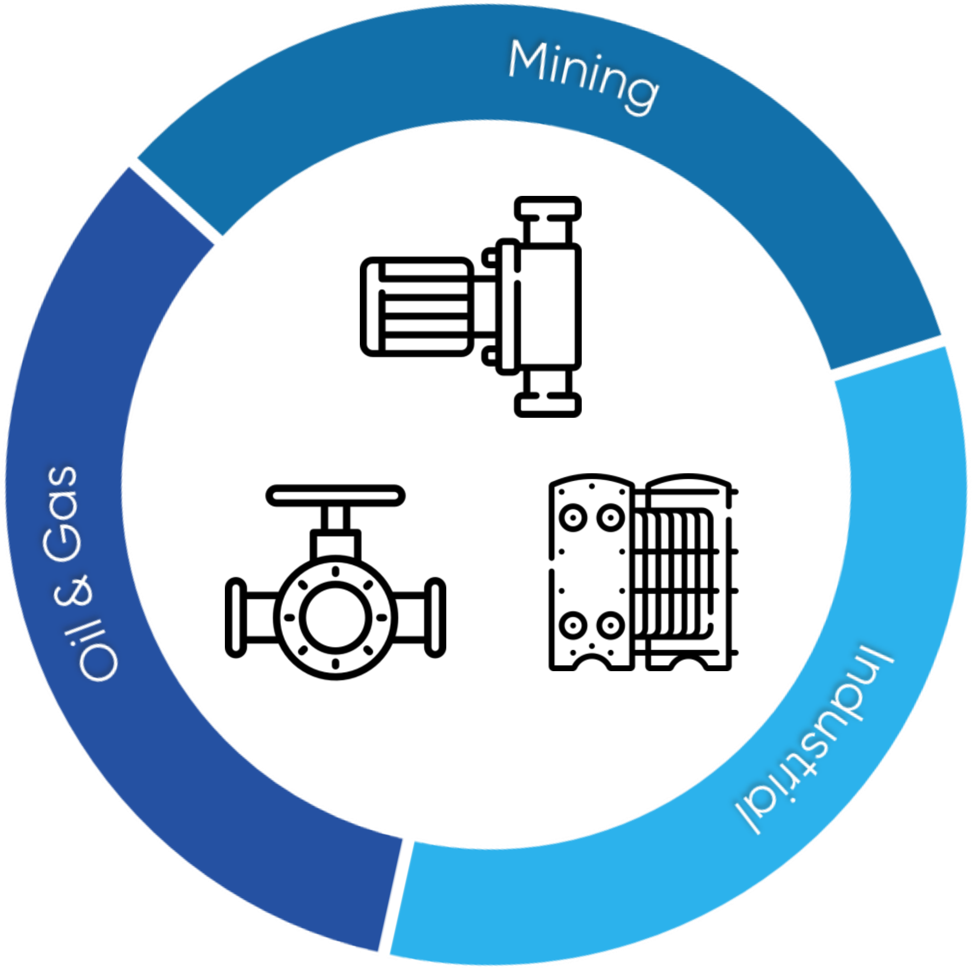


Slide references: * Wohlers T, Campbell I, Diegel O, Huff R. and Kowen J. Wohlers Report 2020: Wohlers Associates, Inc., Fort Collins, Colorado, USA. 2020
** The Barnes Global Advisors Integrated Demand Model

# TARGET MARKET

Major global equipment sectors including pumps, valves, and heat exchangers are identified as prime candidates for design for additive manufacturing.

Metal 3D printing has real applications in these sectors, which are relevant to multiple high value market opportunities, including oil & gas, mining and industrial.



# WHY 3D METAL PRINTING?

Local industries are asking for

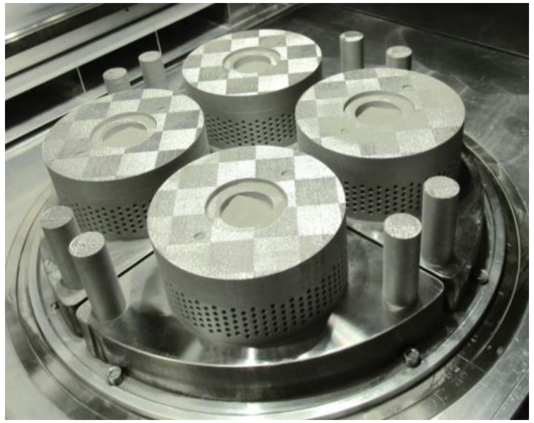
quality parts

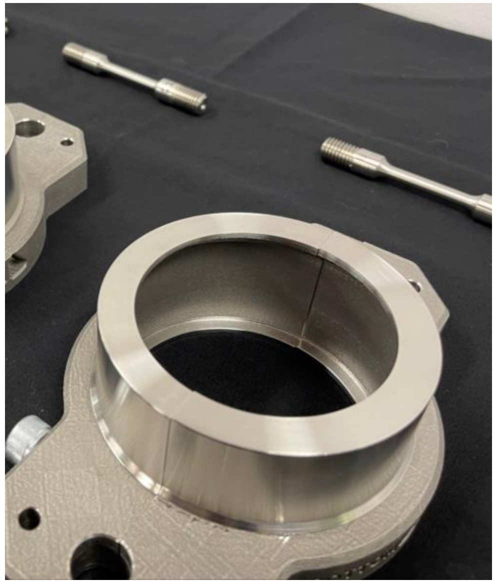
with complex internal features

which can dramatically

reduce replacement part lead times,
inventory levels,

and potentially improve performance.



A3D is targeting high-power printing resulting in high-quality parts to address this demand.

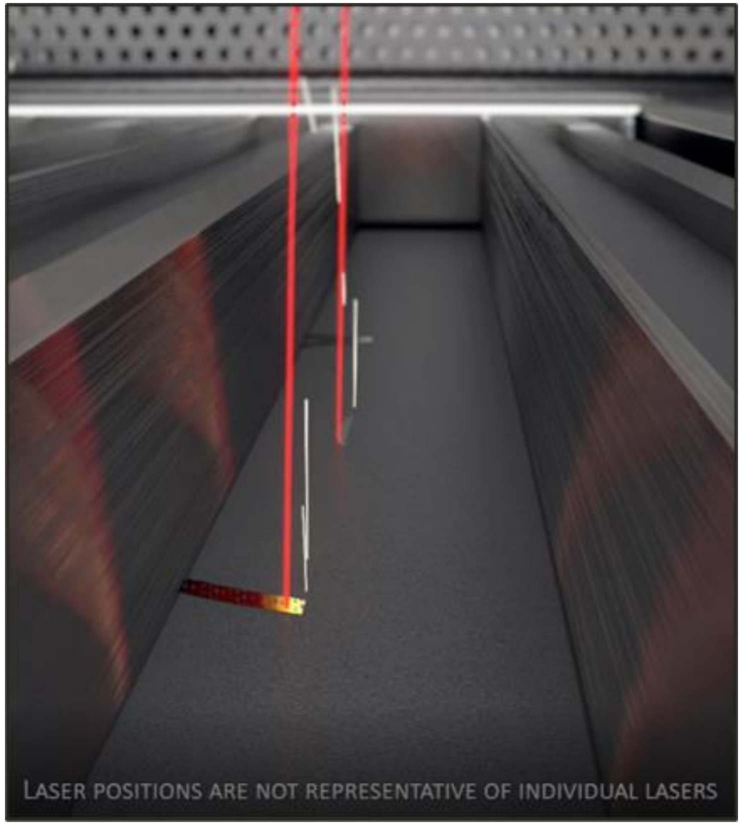
# THE TECHNOLOGY

A3D is developing a suite of powder bed fusion (PBF) 3D metal printing technologies with a focus on high-power lasers.

1.5kW laser printing exceeds known competitor laser power input by significant margins.

Through our multi-laser, high-power process, we are achieving industry standard qualified, high productivity printing, which can translate into cost savings for future customers.

View customer printing for Milestone 4 using the A3D 1.5kW parameter sets



# THE BARNES GLOBAL ADVISORS (TBGA)

A3D engaged with respected AM consulting firm TBGA for a comprehensive analysis of the technology.

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:

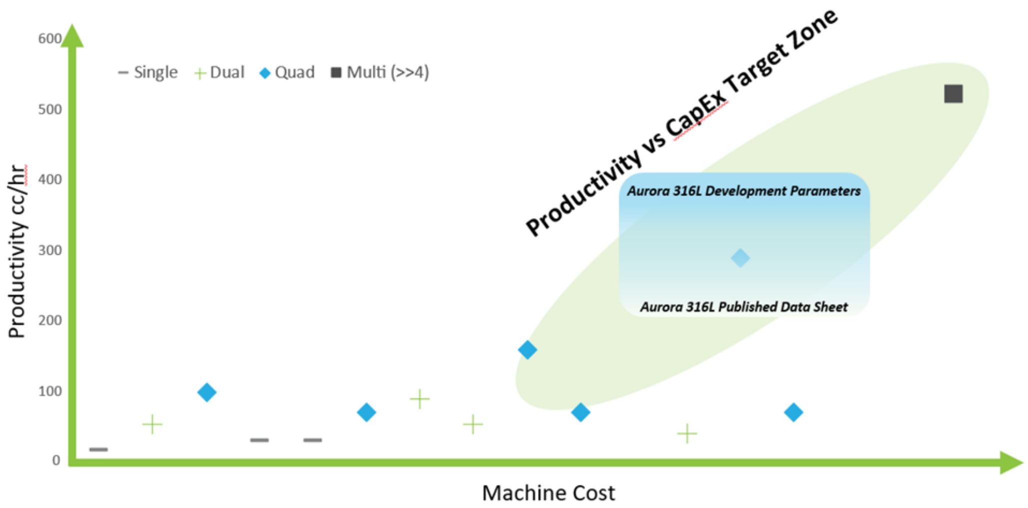
- Aurora Labs has demonstrated best-in-class optics, controlling 4 x 1500W lasers for high productivity printing.
- Aurora Labs would benefit from partnerships with the following solutions or expertise: industrialized equipment design and production, process monitoring solutions, and user interface platforms.
- 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.

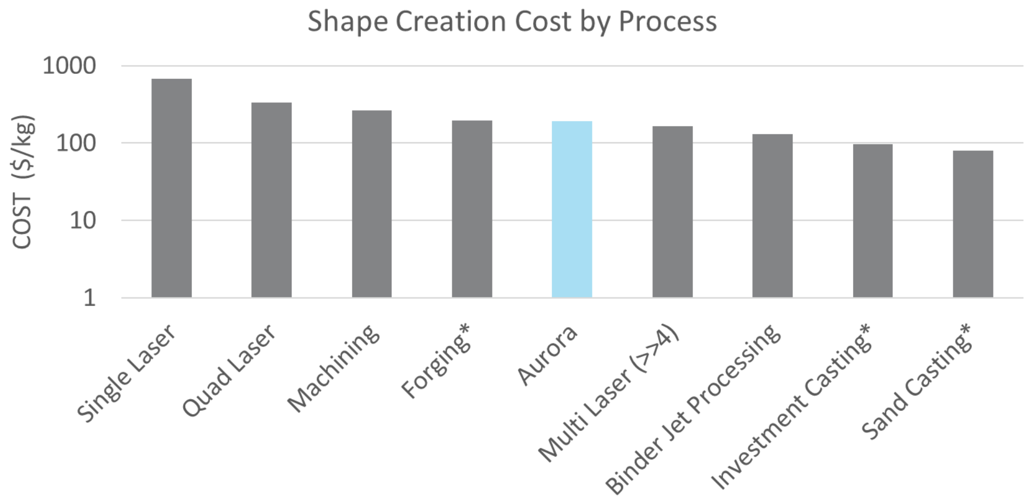
THIRD PARTY
VALIDATION

# THE BARNES GLOBAL ADVISORS (TBGA)

## Laser PBF Machine Landscape




## Cost Comparison for Shape Creation Processes




A3D process is competitive against AM & traditional processes for the same design and could compete with lower cost processes with DfAM.

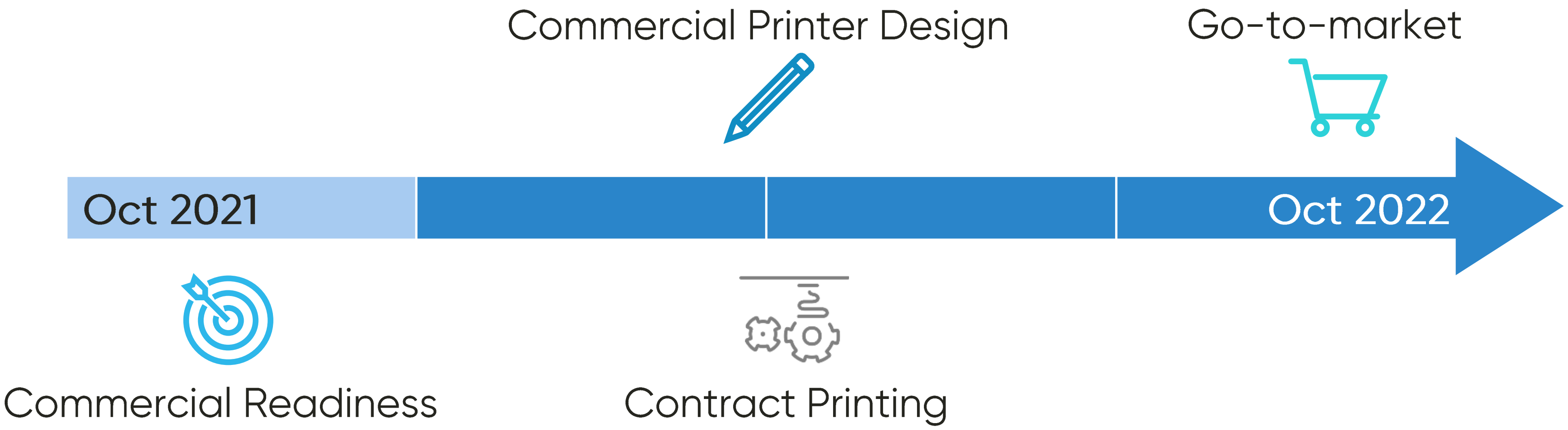
# COMMERCIALISATION STRATEGY

Commercial Readiness Milestone 4 complete, validated by independent assessment and successful customer printing

Commercial Printer Design Design for manufacture of commercial printer

Contract Printing Demand-driven printing with current prototypes and pre-commercial RMP-1

Go-to-market Partnerships & contract manufacture



# COMMERCIAL READINESS JOURNEY

## Technology Development pathway completed October 2021

Pathway commenced Jul 2020

**Oct 20 — Phase One Print Parameter Testing**

- Stable operation baseline
- Validated performance specifications

**Feb 21 — Fume Extraction System Upgrade**

- System upgrade
- Measured performance improvement

**Jul 21 — Phase Two Print Parameter Testing**

- Improved stable operation baseline
- Validated optimised performance specifications

**Oct 21 — Customer Print Specification**

- Full size customer prints
- Customer requirements met for quality, functionality, production cost

Oct 2021

# COMMERCIAL PRINTER DESIGN

## Design for manufacture of commercial printer

1

### A3D HIGH-POWER CORE TECHNOLOGY

- High-power lasers & optics
- Advanced fume extraction
- In-house software & firmware
- Material print parameters

2

### THE BARNES GLOBAL ADVISORS

- Technology assessment & benchmarking

3

### PARTNERSHIP

- Industrial machine or 3D printer manufacturer
- Contract manufacturer
- Integrated printer design, BOM and cost

# CONTRACT PRINTING

Revenue from demand driven ramp-up
of AdditiveNow & A3D client printing
Current prototypes & Pre-commercial RMP-1

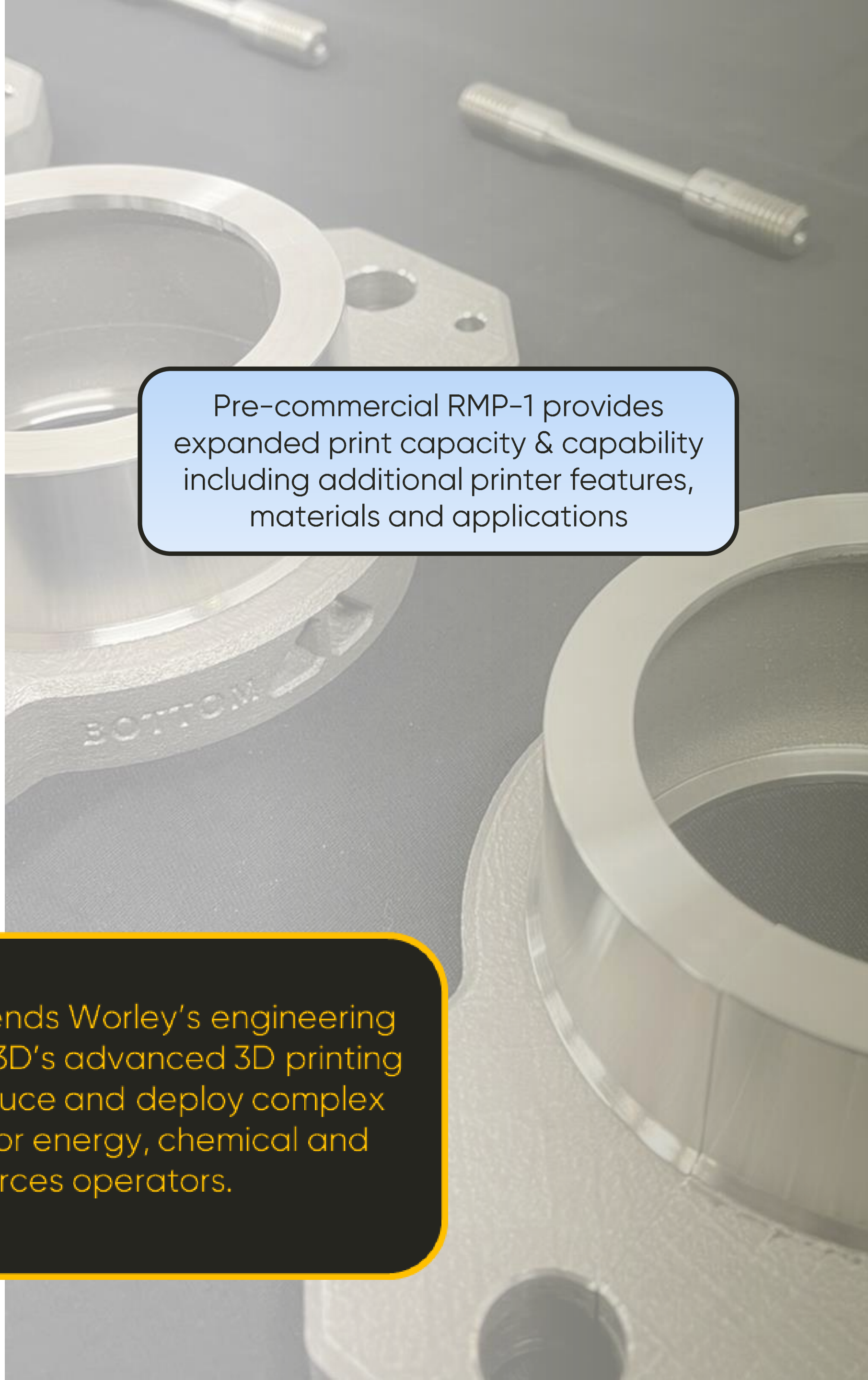
Oil & Gas

Mining & Industrial

Defence

AdditiveNow

Worley
energy | chemicals | resources
+ Aurora Labs®



Pre-commercial RMP-1 provides expanded print capacity & capability including additional printer features, materials and applications

AdditiveNow blends Worley's engineering expertise with A3D's advanced 3D printing to design, produce and deploy complex components for energy, chemical and resources operators.

# A3D / AdditiveNow PARTNERS

GRÄNGES

DNV·GL

BAE SYSTEMS

AdditiveNow

CAMERON
A Schlumberger Company

FMG Fortescue
The New Force in Iron Ore

SULZER

Chevron

SEVERN
GLOCON TECHNOLOGIES

RioTinto

IMMENSA
TECHNOLOGY LABS

Woodside

AML3D

Curtin University

ALCOA

# GO-TO-MARKET

**Licensing IP or Joint Venture**
favoured due to A3D expertise, time to revenue, investment and risk to achieve

**Commercialisation options**
include licensing of IP, JV, machines sales, A3D built printers

**Potential partners**
- Laser-PBF OEM with market gap
- AM OEM with no Laser-PBF offering
- Machine builder expanding to AM

# WHY INVEST IN AURORA LABS?

### Technological advantage

High-productivity, affordable solution for the multi-laser metal printing market

### Demand driven printing

Matching high-productivity printing to deliver customer cost savings, harnessing WA industry demand for local capability

### Growing AM market

Capitalise on growing $12.8b global AM market with focus on major parts sectors, e.g. heat exchangers, pumps and valves within regional oil & gas, mining and industrial markets

### In-house AM skills with proven experience

Leading WA printing technology development, research capability, and service delivery

### Go-to-market strategy

Collaboration or joint venture with machine builder for commercial printer

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