Leading Additive Manufacturing (AM) company that supports a growing and multi-national blue-chip client base with their 3D metal printing requirements

Full range of in-house metal printing services from design and engineering, material advisory, diagnostics and testing to printing and post production

Proprietary novel technology and processes that produce faster, cheaper, better and more sustainable AM parts and eco-system services
BENEFITS OF OUR TECHNOLOGY

EXTENDS LIFESPAN OF OLDER EQUIPMENT
- Saves entire systems by reverse engineering and printing obsolete parts
- Saves $000’s in replacement costs

REDUCES STORAGE & INVENTORY COSTS
- Reduces storage costs and delivery times by printing locally on demand
- Up to $5k per part and months faster

IMPROVES PRODUCTIVITY
- Improves manufacturing productivity by printing complex parts in one piece
- ~10-20% savings of productivity on suitable parts

REDUCES WASTE
- Reduces material waste by building additively not subtractively
- Up to 20-30% on high value parts

IMPROVES PART PERFORMANCE
- Improves part performance and longevity by re-designing parts for AM
- ~15-30% material savings

Examples:
- Swivel joint printed in Stainless Steel 316L on powder bed printer
- Pump impeller printed in 25% of legacy manufacturing
- Trim printed in Inconel 625 with intricate internal channels
- Air filter parts printed in 50% less time at 40% of cost of traditional manufacturing
- Hanger designed with bio mimicry lattice to reduce weight by 30%
MORE THAN AN ADDITIVE MANUFACTURER

CLIENT LAYER

Custom offerings to drive revenue growth

INTELLIGENCE LAYER

Produce cheaper, faster, better and more sustainable parts at scale – leveraging data on >20,000 parts designed and printed

INTEGRATION LAYER

Integrate 3rd party printers, software and materials

Site diagnostic to identify suitable parts for AM

AM production management

AM quality management system

AM design system

HydroAM
Fast cheap post production

VisioAM
Hybrid printing on DED printers

StoreAM
Huge structured digital library

SecureAM
Cloud IP hash chain security and access

FacilityAM
Setting up and running client AM facilities

DataAM
Production data and analytics

MaterialAM
Machine learning accelerated material development

PRINTERS
Powder bed fusion
Directed energy deposition
Multi-jet fusion
FDM

SOFTWARE
AM design software
Simulation software
Design software

MATERIAL
Traditional materials
AM specific material
OUR MANUFACTURING FACILITIES

SCIENCE PARK AMC

- **Powder Bed Fusion (SLM)**
  - Highly detailed, small (30cm) metal parts.
  - Wide range of metals

- **Blown powder Directed Energy Deposition (DED)**
  - Large format (upto 1.5m) faster printer with resolution of +/- 1mm; machining to net shape

PORT AMC

- **Hybrid Wire Arc (H-WAAM) DED printer**
  - Extremely large and fast printer for large lower resolution parts with machining to net shape

RANGE OF CUTTING-EDGE PROPRIETARY PRINTERS

- **Polymer print farm (FDM)**
  - 20 FDM printers for ABS, PVC, Nylon etc

- **Multijet fusion (MJF)**
  - Industrial nylon printing
FULL SERVICE PROVIDER

IN-HOUSE DESIGN & ENGINEERING

- In-house design and engineering
- Full range of industrial design software
- Design optimisation and DfAM capability

EXTENSIVE EXPERIENCE IN DESIGN AND PRODUCTION OF PARTS

HIGH FOCUS ON QUALITY

- Production facility ISO 9001 certified
- One of only 6 manufacturers certified by Lloyds Register to print metallic parts
- On working groups of standard organisation
SELECT CUSTOMERS

Blue-chip client base including multi-national companies and government entities across a variety of sectors including the oil and gas, defense and marine services industries.
3D METALFORGE’S PARTNERSHIP WITH PSA

- Partnership with the world’s 2nd largest port operator with 29 ports in 16 countries
- 2 year project to build an AM centre in the port to digitalise and move key spare parts supply to additive manufacturing
- PSA will supply the facility set up and demand, 3MF will supply the printers and operations team

STATUS

- Parts are identified and digitised
- New facility is set up
- Global first Hybrid Wire Arc printer supplied by 3MF is set up, currently in testing and commissioning pending commencement of production
ABS, Sembcorp Marine, 3D Metalforge and ConocoPhillips Polar Tankers Inc. (Polar) have successfully fabricated, tested, and installed functional additive manufactured parts on board the oil tanker Endeavor.

Traditionally, parts used in shipbuilding and repair are manufactured via casting or forging techniques. For this project, the consortium aimed to utilize Additive Manufacturing to fabricate three types of parts that surpass conventionally manufactured products in terms of quality.

“The collaboration with ABS and 3D Metalforge is a continuation of Sembcorp Marine’s drive to innovate and improve our production capacities and capabilities. This development enables Sembcorp Marine to further refine our products and deliver customized solutions safely and more efficiently.”

Sembcorp Marine Head of Research & Development - Mr. Simon Kuik
WHAT IS ADDITIVE MANUFACTURING (AM)?

- **Transformative approach** to industrial production that enables the creation of lighter, stronger parts and systems.

- AM uses a computer controlled process that creates three dimensional objects by **depositing materials in layers**.

- AM applications are almost limitless. The technology can be used to fabricate **end-use products on-demand** across multiple industries.
AM IS GROWING RAPIDLY, DRIVEN BY STRONG INDUSTRY TAILWINDS

- Revival of domestic manufacturing near end use and greater sourcing of local components
- Focus on autonomous high value manufacturing and a reduction in low value offshored production
- Deep focus on cost cutting and profitability including cuts in waste and storage costs
- Increased digitalisation of supply chain with increased flexibility

AM TO REDUCE ENERGY USAGE & CO2 EMISSIONS

**AM CAN USE LESS ENERGY AND MATERIAL...**

- **90% less material**
  Building objects up layer by layer, instead of using traditional machine processes which can reduce material needs and costs by up to 90%

- **Up to 25% of the energy**
  Remanufacturing parts through advanced additive manufacturing can also return end-of-life products to as-new condition using only 2–25% of the energy required to make new parts

**DESIGN-EFFICIENT TECHNOLOGY**

- **4-7% weight reduction in aircraft parts**
  A topologically optimised and 3D-printed part can accomplish the same task as the original part using less material

**AND REDUCE CO2 EMISSIONS**

- **2M Tonnes CO2e saved**
  A major environmental benefit of 3D printing could be the reduction of 2 million tonnes in CO2 emissions between 2016-2025 in oil & gas industry alone, thanks to the reduced need to transport spare parts to and from remote areas

GROWING REVENUE BASE

Revenue 103% CAGR
Revenue 2017-19 (S$'000)

2017 2018 2019
317 801 1,317

GM% doubling
Gross margin % 2017-19 (%)

2017 2018 2019
36% 40% 71%

1.9x

Orders 123% CAGR
New orders 2017-19 (S$'000)

2017 2018 2019
407 791 2,018

123%

Figures are in Singaporean Dollars
EXPANDING SALES PIPELINE

% LIKELIHOOD TO AWARD

0% → 50% → 100%

CURRENT CUSTOMER

Top 10 O&G
Large crane hook on WAAM

Top 10 IOC
Digitalization and spares

Global pump Co.
Spare parts support

Top 10 O&G
Pipe mixer element

Top 10 O&G
Confidential large format defense part

Port operator
1,000 pcs metal part contract

NEW CUSTOMER

Top 10 O&G and valve co.
Valve interior

Top 10 OFS
Digitalization and spares

Global pump Co.
Repair spare parts

Leading Mining co.

Top 10 O&G and valve co.
Down hole drill parts

O&G
Down hole hanger

IOC
Burner plug

INDICATIVE PIPELINE VALUE

~$5 Million

~$15 Million

* Note this is not a forecast | Figures are in Singaporean Dollars
STRATEGIC GROWTH PRIORITIES

BUILD GLOBAL FOOTPRINT
- Expand production capacity to accommodate market growth
- 4 Additive Manufacturing Centres (AMC’s) in global centres for marine and oil & gas (Houston, Rotterdam, Dubai, Singapore)
- Develop local key markets including Australia with focus on resource sector

CUSTOMER ACCELERATION
- Embed AMCs in client supply chain to help key clients obtain benefits of AM
- Qualified leads / sales pipeline continues to grow
- PSA first roll out
- Strategic Partner channels being developed to accelerate revenue growth

EXPAND OUR TECHNOLOGY
- Continue to develop our intelligence layer
  - Faster more accurate printing
  - Faster process modelling
  - Feedback & monitoring
  - MaterialAM for new AM materials
  - DataAM to utilise print data
- Complete operational development of Hybrid WAAM printer
EXPERIENCED BOARD & MANAGEMENT

Matthew Waterhouse
CEO, Founder
Matthew has over 20 years of Senior Management Experience in MNCs, including 7 yrs as Associate Principal at McKinsey & Co and COO for Keppel Integrated Engineering responsible for building $1Bn+ infrastructure projects.

Michael Spence
Chairman
Michael is an angel investor with a portfolio of eight companies in Australia & SEA. He retired from full-time work in 2019 as a Senior Director of Partners in Performance, an operations improvement consultancy. He has 33 years’ experience split between consulting (PIP & McKinsey & Company) and line management (Ford, ITT, Valeo, Ayala Corp).

Geoffrey A. Piggott,
Non-Executive Director
Geoff has over 50 years in infrastructure engineering in Sydney Water, Black & Veatch, Keppel Infra and Deep Tunnel Sewerage System.

Samantha Tough
Non-Executive Director
Distinguished career in the energy, resources and engineering industries as both a director and senior executive. Chair of Horizon Power, Chair of the National Energy Selection Panel, Director of Clean Energy Finance Corporation, Director of Buru Energy Limited (ASX: BRU), UWA PVC Engagement and former Director of Saracen Mineral Holdings Ltd (ASX:SAR)/Northern Star Resources and others.

David Buckley
Advisor
David is Chairman of Royal Bank of Canada (Europe) and formerly European CFO for Morgan Stanley and Intl Treasurer for Goldman Sachs.
A total of 94,650,594 shares is subject to various escrow terms.

EXISTING SHARES ON ISSUE
190,119,285

EXISTING OPTIONS ON ISSUE
1,300,000

% OF SHARES UNDER ESCROW
49.7% *

SHARE PRICE (8.3.21)
$0.25

IMPLIED MARKET CAPITALISATION
A$47.5M

CIRCULAR DIAGRAM:
- 27.6% Other Shareholders
- 32.9% Board and Key Management Personal
- 36.7% Top20**
- 2.8% Singapore Government agency under Ministry Trade & Industry responsible for business growth and promotion

* A total of 94,650,594 shares is subject to various escrow terms
** Excludes Board and KMPs in Top20

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ASX PEERS SHOW POTENTIAL VALUE RE-RATING

**3D Metalforge (ASX:3MF)**
Additive Manufacturing company that supports a growing and multi-national blue-chip client base with their 3D metal printing requirements

**AML3D (ASX:AL3)**
Welding, robotics, metallurgy and software business which uses automated wire-fed 3D printing in a large free form environment to produce metal components and structures for commercial use

**Titomic (ASX:TTT)**
Additive manufacturing provider with proprietary and patented process for the application of cold-gas spraying of titanium or titanium alloy particles

**Amaero (ASX:3DA)**
Additive manufacturing of metals and alloy technologies in the aviation, aerospace, defence and automotive tooling markets

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**MARKET CAP**

- **3D Metalforge**: A$47m*
- **AML3D**: A$46m*
- **Titomic**: A$84m*
- **Amaero**: A$122m*

**REVENUE**

- **3D Metalforge**: A$1.3m FY19
- **AML3D**: A$0.2m FY20
- **Titomic**: A$2.0m FY20
- **Amaero**: A$0.1m FY20

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* As at 8 March 2021
INVESTMENT HIGHLIGHTS

**Established presence in**
Singapore and Houston (USA) and significant market opportunity

**Partnering with Global Clients**
to digitalise spare parts and produce parts on demand

**Established Revenue Generating**
business with >SGD$1m in revenue FY19 with blue chip customer clients

**One of only 6 manufacturers** certified by LR to print metallic parts

**High Caliber Team**
supported by world class Board and investors

**Extensive Range of IP**
protected by patents and trade secrets
## Significant R&D and Technology Development

Led R&D and technology development programs valued at over $3M with our direct spend being almost $1.5M.

Worked with multiple institutes of higher learning and Govt organisations including NAMIC, SUTD, A*Star.

## Extensive Range of IP

### Intellectual Property

<table>
<thead>
<tr>
<th>Patents</th>
<th>Protection Method</th>
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<tbody>
<tr>
<td>VisioAM (hybrid print strategy)</td>
<td>Patent pending</td>
</tr>
<tr>
<td>SecureAM (Metadata, hash chain data security)</td>
<td>Patent pending</td>
</tr>
<tr>
<td>HydroAM (support structure removal)</td>
<td>Patent pending</td>
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<tr>
<td>MaterialAM (parameters for new materials)</td>
<td>Patent being developed</td>
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### Trade Secrets

<table>
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<th>Patents</th>
<th>Protection Method</th>
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</thead>
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<tr>
<td>Build parameters and strategy for maraging steel</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>Manufacturing process operations</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>Additive QMS processes</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>FacilityAM - setting up AM facility</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>Detailed pricing strategies and cost sheet tool</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>Extensive AM supplier list</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>&gt;250 industry NDA in place</td>
<td>Confidentiality</td>
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<tr>
<td>Multiple Approved Vendor List agreements in place</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>Customer contact list (&gt;3k)</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>SOPs for complex AM equipment</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>DataAM - Print log data for &gt;3 years production</td>
<td>Confidentiality</td>
</tr>
<tr>
<td>Build parameters for PVC and Nylon (in development)</td>
<td>Confidentiality</td>
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</table>

### Licenses

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<tr>
<th>Patents</th>
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<tr>
<td>Directed Energy Deposition H-WAAM printer</td>
<td>Exclusive license</td>
</tr>
<tr>
<td>Directed Energy Deposition Blown powder printer</td>
<td>License</td>
</tr>
</tbody>
</table>

### Copyright

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<tbody>
<tr>
<td>StoreAM - Print file library of &gt;2,000 parts</td>
<td>Confidential copyright</td>
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</table>
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