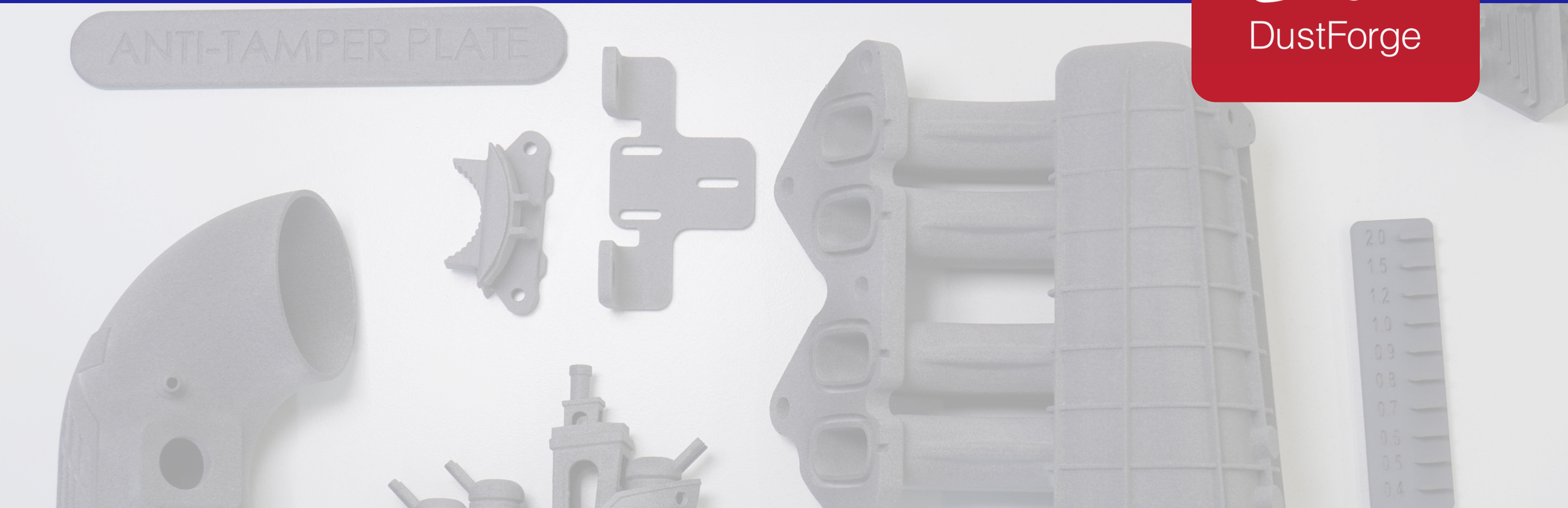
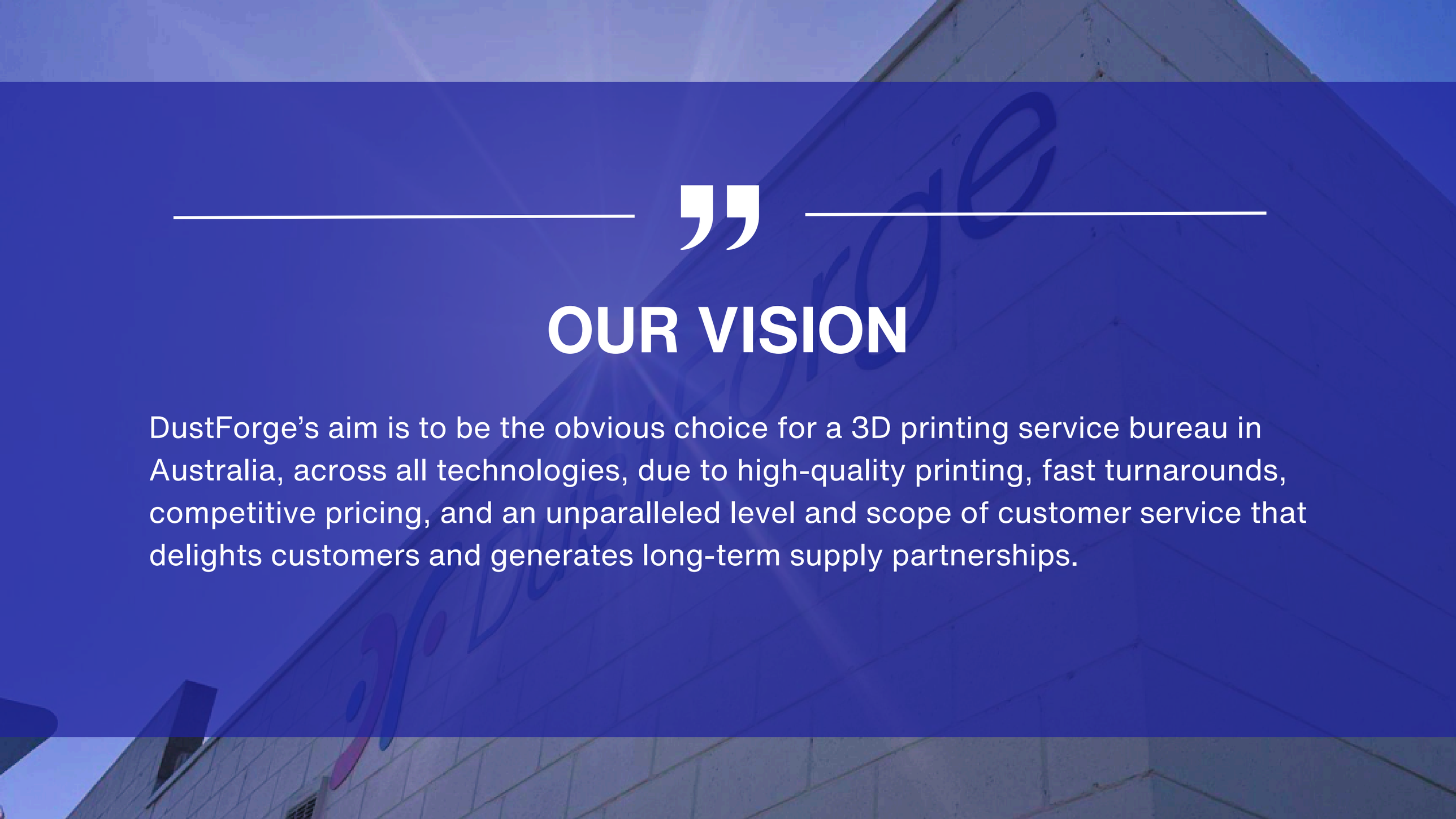
DUSTFORGE CAPABILITY STATEMENT

You Vision. Our 3D Precision.

DustForge





OUR VISION

DustForge’s aim is to be the obvious choice for a 3D printing service bureau in Australia, across all technologies, due to high-quality printing, fast turnarounds, competitive pricing, and an unparalleled level and scope of customer service that delights customers and generates long-term supply partnerships.

DustForge

ABOUT US

DustForge is a leading Australian additive manufacturing service bureau, specialising in industrial-scale 3D printing with a focus on polymer-based technologies.

DustForge is also the authorised Australian distributor for TPM3D SLS printers and ancillary equipment.

Our expertise spans across multiple industries, offering tailored solutions that cater to diverse manufacturing needs, from prototyping to low-volume production.

As a technology-agnostic bureau, we leverage a broad spectrum of 3D printing technologies to deliver the right tool for every job.

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LEADERSHIP TEAM

CO-FOUNDERS

RYAN TAN
Co-Founder
Director of Operations

ERIC LIANG
Co-Founder
TPM3D Major Shareholder

TPM3D

Andrew Richards
Chief Executive Officer

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OUR MISSION

Our mission is to drive innovation in Australian manufacturing by offering high-quality, compliant, and low-volume 3D printing solutions for medical device development, prototyping, and custom manufacturing. DustForge will offer Australian businesses and innovators a broad range of 3D printing services to cater for a wide range of low volume, complex and bespoke hardware manufacturing needs.

DustForge will delight customers with the fastest turnaround of accurate quote and delivery of manufactured product, competitive prices and broad range of manufacturing capability. DustForge will be at the forefront of 3D printing service capability and continually seek opportunity for improvement and opportunity to innovate, both with manufacturing capability and hardware innovation, resulting in propriety products and spin-out business investment opportunities.

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CORE CAPABILITIES

Polymer-Based 3D Printing Expertise

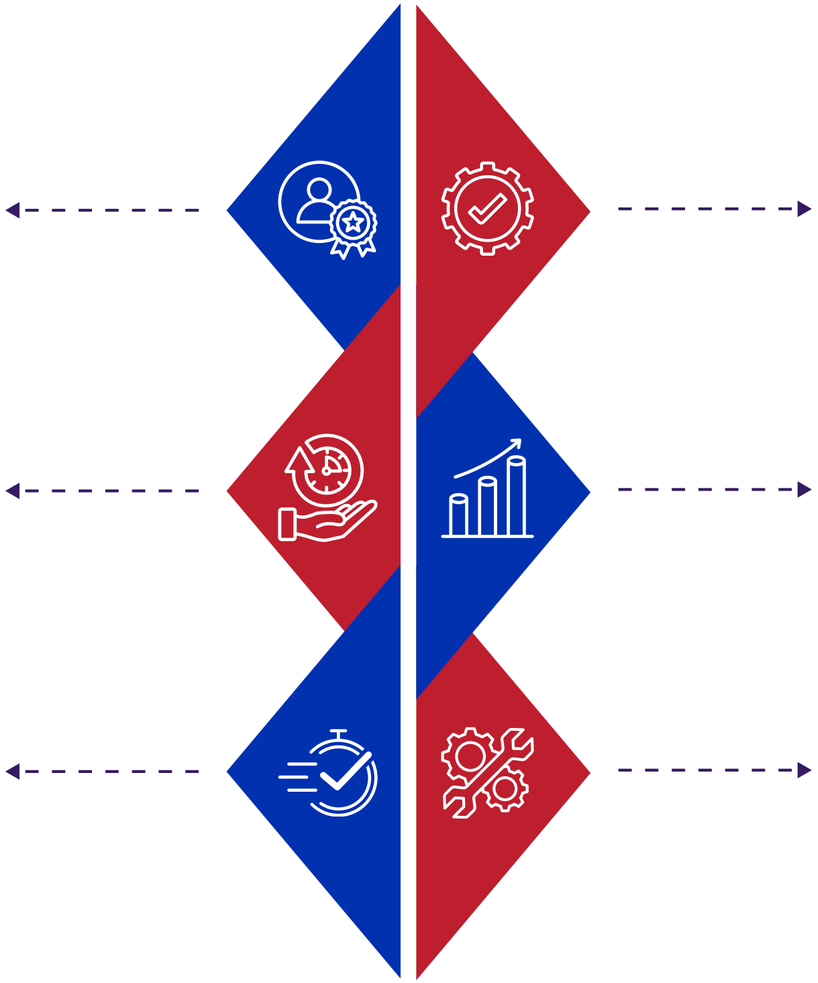
DustForge specialises in advanced polymer additive manufacturing, ensuring durability, precision, and functional integrity across all products.

Rapid Turnaround

Our agile processes allow us to deliver quick turnarounds on time-sensitive projects, ensuring minimal lead times while maintaining high-quality output.

Just-in-Time Manufacturing

We are experts in just-in-time production, optimising inventory management and ensuring parts are delivered precisely when needed.



Industry Agnostic Solutions

We serve a wide range of industries, providing versatile manufacturing solutions that include prototypes, jigs and fixtures, spare parts, and low-volume end-use production.

Scalable Production

From low-volume to industrial-scale production, our flexible capacity allows us to scale up quickly to meet customer demand.

In-House Engineering & Design Optimisation

Our in-house engineering team works closely with clients to optimise designs for specific 3D printing technologies, reducing costs, enhancing performance, and ensuring manufacturability

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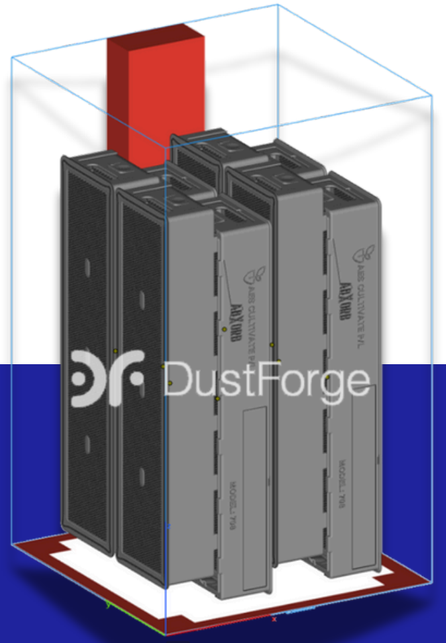
VALUE PROPOSITION



1. CONTRACT MANUFACTURING

2. MACHINE SALES

3. PROPRIETY PRODUCTS

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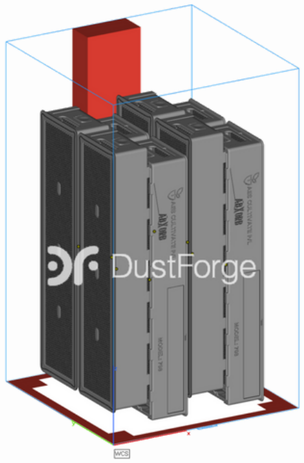

1. CONTRACT MANUFACTURING

Contract manufacturing supports customers to analyse tipping point for machine purchase

2. MACHINE SALES

Once customer has in-house equipment, contract manufacturing supports customer with additional capacity and access to different materials

VALUE PROPOSITION

When production needs reach a volume or frequency that justifies the upfront cost, maintenance, and operation of in-house equipment the tipping point typically occurs when:

- **Consistent Demand**
- **Customisation Requirements**
- **Cost Efficiency**
- **In-House Expertise**

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CONTRACT MANUFACTURING

CUSTOMERS

Our services cater to start-ups, established manufacturers, and innovators by providing access to advanced additive manufacturing solutions.

PRODUCT DEVELOPMENT

With a strong network within the product design and engineering ecosystem, we offer end-to-end support, from concept to production.

PRODUCT MANUFACTURING

DustForge manufactures high-quality prototypes, functional models, jigs, and fixtures, delivering precision and reliability at every stage. Our capabilities extend to low-volume and bridging production, ideal for clients seeking flexibility before scaling up.

TECHNOLOGY

By leveraging the latest in polymer 3D printing technology, DustForge enables faster product iterations, cost efficiencies, and tailored solutions that drive innovation in the Australian manufacturing landscape.

FROM ONE OFF PROTOTYPE TO LOW VOLUME MANUFACTURE

PROTOTYPE

JIGS AND FIXTURES

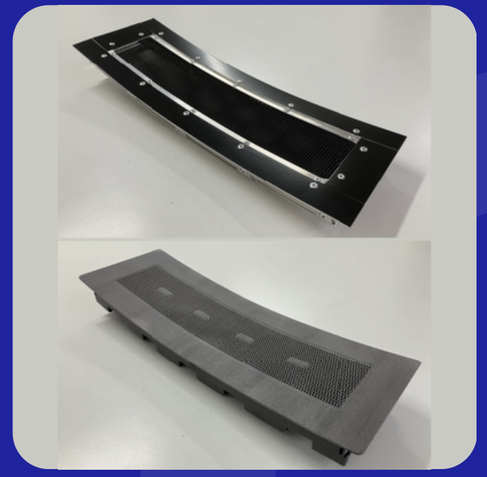
SPARE PARTS

PRODUCTION PARTS

BRIDGING PRODUCTION

COMPOSITE TOOLING

ARCHITECTURAL



RE-ENGINEERING

THE RIGHT TOOL FOR EVERY JOB

SLS

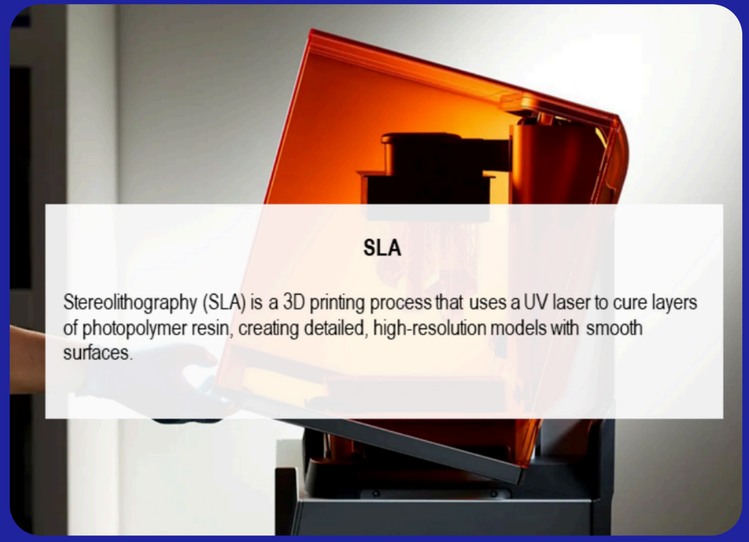
Selective Laser Sintering (SLS) is an advanced additive manufacturing technology that uses a high-powered laser to fuse polymer powder particles into a solid structure.

FDM

Fused Deposition Modelling (FDM) is a widely-used additive manufacturing technology that works by extruding thermoplastic filament through a heated nozzle to build objects layer by layer.

SLM

Selective Laser Melting (SLM) is an advanced additive manufacturing technology that uses high-powered laser to fully melt and fuse metal powder particles into a solid structure.



SLA

Stereolithography (SLA) is a 3D printing process that uses a UV laser to cure layers of photopolymer resin, creating detailed, high-resolution models with smooth surfaces.

MJF

Multi Jet Fusion (MJF) is a 3D printing technology that uses fusing and detailing agents along with heat to solidify layers of powdered material, producing durable and highly detailed parts. Known for its speed and strength, MJF is ideal for functional prototypes and production-ready parts.

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TECHNOLOGY COMPARISON TABLE

Feature	Materials	Machine Cost	Material Cost	Tolerances	Surface Finish	Strength	Build Speed	Features & Benefits	Best Use Cases	Applications	PostProcessing	Layer Thickness	Build Volume
FDM (Fused Deposition Modelling)	Thermoplastic s (PLA, ABS, PETG, TPU)	$500 - $20,000	Low ($20 - $150/kg)	±0.5 mm (depends on machine and material)	Layered, visible lines	Moderate	Moderate to fast	Affordable, easy to use, accessible	Prototypes, simple functional parts	Consumer products, education, simple models	Minimal sanding, support removal	100-400 microns	Medium to large
SLS (Selective Laser Sintering)	Thermoplastic s (Nylon, TPU, PP composites)	$50,000 - $600,000	Moderate to high ($100 - $200/kg)	±0.2 mm	Grainy, powdery texture	High	Moderate to fast	Strong parts, no supports needed	Functional prototypes, end-use parts	Automotive, consumer goods, aerospace	Powder removal, optional dyeing and chemical smoothing	80-120 microns	Medium to large
SLA (Stereolithography)	Photopolymer resins	$3,000 - $250,000	Moderate ($150 - $200/L)	±0.1 mm	Smooth, high detail	Moderate	Moderate	High detail, smooth finish	Detailed prototypes, models	Dental, jewelry, medical models	Cleaning, curing	25-100 microns	Small to medium
MJF (Multi Jet Fusion)	Nylon, TPU, PA11, PA12	$270,000 - $500,000	Moderate to high ($100 - $200/kg)	±0.2 mm	Smooth, fine detail	High	Fast	Durable, fast, high detail	Functional prototypes, small-batch production	Durable prototypes, end-use components	Powder removal, optional dyeing	80-100 microns	Medium
SLM (Selective Laser Melting)	Metals (aluminum, titanium, stainless steel)	$200,000 - $1,000,000	High ($350 - $600/kg)	±0.05 mm	Rough to smooth (postprocessing needed)	Very high	Moderate to slow	High-strength metal parts, durable	Metal components, aerospace, medical implants	Aerospace, medical, industrial	Powder removal, polishing, heat treatments	20-60 microns	Small to medium

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RATIONALE FOR SLS

Criteria	Material Variety	Support Structures	Part Strength and Durability	Surface Finish	Production Volume	Heat Resistance	Post-Processing Options	Cost-Effectiveness
SLS vs. FDM	SLS supports a broader range of materials, including various nylons and composites, while FDM is limited to thermoplastics like PLA and ABS.	SLS does not require support structures for most geometries, whereas FDM often needs supports for overhangs.	SLS produces strong and durable parts suitable for functional applications, while FDM parts may have lower strength and are prone to delamination.	SLS parts typically have a grainy finish, but FDM has visible layer lines and a rougher texture.	SLS is more efficient for low-to-medium production runs, while FDM is often slower and less cost-effective for similar volumes	SLS materials generally offer better heat resistance than many common FDM thermoplastics.	SLS parts can be dyed and surface-treated, providing more options than FDM.	For medium production volumes, SLS can be more cost-effective than FDM when factoring in material strength and post-processing.
SLS vs. MJF	SLS offers similar material options to MJF but often with a wider selection of specialized powders.	SLS does not need support structures, while MJF may also require them in certain cases, but SLS can handle more complex designs without them.	SLS offers high tensile strength and durability comparable to MJF, but MJF may excel in surface finish and speed.	SLS provides a different finish than MJF, which is smoother; however, SLS can be post-processed for different finishes.	SLS can be a better option for specific lowvolume applications compared to MJF, especially if specific material properties are needed.	SLS can handle higher operational temperatures than some MJF materials, which can be beneficial for certain applications.	SLS offers flexible postprocessing similar to MJF, with the potential for a wider range of finishes.	SLS may be more costeffective in specific applications where MJF's speed does not justify its costs.
SLS vs. SLA	SLS provides a wider selection of robust thermoplastics compared to the resins used in SLA.	SLS allows for complex geometries without support structures, unlike SLA, which may need supports for intricate designs.	SLS parts generally have better thermal and mechanical properties compared to SLA's resin parts, which can be more brittle.	SLS offers a different type of finish than SLA, which is typically very smooth but may not be as strong.	SLS is suitable for functional prototypes and production runs, while SLA is primarily used for detailed prototypes rather than end-use parts.	SLS is more suitable for parts exposed to higher temperatures compared to SLA's typically lowertemperature resin parts.	SLS allows for more diverse post-processing options compared to SLA, particularly for functional enhancement.	SLS can be more economical for producing strong, functional parts compared to SLA's higher material costs and limited durability.

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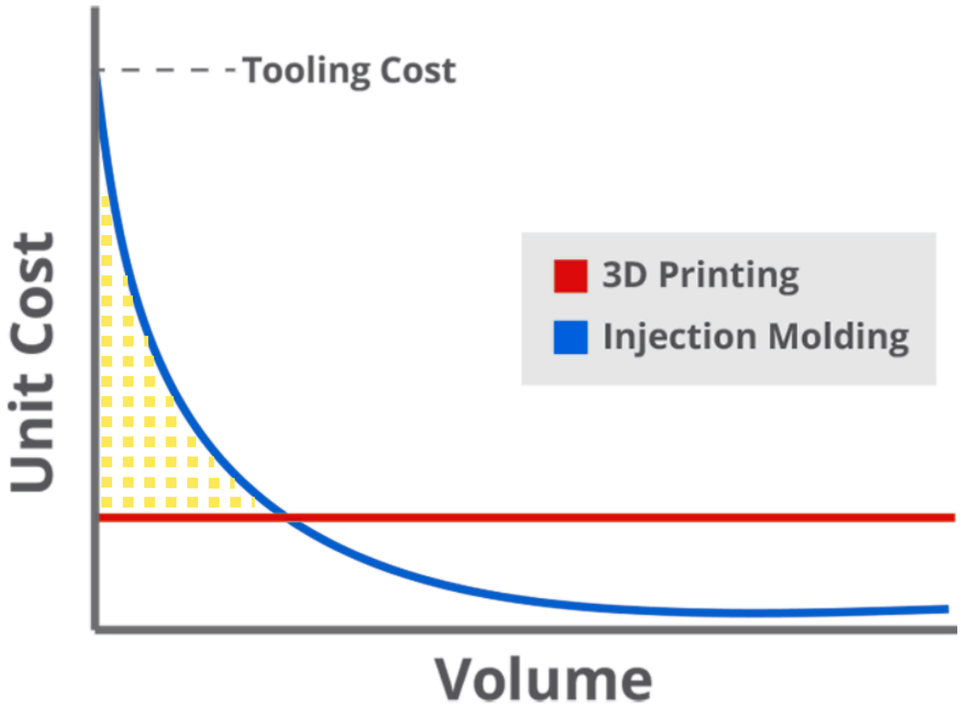
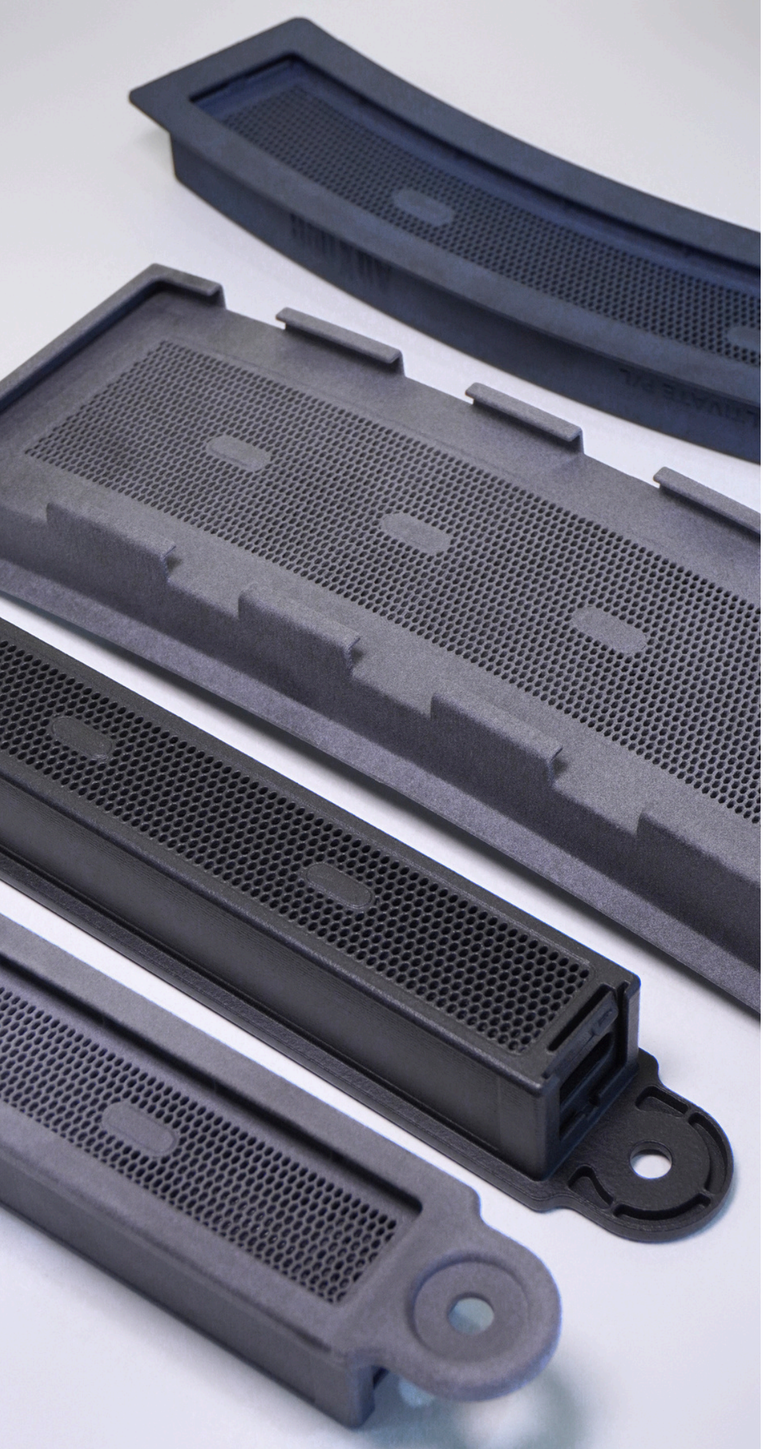
TECHNOLOGY REVIEW

3D Printing *VS* Injection Moulding

Once primarily utilised for prototyping, 3D printing has transcended its initial role. Innovations in material science and machine capabilities have broadened the horizons, offering new avenues for design, quicker turnaround times, and significantly reduced costs. These advancements have made 3D printing a competitive option for low to mid-volume production, narrowing the cost gap with injection moulding. While larger-scale projects still leaning towards traditional manufacturing, additive techniques like FDM, SLS, and MJF are increasingly utilised for medium production runs.





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The right tool for every job...

BUT THE *STRENGTH* OF SLS

1. Material Strength and Durability

- SLS produces more isotropic parts w/o visible layer lines & weak interlayer bonds common to FDM
- SLS has far wider range of materials vs MJF & SLA
- SLA has excellent resolution & transparency, but lacks mechanical durability under stress & heat

2. Complexity and Geometric Freedom

- Support-Free Printing: surrounding powder acts as a support for SLS

3. Production Efficiency and Scalability

- FDM and SLA are limited in their scalability for batch production
- SLS remains cost-effective for low- to mid-volume production runs vs MJF and SLA
- SLS remains the preferred choice for high strength, complex geometries and specialty engineering materials.

SLS remains the preferred choice for high strength, complex geometries and specialty engineering materials.

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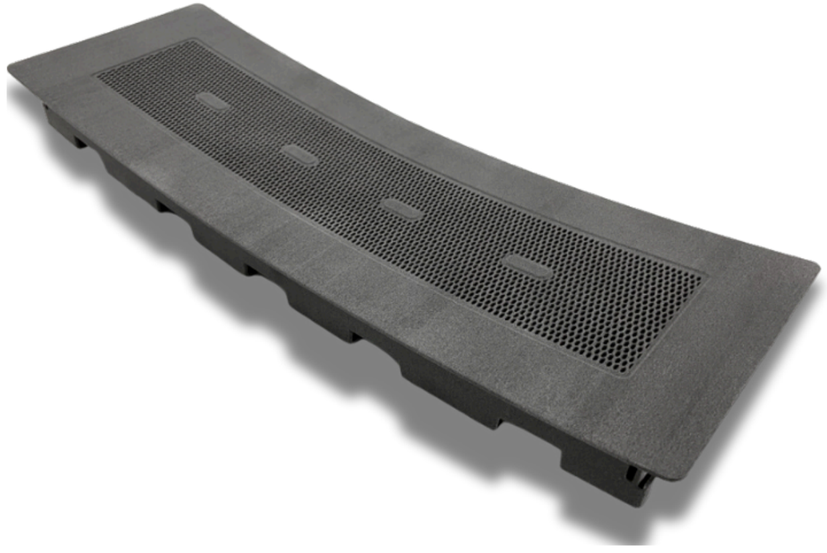
DAVID MILLER PRODUCT DESIGN

ULTRASAFE PRODUCTS



CASE EXAMPLE - ULTRASAFE

Ultrasafe: a leader in manufacturing chemical protection filters for tractors

Brief: redesign and reengineer ageing range of products to leverage benefits of 3D printing

Result:

- Reduction in BOM – 70 components to 3
- Weight Reduction – 417gm – 196gm = 221gm reduction
- Reduction in manufacturing labour and assembly complexity
- Just-in-Time and On-Demand Manufacturing
- Benefits of the Design Thinking Process
- Enhanced Branding
- Complex geometries made simple
- Reduction in cost

What industries do we service?

01 Automotive

Custom brackets, clips, housings, and functional prototypes for vehicle interiors, dashboards, and under-the-hood applications.

02 Medical Devices

Orthopedic implants, surgical guides, dental trays, and custom prosthetic components tailored to individual patients.

03 Aerospace Parts

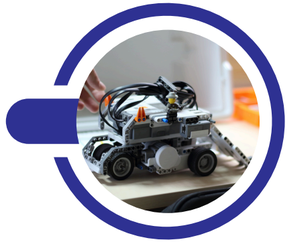
Lightweight structural parts, ducting, and small mechanical components that need to withstand high stresses and temperatures.

04 Consumer Electronics

Enclosures, brackets, mounts, and casings for wearables, custom-fit earbuds, and VR/AR devices.

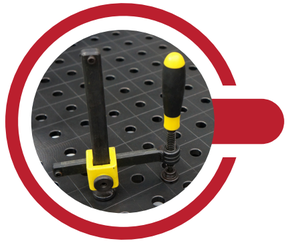
05 Robotics & Automation

End-effectors, grippers, sensor mounts, and components for robotic arms and automation equipment.



Jigs and Fixtures 06

Customised jigs, fixtures, and alignment tools used in manufacturing and assembly lines.



Footwear 07

Custom insoles, midsoles, and even full shoe prototypes, often for sports or medical purposes.

Sporting Goods 08

Bike parts, protective gear, specialised mounts, and custom grips for sports equipment.

Drone and UAV Parts 09

Lightweight frames, camera mounts, and internal housings for drones and unmanned aerial vehicles.

Custom Furniture 10

Connectors, joints, and unique design elements for custom furniture pieces.

DustForge & TPM3D


FDM


SLA


DLP


SLS


MJP


MJF


CJP


DMLS

PARTNER COMPANY SUPPORT

- Access different technologies
- Access different materials
- Provide technical support
- Provide additional manufacturing capacity

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Machine Sales - TPM3D

- The most technologically advanced 3d printing manufacturer in China
- The first manufacturer certified by TÜV CE in China
- Released the first SLS Nylon printer in China
- Located in Jiangsu Province, the printing center covers an area of more than 1000 square meters

HQ – Shanghai
Sales Centre – Beijing
Service Centre – Jiangsu
Operations Centre - Guangdong

MILESTONES

TPM3D

1999 Original

Established service bureau in China

2007

First domestically developed SLS AM system released in Asia

2014

Invested by STRATASYS

2017

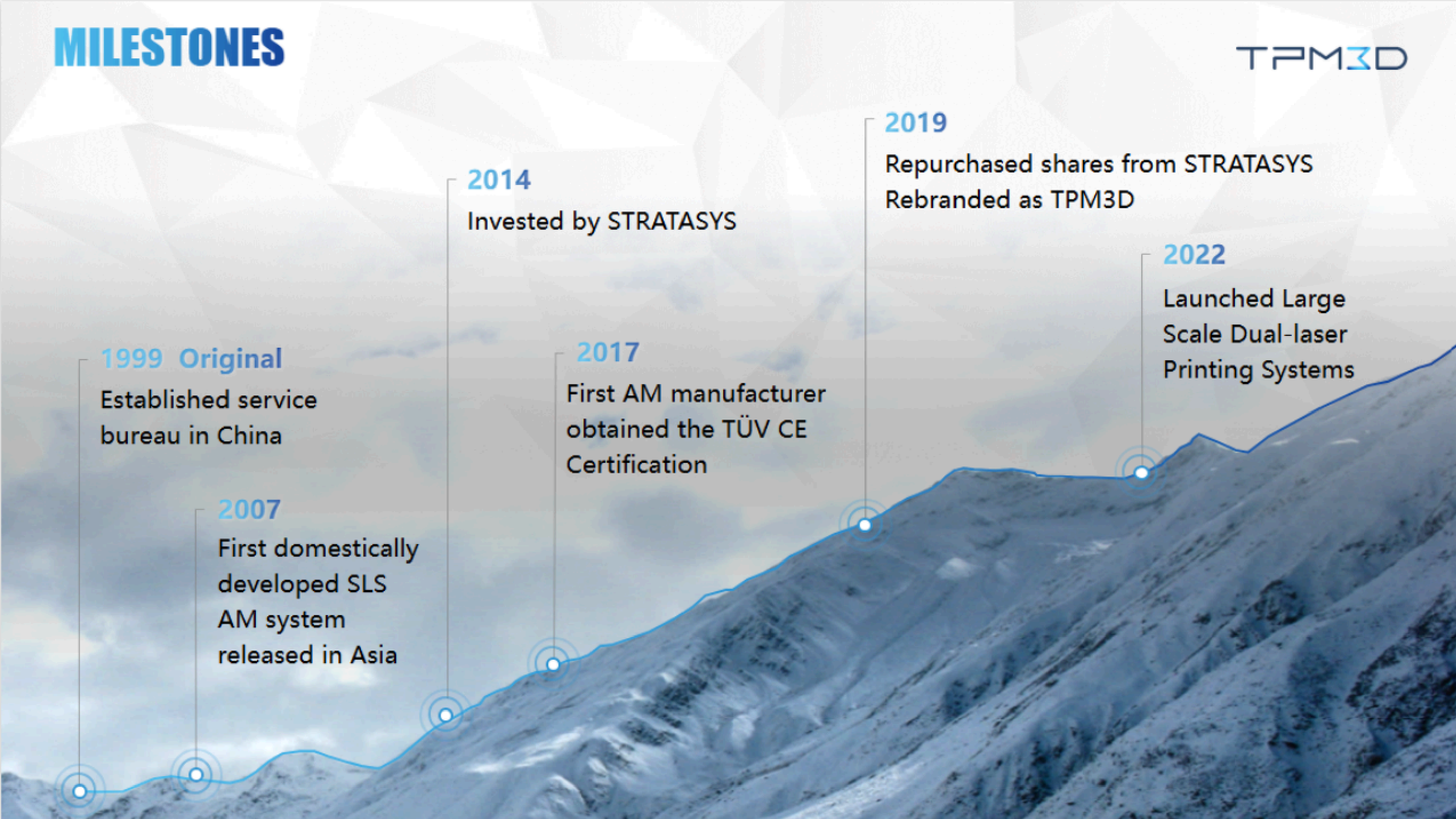
First AM manufacturer obtained the TÜV CE Certification

2019

Repurchased shares from STRATASYS
Rebranded as TPM3D

2022

Launched Large Scale Dual-laser Printing Systems



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SLS PRINTER RANGE ‘S’ SERIES

- **Flexible build volume:** Building volume from 260mm to 600mm. Meets the requirements of small and medium batch printing jobs, and more flexible.
- **Laser:** 60w CO2 laser as standard, which has long service life and lower maintenance cost. (Optional 100w laser.)
- **Temperature measurement system:** Optimised the temperature measurement workflow and improved efficiency by 20%.
- **Active Cooling:** Equipped with patented technology of Active Cooling, which can shorten the cooling time in printer. Start the cooling process when unattended.

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PARTS AND POWDER PROCESSING STATION ‘PPS’

Parts cleaning

Powder Recycling

Powder Feeding

Powder Mixing

Powder Adding

Powder Collecting

- PPS researched and developed by TPM3D greatly reduces the impact of powder leakage on the environment and makes parts cleaning and powder treatment much easier.
- Combining TPM3D SLS printer with PPS enables the clean production mode, meanwhile retains the manual powder feeding mode to allow switching printing materials on demand.Minimum of 80% recycling of unsintered powder.
- Smoke and dust emission meets the H15 level of ASHRAE standard (equivalent to the sub-high efficiency standard of GB/T 14295, usable in clean room environment)

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SLS Materials

- TPM3D's polymer powder features stable performance, non-toxicity, good mechanical strength, excellent process performance, wide operating temperature window, stable fluidity and no need for pre-dehumidification.

- The molding parts are characterised by stable color, precise dimensions, good mechanical properties, sanding, bonding, heat welding and dyeability properties.

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WHY DUSTFORGE?

• Deliver value at every stage

We want our customers to feel like they have received value, in the price they paid, in the effort they expended and the emotional cost.

• Deliver the best we can

Quality means upholding rigorous standards in all our work, regardless of project size or customer. We are passionate about our work, committed to excellent customer service, and dedicated to achieving results for our clients.

• Be a reliable partner

We want to be a supplier that our customers can reply and depend on. We strive to always meet our customers expectations to be worthy of their trust.

• Do the right thing - always

Integrity guides our actions and our words. It is our primary core value, fostering transparency and dignity and is crucial for organisational growth and success.

• Act swiftly and immediately

DustForge will take swift action in all business matters. We prioritise speed over perfection.

GET IN TOUCH

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