MULTITRADE
3D SYSTEMS

ADDITIVE
MANUFACTURING
SOLUTIONS

OUR PRODUCTS

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ABOUT MULTITRADE 3D SYSTEMS

Multitrade 3D Systems is the authorised sales representative for GE Additive in South Africa and the master reseller for Meltio and AMAZEMET in Sub-Saharan Africa. This includes the Laser Powder Bed Fusion (LPBF)/Direct Metal Laser Melting (DMLM) machines from Concept Laser and the Directed Energy Deposition (DED) machines from Meltio. The AMAZEMET product range includes rePowder ultrasonic atomizer for metal powder production, inFurner – a compact high vacuum furnace, and safeEtch – a device for automated support removal from metal 3D-printed parts.

All of these technologies are Additive Manufacturing or 3D printing technologies used to manufacture complex metal components that cannot often be produced through conventional techniques.

Metal Additive Manufacturing (also referred to as metal 3D Printing) technologies have been widely adopted and accepted by the Aerospace, Dentistry, Jewelry, Medical and Tooling industries. Multitrade 3D Systems has the expertise to service these and many of the other industries in South Africa that can benefit from utilising Metal Additive Manufacturing in their operations.

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OUR PRODUCT OFFERING FROM GE ADDITIVE

GE Additive

GE Additive – part of GE (NYSE: GE) – is a world leader in metal additive design and manufacturing, a pioneering process that has the power and potential to transform businesses. Through GE Additive's integrated offering of additive experts, advanced machines, software and quality powders, we empower our customers to build innovative new products. Products that solve manufacturing challenges, improve business outcomes and help change the world for the better. GE Additive includes additive machine brands Concept Laser and Arcam and additive powder supplier AP&C.

WWW.GE.COM/ADDITIVE

DIRECT METAL LASER MELTING MACHINES

The Concept Laser Direct Metal Laser Melting (DMLM) additive machines use lasers to melt layers of fine metal powder and create complex 3D geometries with incredible precision directly from a CAD file. Several different machine envelope sizes are available to meet the needs of any industry.

Mlab R/Mlab 200R

The Mlab family of Direct Metal Laser Melting (DMLM) systems offers versatile solutions for ease of use and safe handling for a broad range of materials and applications - with minimum footprint.

Build Volume:
50 x 50 x 80 mm (x,y,z)
90 x 90 x 80 mm (x,y,z)
100 x 100 x 100 mm (x,y,z) ~ Mlab 200R only

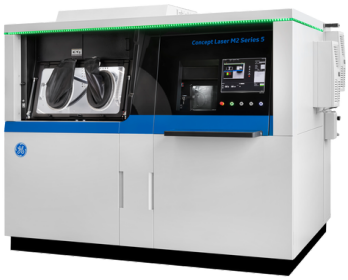
Mlab R
Laser Power: 100 W (cw)

Mlab 200R
Laser Power: 200 W (cw)

Concept Laser X Line 2000R

With a build volume of 160 liters, the X Line 2000R is one of the largest metal laser melting machine for the toolless manufacture of large functional parts and technical prototypes with repeatable material properties.

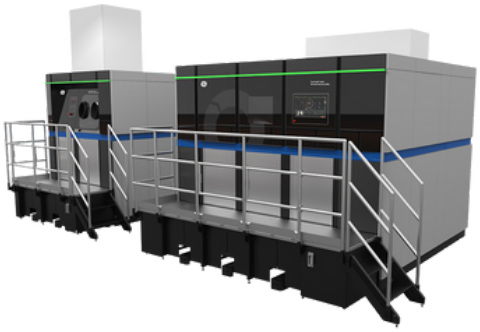
Build Volume: 800 x 400 x 500 mm (x,y,z)
Laser Power: 2 x 1 kW (cw)



M2 Series 5

The M2 Series 5 provides a higher level of productivity and repeatability through minimising the effects of process variations.

Build Volume: Max. 245 x 245 x 350 mm (x,y,z)
Laser Power: R: 2 x 1 kW (cw) OR 2 x 400 W (cw)



M Line Factory

Engineered with an innovative modular machine architecture that offers automation, the M Line Factory enables economical series production on an industrial scale.

Build Volume:
500 x 500 x up to 400 mm (x,y,z)

Laser Power:
4 x 400 W fibre laser
4 x 1 kW fibre laser (in development)

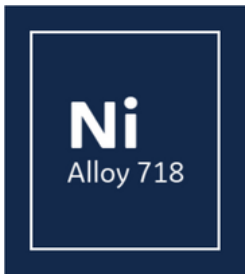
HIGH QUALITY POWDERS

GE Additive creates certified, high-performing powders for every metal additive need, taking into account a variety of mechanical behaviour design data and material science.

Their commitment to the additive industry includes more than 1000 material scientists, engineers, and characterisation experts across GE.

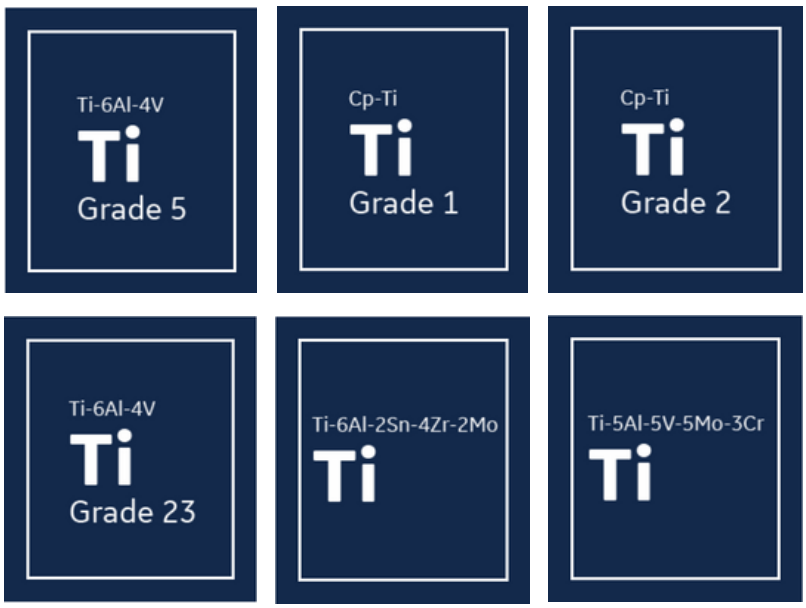
New Alloys

Nickel



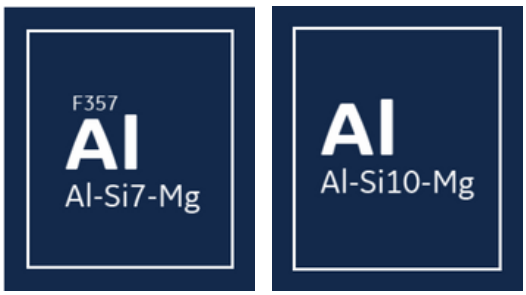
AP&C has dedicated reactors for the production of Nickel Alloy 625 and Nickel Alloy 718 for high-temperature applications.

Titanium



They are the leader in the production of Titanium powders for the additive manufacturing industry.

Aluminum



They offer high-quality Aluminum powders with exceptional behavior in Additive Manufacturing machines and a secure supply chain.


CONCEPT
a GE Additive company
3M
6038

OUR PRODUCT OFFERING FROM MELTIO

MELTIO

Meltio's mission is to delight customers, partners, employees and shareholders by pioneering the development of affordable metal 3D printing systems that are reliable, safe and easy to use, continually reinforcing their status as disruptors.

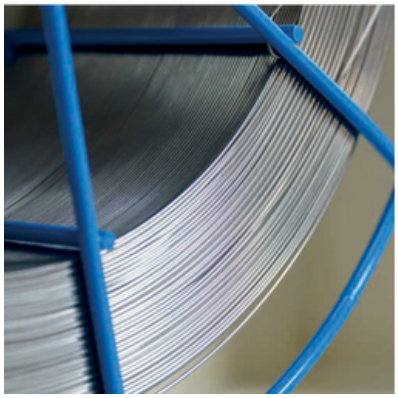
From lab research to part replacement, Meltio enables applications across industrial prototyping, mold and die, one-offs, short runs, mass manufacturing, maintenance and repair.

WWW.MELTIO3D.COM

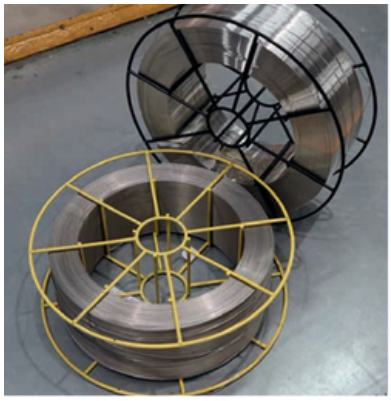
LASER METAL DEPOSTION

Laser Metal Deposition is a Directed Energy Deposition (DED) process that functions by precisely stacking weld beads on top of one another. Meltio's multi-metal 3D printing technology comes packaged in a compact position head, host of multiple lasers, and capable of processing wire and powder simultaneously.

SINGLE AND DUAL METAL 3D PRINTING

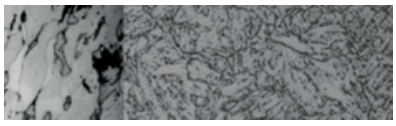


Single Wire
The bulk of the 3D printing process is built around wire, the safest, cleanest, and easiest to work with metal feedstock.

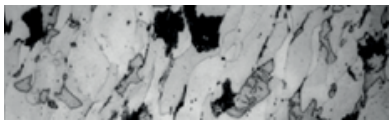


Dual Wire
Combine different metal materials in a single part. The wire-switching process is quick, automatic, and clean.

OPEN MATERIAL PLATFORM



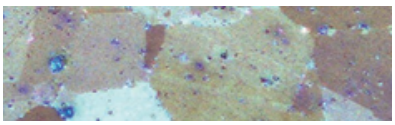
Stainless Steels
Excellent strength and corrosion resistance.



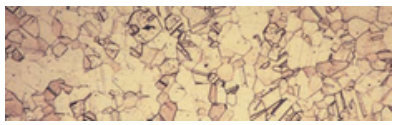
Mild Steel
Cheap and ductile, with unparalleled machinability and weldability.

Carbon Steels
High impact strength, retain hardness at high temperatures.

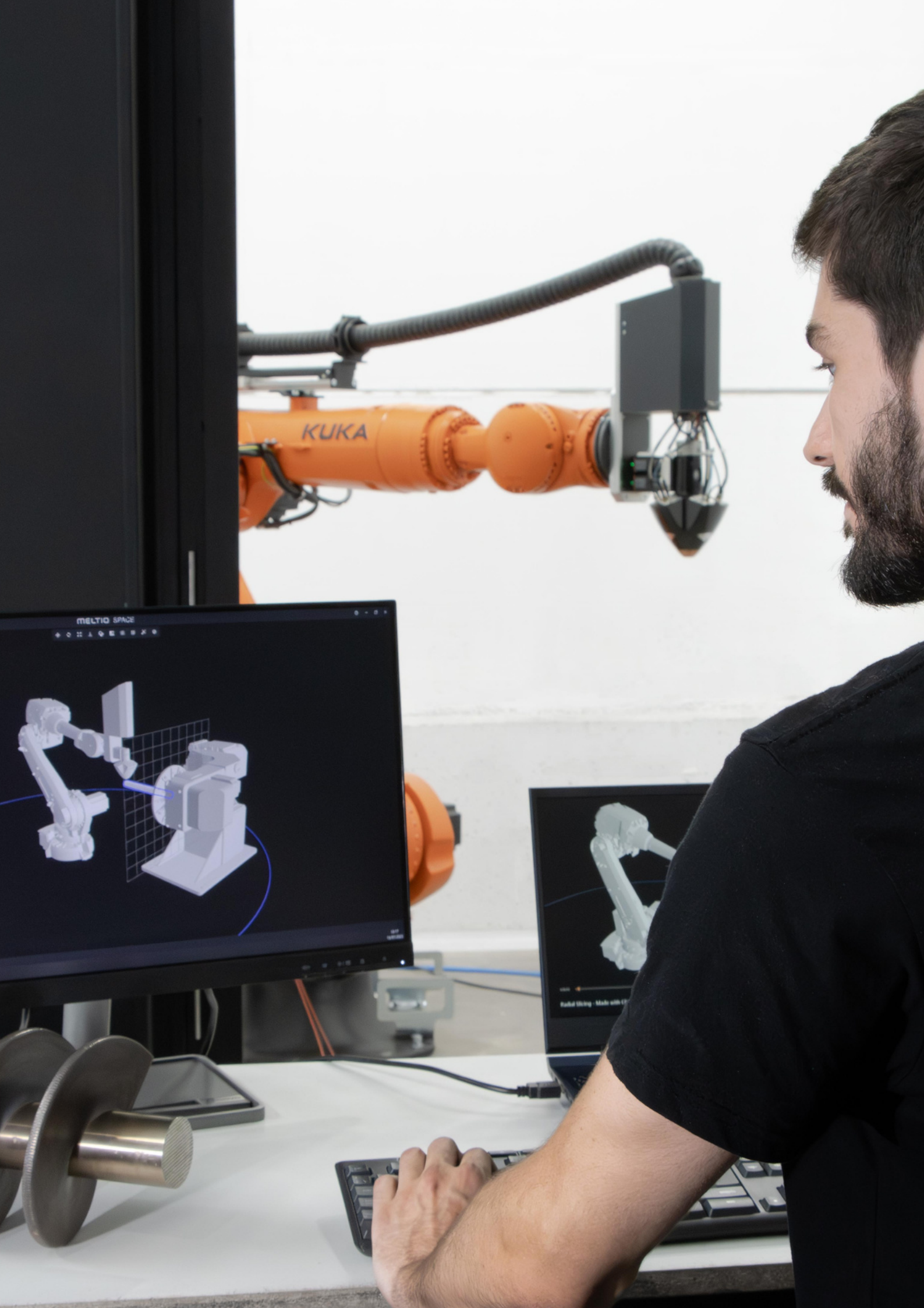
Titanium
Highest strength-to-weight ratio and corrosion resistance.



Inconel
High versatility, outstanding heat, and corrosion resistance.

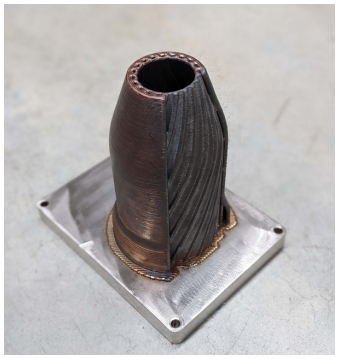


Copper
Under development.


KUKA
MELTIO SPACE

SCAN FOR MORE INFO

APPLICATIONS



Combustion Chamber Aerospace

Size: 110,5 x 110,5 x 170 mm
Weight: 4,88 kg
System: Meltio M450

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 0,8 mm
Print Time: 27 h 30'

Mining Drill Bit Oil & Gas

Size: 96,5 x 96,44 x 91,3 mm
Weight: 3 kg
System: Meltio M450

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 1,2 mm
Post-processing: CNC Machining
Print Time: 10 h 5'

Glass Mould Core Manufacturing

Size: 158,5 x 79,31 x 144,3 mm
Weight: 6 kg
System: Meltio M450

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 1,2 mm
Post-processing: CNC Machining
Print Time: 24h

Piston Prototype Automotive

Size: 52 x 29 ø mm
Weight: 756 g
System: Meltio M450

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 1,2 mm
Post-processing: CNC Machining
Print Time: 3 h 30'

Gas Turbine Fan Blade Oil & Gas

Size: 35 x 75 x 135 mm
Weight: 1,11 kg
System: Meltio M450

Material: Inconel 718
Gas: Argon
Layer Height: 1 mm
Post-processing: CNC Machining
Print Time: 3 h 10'

Watch Bezels Jewelry

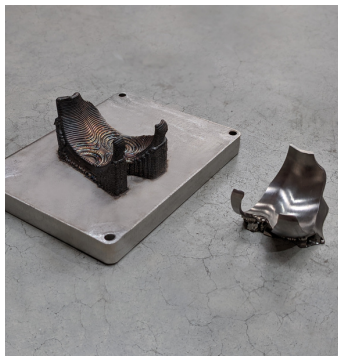
Size: 53,37 x 44,59 x 10,85 mm
Weight: 155,93 g / 29,22 g per part
System: Meltio M450

Material: Titanium 64
Gas: Argon
Layer Height: 0,8 mm
Post-processing: CNC Machining
Print Time: 5 h 40'

Spline Shaft Mining

Size: 132 x 132 x 193 mm
Weight: 6,6 kg System: Meltio M450

Material: Stainless Steel 308
Gas: Argon
Layer Height: 1,2 mm
Print Time: 30 h



Knee Implant Medical

Size: 99 x 77 x 51 mm
Weight: 410 g
System: Meltio M450

Material: Titanium 64
Gas: Argon
Layer Height: 1,2 mm
Post-processing: CNC Machining
Print Time: 2 h

MORE APPLICATIONS

Airfoil Cooling Blade Energy

Size: 200 x 152 x 55 mm
Weight: 516 g
System: Meltio M450

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 0,5 mm
Post-processing: Polishing
Print Time: 3 h 50'

Aircraft Engine Mount Aerospace - CiTD

Size: 95,6 x 95,6 x 215,75 mm
Weight: 502 g
System: Meltio M450

Material: Titanium 64
Gas: Argon
Layer Height: 1,2 mm
Post-processing: CNC Machining
Print Time: 3 h 50'

Injection Mould Half Manufacturing

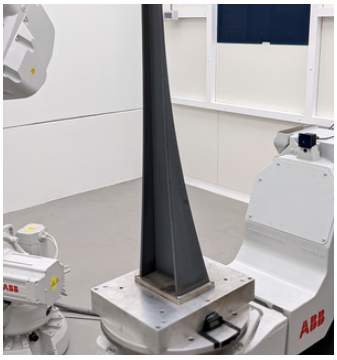
Size: 140 x 140 x 297 mm
Weight: 15 kg
System: Meltio M450

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 1,2 mm
Print Time: 70 h

Engine Manifold Motorsport

Size: 205 x 360 x 473 mm
Weight: 5,22 kg
System: Meltio Engine
Robot Integration

Material: Stainless Steel 316L
Gas: Argon
Layer Height: variable layer height
Print Time: 19 h 23'



Topology Optimised Beam Construction

Size: 170 x 130 x 900 mm
Weight: 5,95 kg
System: Meltio Engine
Robot Integration

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 0,6 mm
Print Time: 19 h 5'

Spherical Tank Oil & Gas

Size: 500 Ø mm sphere
Weight: 29,6 kg
System: Meltio Engine
Robot Integration

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 1,2 mm
Print Time: 81 h 20'

Overhang Test

Size: 350 Ø mm, 180 mm
Weight: 2,14 kg
System: Meltio Engine
Robot Integration

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 0,6 mm
Print Time: 6 h 26'

Naval Propeller Marine

Size: 600 Ø mm, 250 mm
Weight: 12,1 kg
System: Meltio Engine
Robot Integration

Material: Stainless Steel 316L
Gas: Argon
Layer Height: 0,6 - 1,2 mm
Post-processing: Polishing
Print Time: 43 h 40'

MELTIO M450

Designed for industry without the need for industrial infrastructure; affordable, reliable, safe and easy to use metal 3D printer. Ideal for small to medium size part fabrication, and multi-metal 3D printing research.

Reliable
The metal 3D printing process is monitored in real time and compensated if required by process control.

Easy to use
Automatic toolpath generation and material print profiles supplied by Meltio make for a plug-and-play experience.

Safe
Suitable for any environment thanks to a process built around wire, a sealed chamber, and a built-in 3-stage filter.

Affordable
The low capital and running costs of the Meltio M450 make metal 3D printing of conventional parts

TECHNICAL SPECIFICATIONS

- Dimensions (W*D*H): 560*600*1400 mm
- Print Envelope (X*Y*Z) :150*170* 425 mm Weight: 293 kg
- Laser Power: 1200 W
- Laser Type: Six 200 W direct diode lasers Laser Wavelength: 976 nm
- Interface: USB, ethernet, wireless datalink
- Enclosure: Laser-safe, sealed, controlled atmosphere.
- Process Control: Closed-loop laser and wire modulation.
- Power Input: 208/230 V single phase or 400 V three phase.
- Power Consumption:2-5 kW peak depending on selected options.
- Cooling: Active water-cooled chiller included.

MELTIO ENGINE

Geometry Freedom
Create highly complex parts with machining tolerances in the same process.

Retrofitting
Provide new capability to any CNC and robot arm by turning it into a metal 3D printing system.

Part Repair
Cost-effective component repair, part augmentation and feature addition.

Large Scale
No inherent constraints when the working envelope is only limited by the size of the motion system.

MELTIO ENGINE ROBOT INTEGRATION

Unlock geometry freedom in part size and complexity by integrating Meltio with a Robotic Arm. The cost-effective solution for large metal part manufacturing.

Robot Integration Hardware

Dimensions (W*D*H):
202*297*784 mm

Weight: 15,5 kg

MELTIO ROBOT CELL

Plug-and-play Solution for Robot Integration. The Meltio Robot Cell is an affordable turn-key solution for the Meltio Engine Robot Integration. It's an intuitive plug-and-play solution.

MELTIO SPACE

Meltio Space is a toolpath generator software for the Meltio Engine Robot Integration with an easy-to-use interface for planar, non-planar and variable extrusion toolpaths.

This advanced robot slicer simplifies the use of Meltio's wire-laser metal 3D printing technology of the most popular robotic brands with a built-in robot library and post-processors for ABB, Kuka, FANUC and Yaskawa.

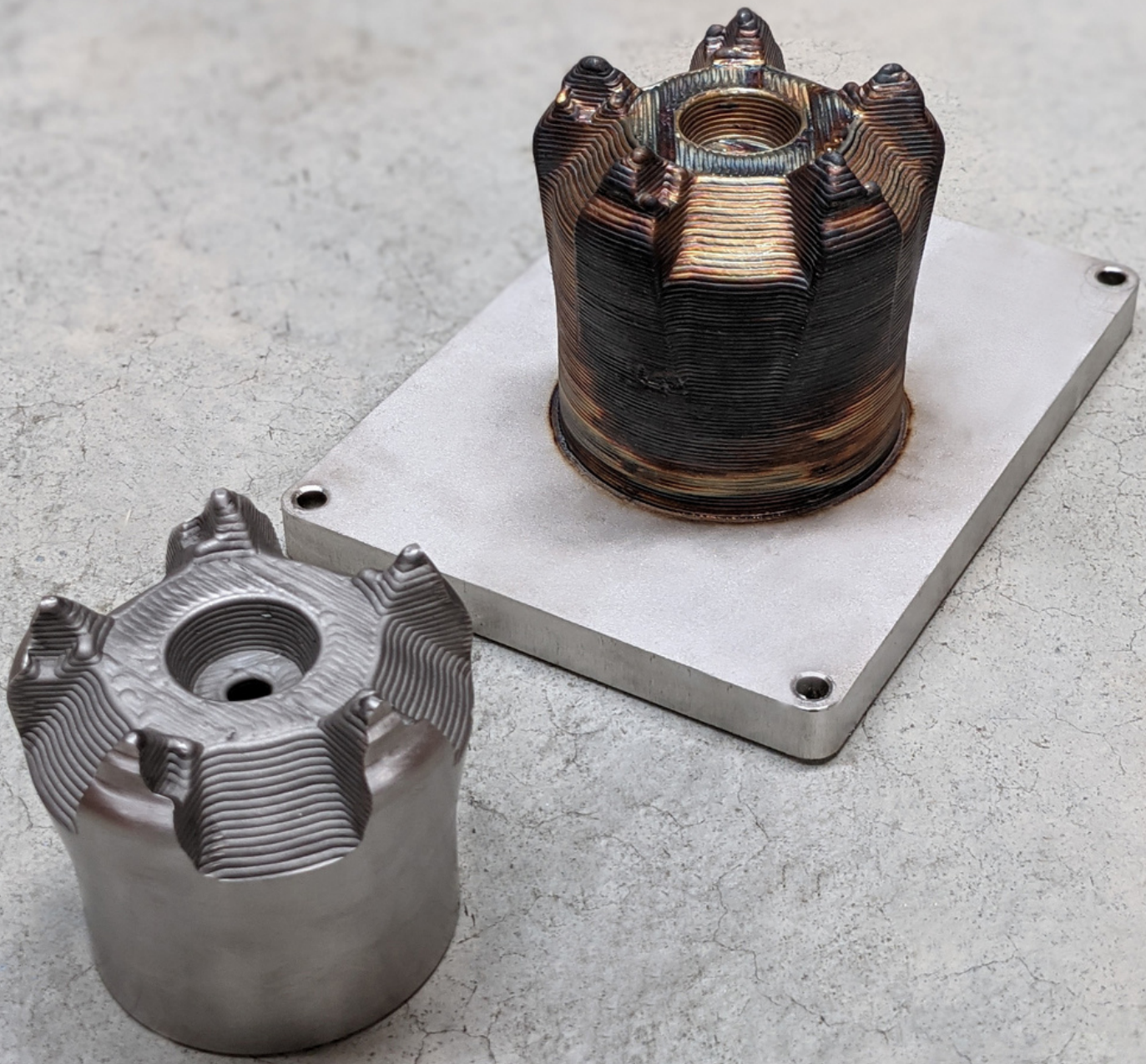
MELTIO ENGINE CNC INTEGRATION

The most affordable hybrid manufacturing solution, fitting almost any CNC machine in the market. Enable 3D printing and machining of complex geometries in a single process step.

CNC Integration Hardware

Dimensions (W*D*H):
Retracted 255*320*872 mm
Unretracted 255*320*1045 mm

Weight: 46,5 kg



OUR PRODUCT OFFERING FROM AMAZEMET

AMAZEMET

AMAZEMET is a spin-off company of Warsaw University of Technology. The company focuses on metal Additive Manufacturing, especially in the field of new materials, R&D, and industrialization. Aside from offered devices: rePowder, inFurner, and safeEtch, the company also takes part in scientific collaborations with universities and companies all over the world.

WWW.AMAZEMET.COM

rePOWDER

Powder atomization

Ultrasonic powder atomizer and alloy prototyping platform

inFURNER

Compact high vacuum furnace

safeETCH

Automated metal support removal technology

V1.2

MULTITRADE

3D SYSTEMS

Sales Representative
GE Additive

AMAZEMET

MELTIO