

# MADIT

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**METAL ADDITIVE MANUFACTURING**

2023

# The Company

- Founded in 2020 in the Basque Country
- Specialist in **Design, Manufacturing and Post-processing** for **SLM** technology of **metal 3D printing**.
- Team with high experience in the technology applied to the aerospace sector and in the **industrial and metallurgical design sector**.





¿What is SLM?

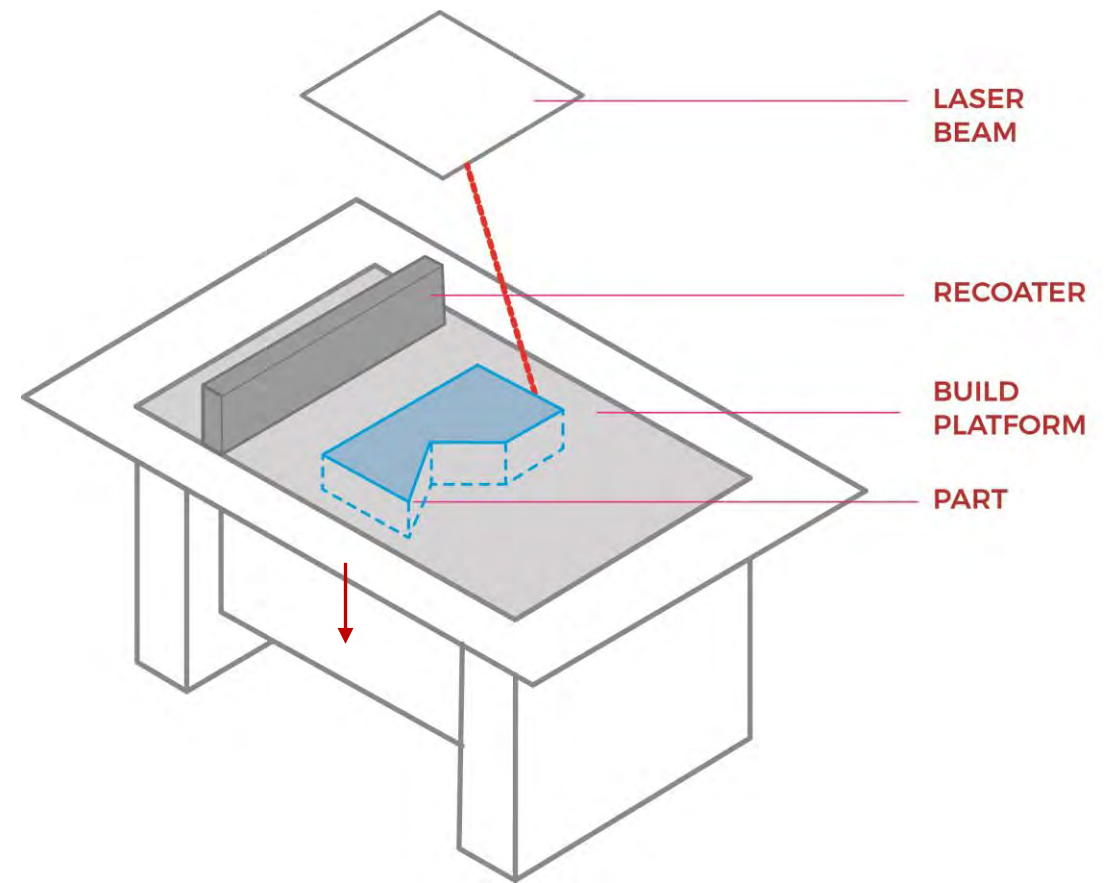
# Selective Laser Melting

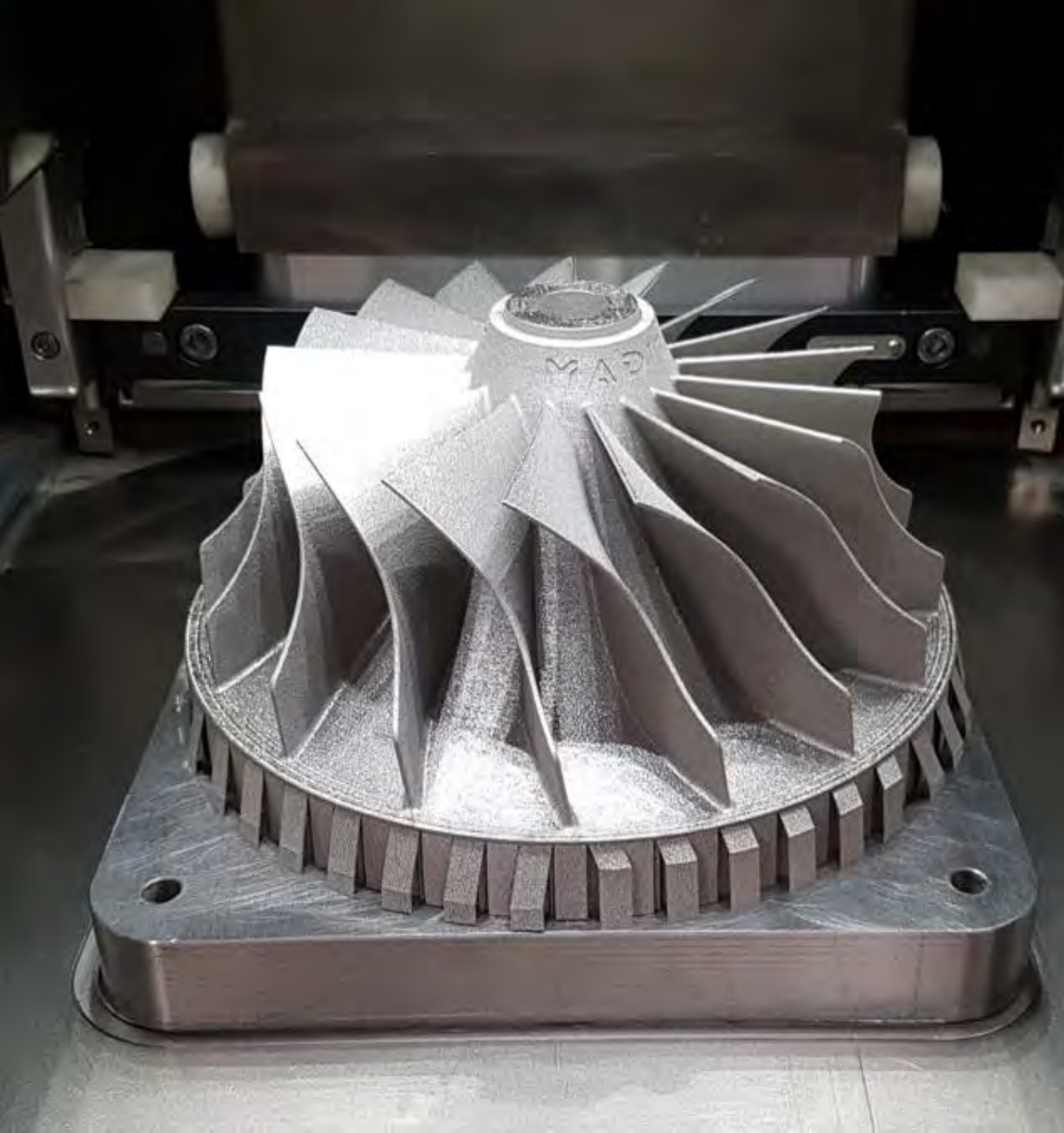
Commonly known as metal 3D printing, SLM is included within the **additive manufacturing technologies**.

A SLM machine fuse **metal powder** layer by layer using a **high power laser**.

Video:

<https://www.youtube.com/watch?v=rcqw6HZACbY>





# Selective Laser Melting

- ✓ High material **density** (> 99,9%)
- ✓ High **mechanical properties**
- ✓ **Good tolerances** (ISO2768mk)
- ✓ Max. dimensions (250 x 250 x 320mm)



# Benefits of Metal 3D printing



PURCHASE

Quotation

Lead Time

Toolings

CONVENTIONAL PROCESSES



1 – 4 Weeks



Weeks / Months



3k€ to 100k€

3D PRINTING



24-48 Hours



5 - 12 Days



No



TECHNICAL

Development Phase

Design

Functionality



Weeks



Limited



Reduced



Days



Minor restrictions



Improved



also considered a **green technology!**

**MADIT**

# Projects portfolio



**SHORT BATCHES**



**PROTOTYPES &  
PRE-SERIES**



**UNITARY  
PARTS**



**IMPROVED  
DESIGNS**

# Services and Capabilities





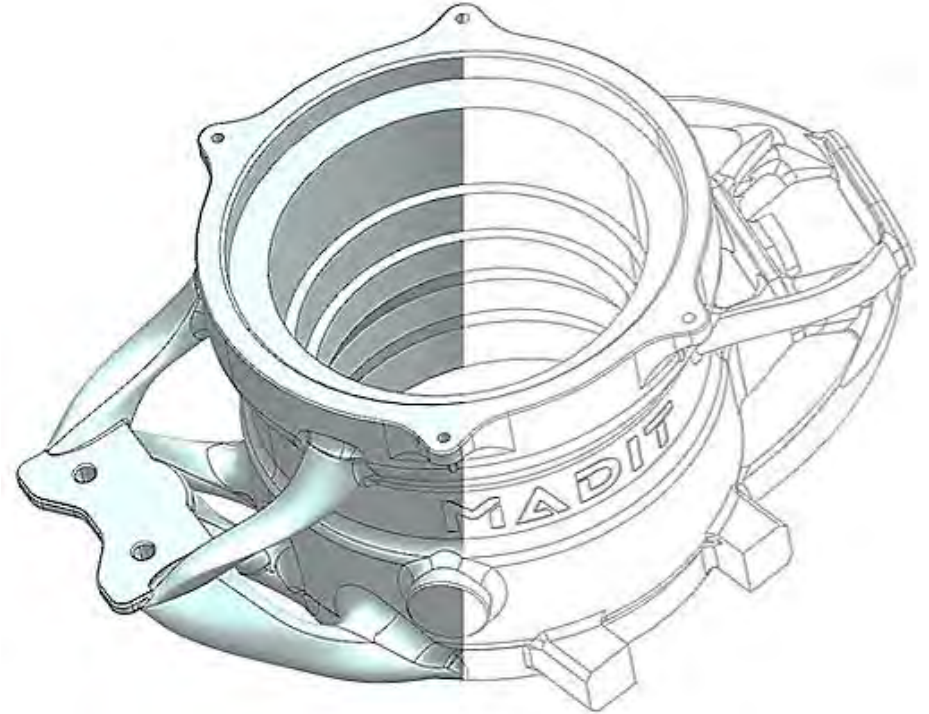
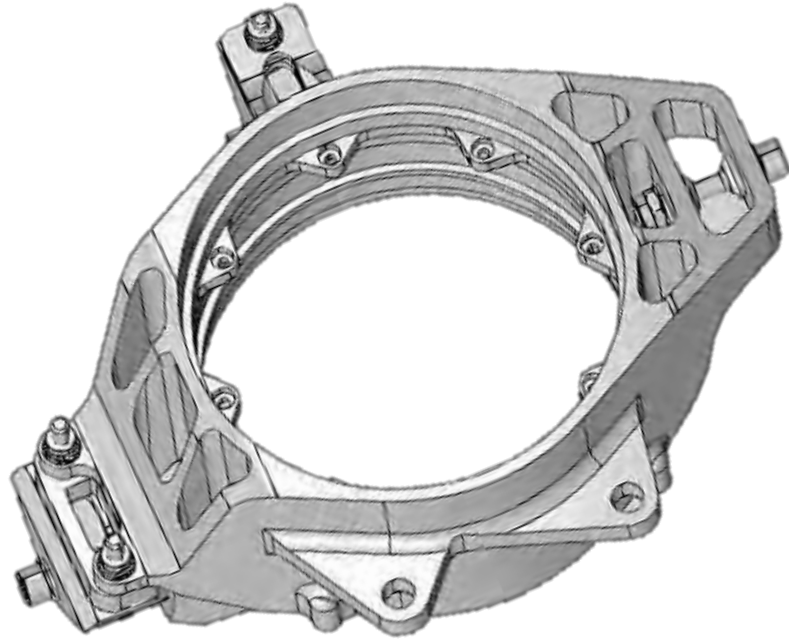
# Services

focused on SLM technology



- Objective: **to industrialize and democratize** technology by improving **productivity**, reducing deadlines and costs.
- This technology improves the **digitalization of production**, so that it is included within **Industry 4.0**.

# Desing Services



✓ **Weight Reduction**

✓ **Improved Functionality**

✓ **Cost Reduction**

# Manufacturing Services



**Aluminium**  
AlSi10Mg

**Titanium**  
Ti6Al4V

**Stainless Steel**  
316L

**Maraging Steel**  
1.2709

**Nickel Alloys**  
IN-718



# Post-Processing Services

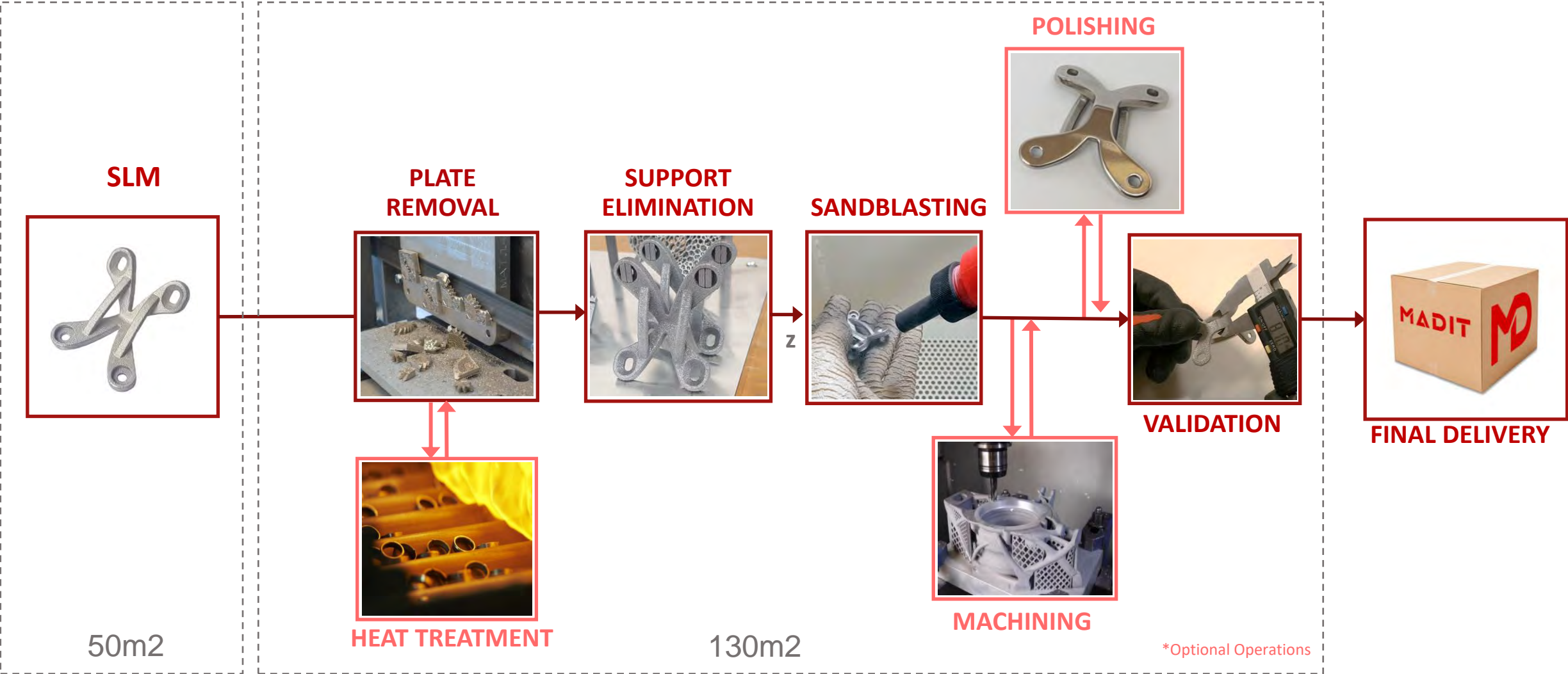


**Internal Capabilities**



**Lead Time & Cost Reduction**

# Manufacturing Route



*The integration of "Inhouse" finishing operations reduces production times and costs.*

# Post-Processing

## Internal capacities:

- Furnace
- Bandsaw
- Turning
- Milling
- Tapping arm
- MIG Welding
- 3D Scanner

## Outsourced capacities:

- Wire EDM
- 5-Axis machining
- TIG Welding





# Polishing capabilities



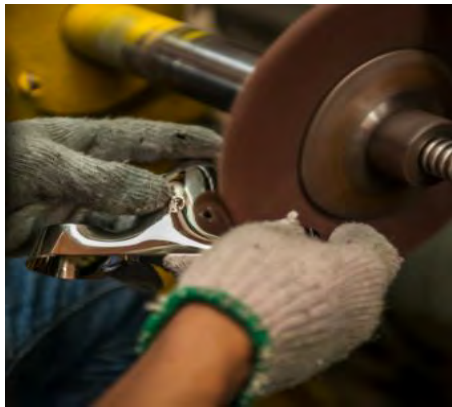
**Sandblasting finishing**



**Matt polishing**



**Mirror polishing**



**Manual polishing**



**Sandblasting**



**Vibrofinishing**



**Dry electropolishing**

Thanks to these operations it is possible to **reduce roughness** and achieve aesthetic and functional finishes. We **advise on the best polishing process** necessary for each project.



# Finishes and surface treatments

## Internal capacities:

- UTS Cleaning

## Outsourced capacities:

- Painting
- Anodizing
- Passivation and blueing
- Nickel and Chrome plating

# Applications





# Aluminum AlSi10Mg / A13600 / 3.2381

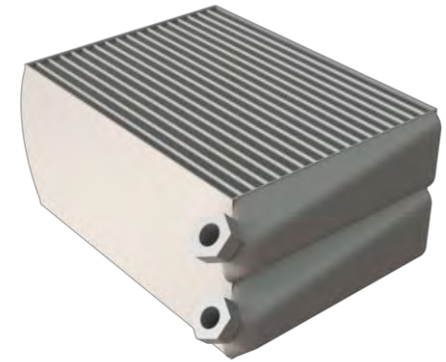
- ✓ Lightness
- ✓ Corrosion resistance
- ✓ High thermal conductivity
- ✓ High electrical conductivity

## TREATMENTS

- Anti-corrosión anodizing
- Painting
- TIG Welding



Short casting series



Heat exchangers



Electronics parts



Pipes & Colectors

# Titanium Ti6Al4V ELI (Gr-23) / F136 / B348

- ✓ Very high resistance
- ✓ Lightweight
- ✓ Good behaviour at High Temp.
- ✓ Corrosion resistance

## TREATMENTS

- Heat Treatment
- Colour Anodizing
- TIG Welding



**Bike Components**



**Brackets and Supports**



**Manifolds**

# Stainless Steel 316L / S31673 / 1.4404

- ✓ Corrosion resistance
- ✓ High Resistance up to 300°C
- ✓ High ductility
- ✓ Easy to weld

## TREATMENTS

- TIG / MIG Welding
- Nickel and Chrome plating
- Electro-polishing



Turbines & Propellers



Colectors



Sheet Metal



Brackets & Tools



# Hard Steel 18Ni300 / K93120 / 1.2709a

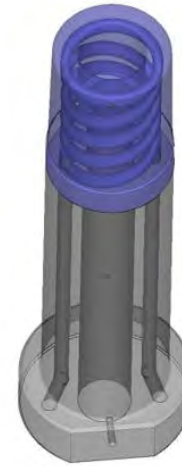
- ✓ Very high hardness
- ✓ Very high resistance

## TREATMENTS

- Heat treatment
- Passivation and blueing



Tools



Inserts



Injection moulds

## CONTACT

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## ADMINISTRATION & MANAGEMENT

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**Let's industrialize  
metal 3D printing!**

**MADIT**