

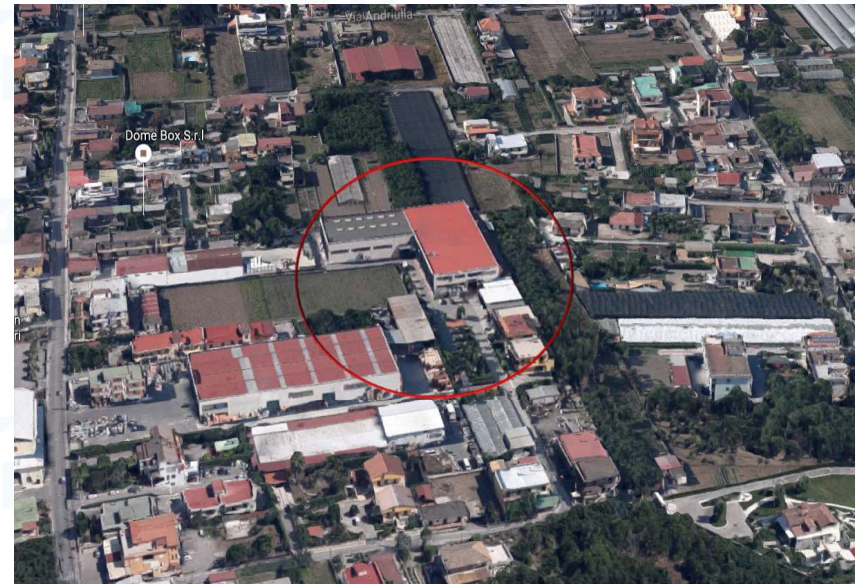
# Pontillo Tooling



# Pontillo Tooling



- Pontillo Tooling was founded in 1981 by Antonio Pontillo
- Since then, the company has experienced continuous growth, gaining a strategic position in the European and International field of precision engineering and Powder Metal Tool Making
- The company is a benchmark in the European and International Powder Metal Industry.



## Work organization

### Work shifts

24 people work in 2 shifts for 6 days per week

32 people work on the daily shift 5 days per week

### Yearly growth- number of employees

#### Year 2016

Total Employees: **42**

Machinists/Tool Makers: **34**

Office Workers : **8**

#### Year 2017

Total Employees: **49**

Machinists/Tool Makers : **41**

Office Workers : **8**

#### Year 2018

Total Employees: **56**

Machinists/Tool Makers : **47**

Office Workers: **9**







ISO 14001



CERTIFIED ENVIRONMENTAL  
MANAGEMENT SYSTEM

**Pontillo Tooling is a green company  
and ISO 14001 certified**



## Solar Electric System

- The company relies on clean energy produced by 2700 sqm of photovoltaic panels
- Self-produce up to 350 kilowatts
- The photovoltaic system accounts for 50% of the energy requirements
- Investment of € 500.000

# Quality Control

## Pontillo Tooling is ISO 9001 certified

The company is certified with the best quality standards and business organization



## Production flow

Design/Engineering

Machining

Heat Treatment

Finishing

Polishing

Quality Inspection/Documentation

### The company meets the requirements of industry 4.0

The company uses a MES (Manufacturing Execution System) software, an advanced ERP system for planning, control and management of every production stage.

- monitor the progress of the orders and / or production orders
- verify the activities carried out with the highest level of detail
- monitor the workload
- finalize the orders and control/analyze production costs
- Manage the stock, procurement of materials and externalized production accounts

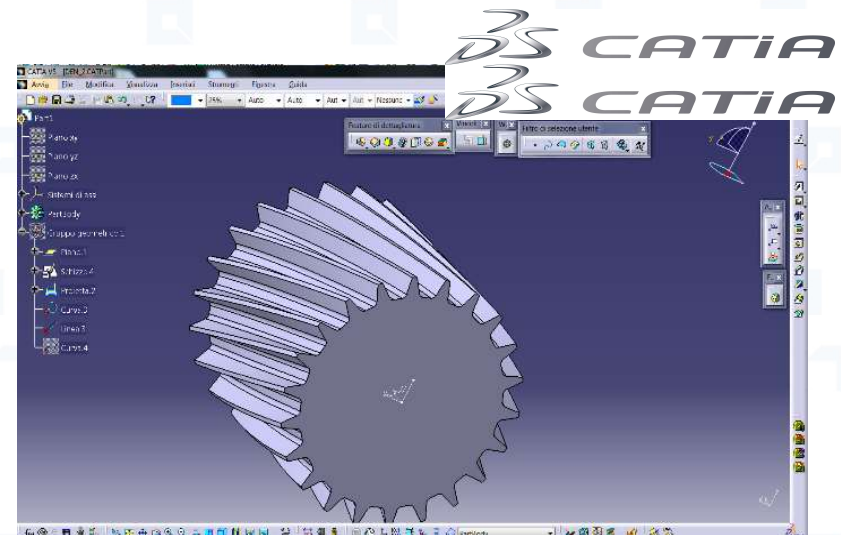
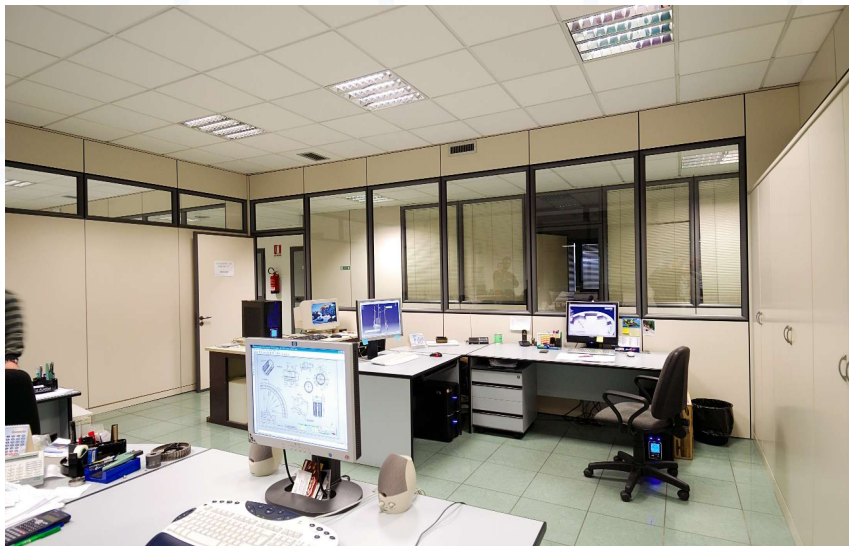
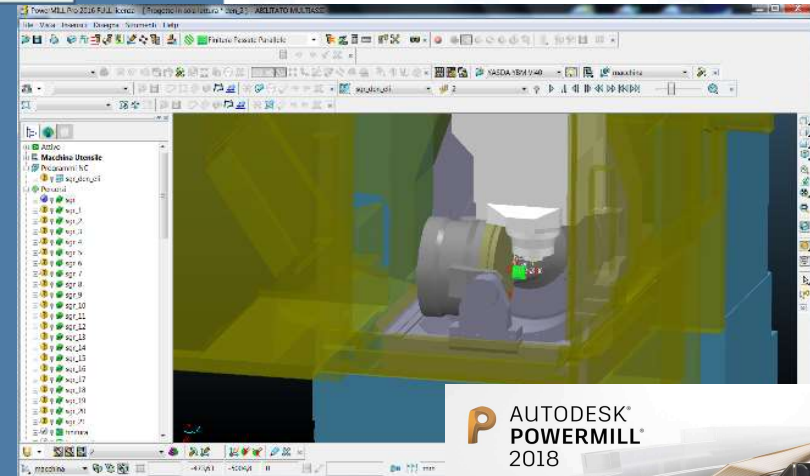




## Technical Department

### Software currently used are:

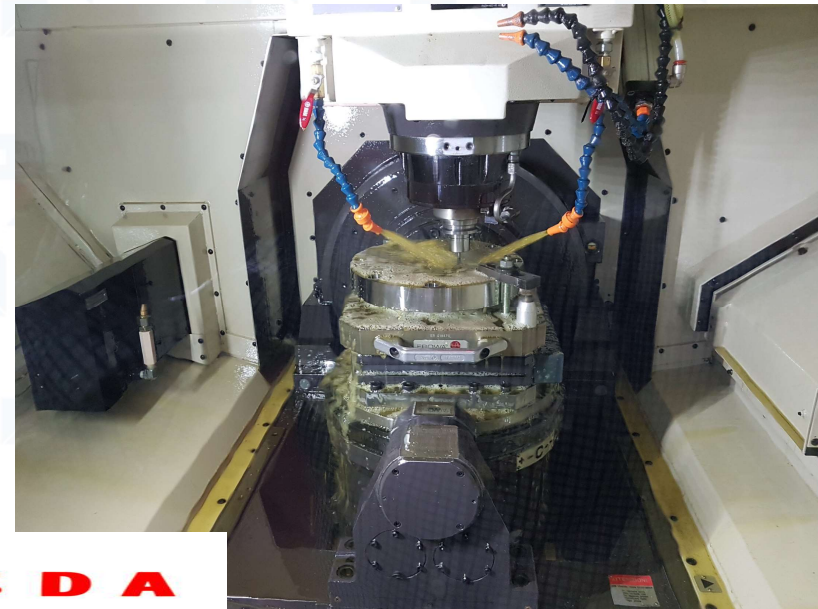
- 3 Catia V5-6 R2018
- 4 POWERMILL Autodesk 2018
- 2 Peps Cut
- 2 CT Export
- 2 Imago Vero



# Manufacturing Facility – Major Machinery

## Yasda Yi40 : Milling high speed

- The high speed Yasda Yi40 is designed for highly accurate milling for complex dies, molds and components
- This machine can mill steel hard materials over 60 HRC
- The machine enables 5-sided machining in a single set-up;
- The first Yasda Milling Machine was installed at Pontillo in 2015



**YASDA**



## CNC Vacuum Heat Treating Furnace

*Pontillo Tooling has a CNC vacuum furnace for heat treatments on site*

- Guarantees independence from external suppliers
- Complete management of the heat treatment cycle by computer control





## Grinding Moore CNC

*Moore grinding machine for contouring, compatible with all types of designs*

- This grinder enhances the functionality of the PM tooling by minimizing the downtime for polishing;
- It ensures accurate mechanical fit without manual intervention
- Productivity and durability of the PM tools is improved



# Manufacturing Facility – Main Machinery

**PONTILLO**  
OFFICINE MECCANICHE s.r.l.

The latest generation machines in each department

 **MITSUBISHI  
ELECTRIC**



**+GF+** AgieCharmilles



 **HARDINGE**



**ISPER**



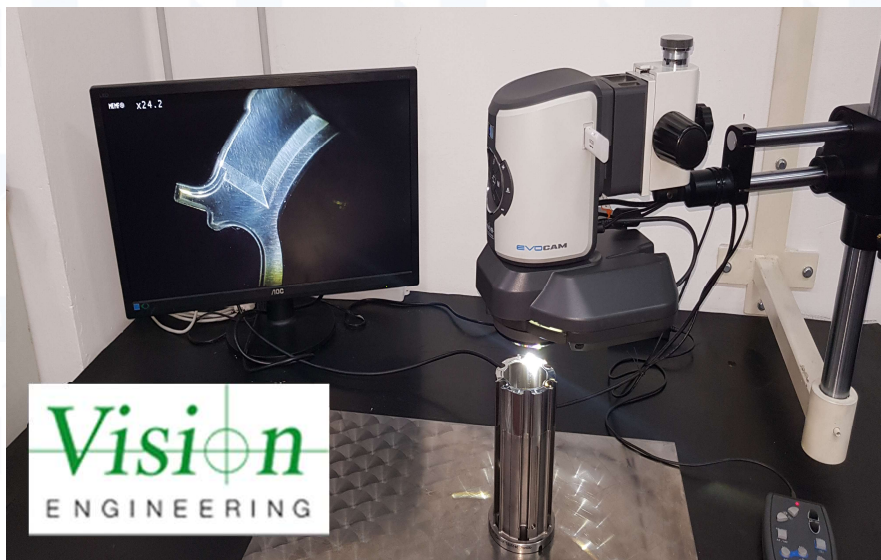


# Quality Inspection

## Quality control

*Every product is inspected and measured with full documentation before delivery*

- Climate controlled inspection lab
- The latest measurement machines
- High performance digital microscope optimized for quality control, testing, inspection and documentation.





**Recent investment plan for the three-year period 2014-2016:  
2.5 M€**

- 1 Wire EDM machine
- 1 Contouring EDM
- 1 3D coordinate Measure machine
- 1 CNC Turning machine
- 1 High speed milling CNC machine with 5 axis
- 2 Software CAM 4/5 axis
- 3 Software CAD
- 1 Photovoltaic system

**This investment plan has been completed**

## Investment plan for the three-year period 2017-2020

- 1 CNC High speed milling machine 4 axis
- 1 CNC High speed milling machine 5 axis
- 1 Contouring EDM machine
- 2 3D coordinate measuring machine
- 1 Special grinding machine for helical gears
- 1 Gas nitriding vacuum furnace
- 2 Wire EDM machine
- 1 Hole drilling EDM
  
- 1 Wire EDM machine

**On Order**



# Examples

**PONTILLO**  
OFFICINE MECCANICHE s.r.l.





# Examples

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# Examples

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## Large stock of metals and hard metal

Vanadis 10	CPM 3V
Vanadis 4 extra	CPM 10V
Alvar 4	K110
ASP 20XX	Etc.

All materials are tracked in and out

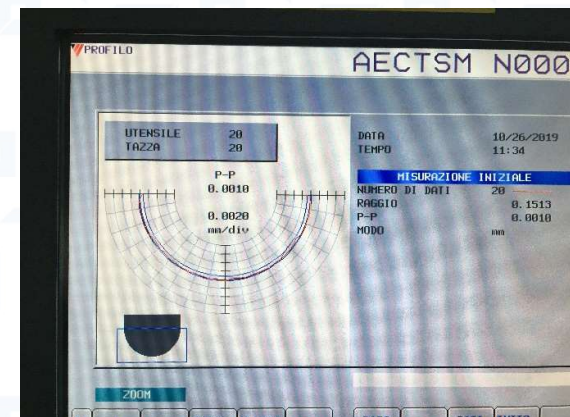




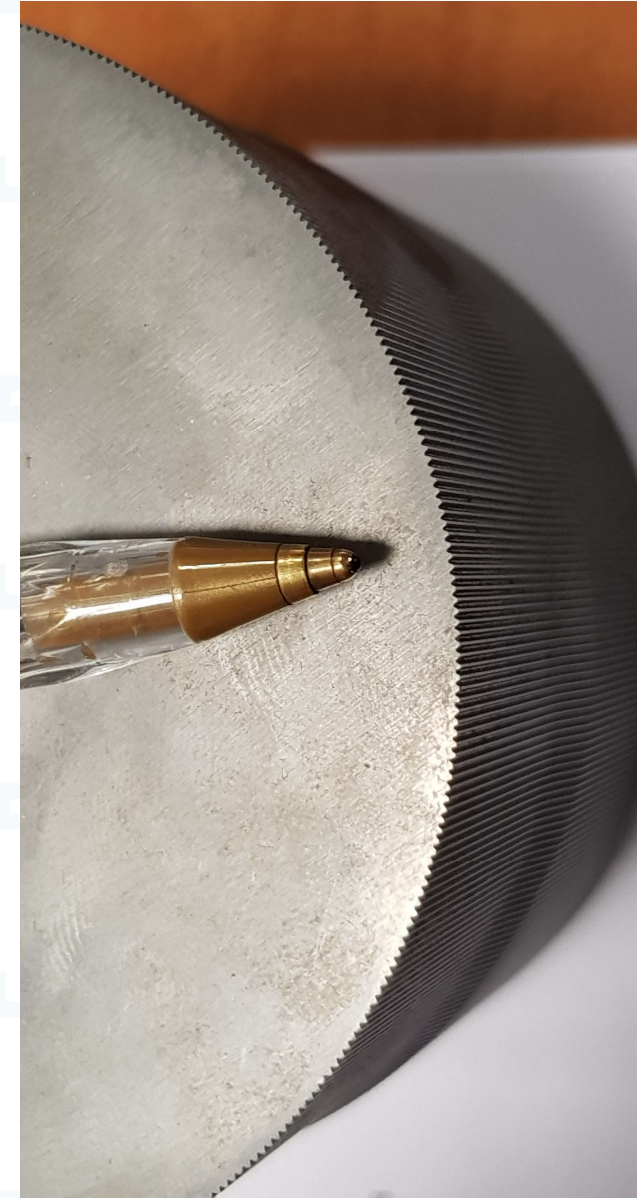
## High speed milling

- Radius minimum 0.1 mm
- HRC 70

There is an increase in the duration and in the surface quality, compared to the EDM machining.

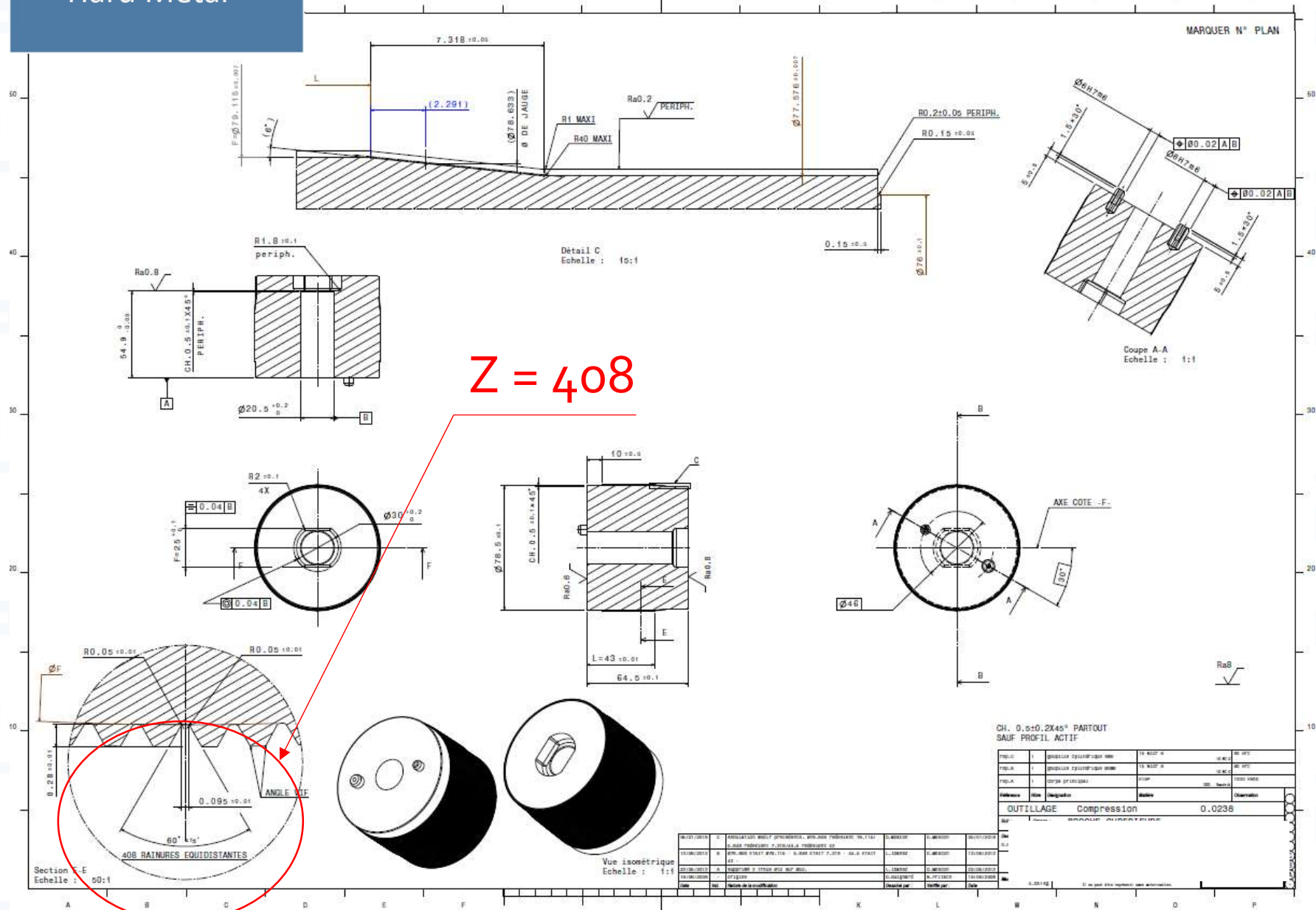


Hard Metal





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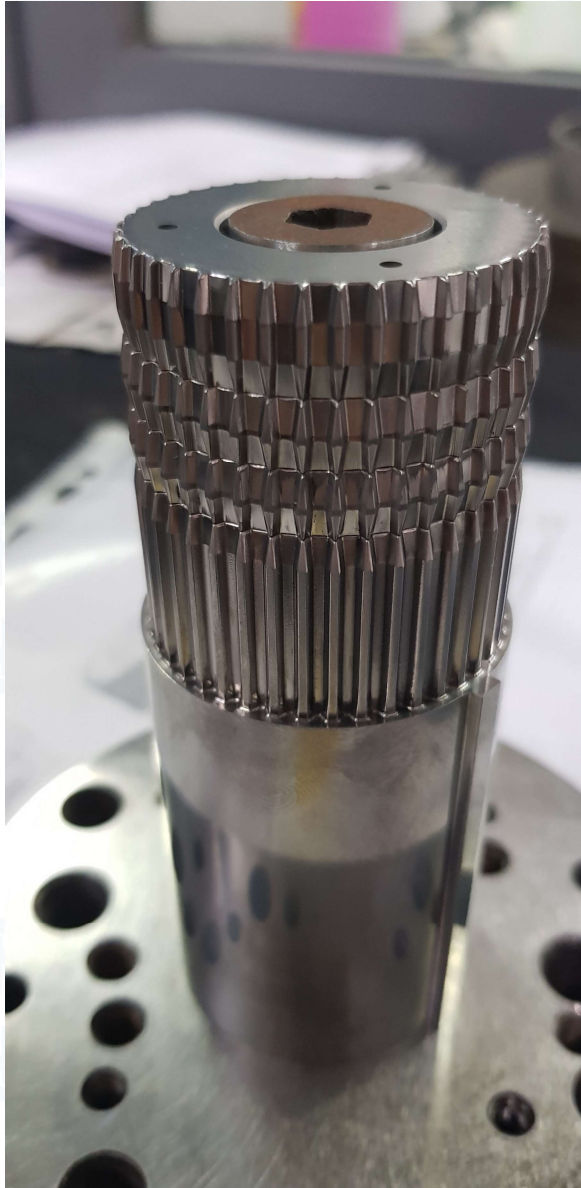


## EDM

- Maximum height 680 mm
- Maximum Ra 0,06

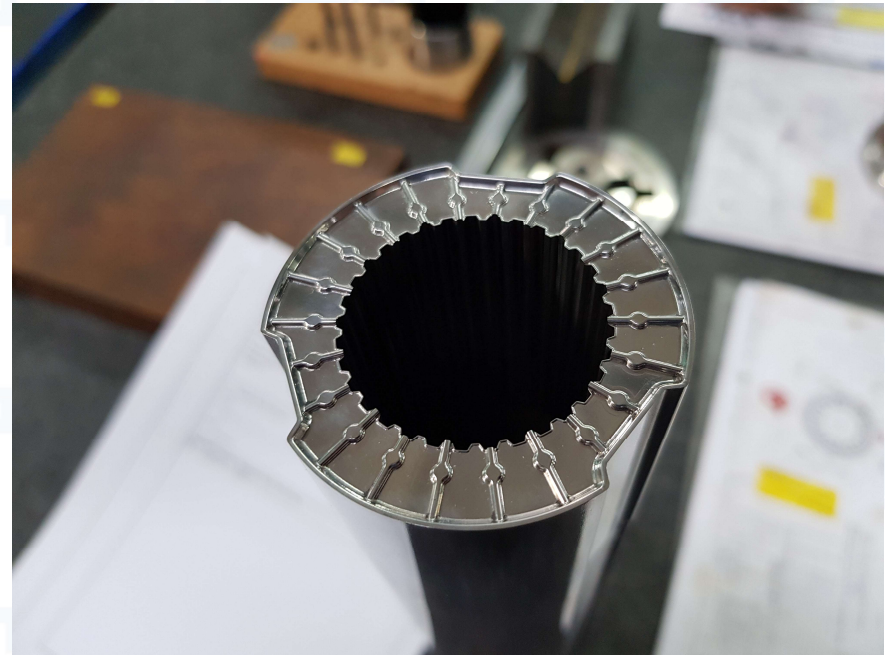
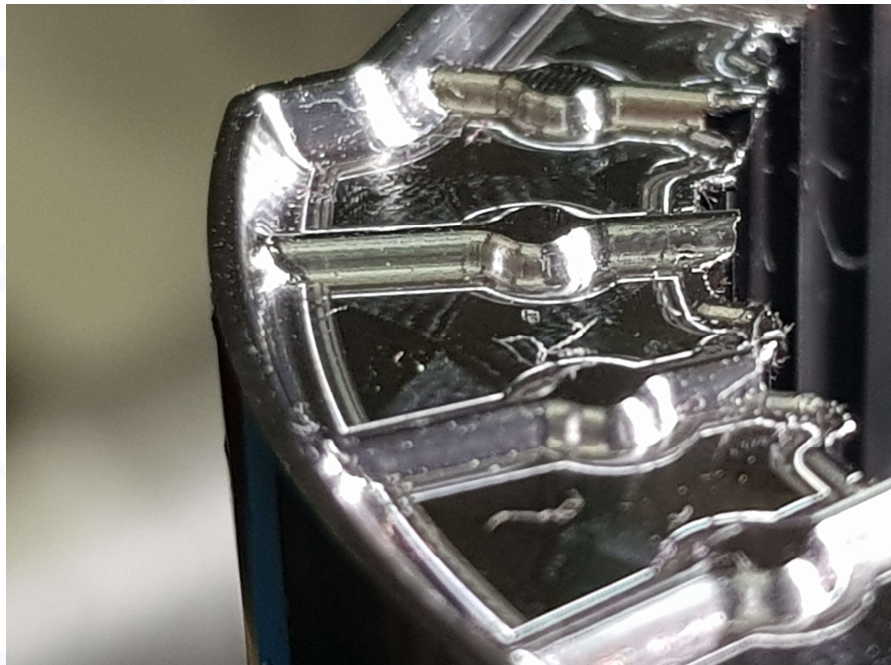
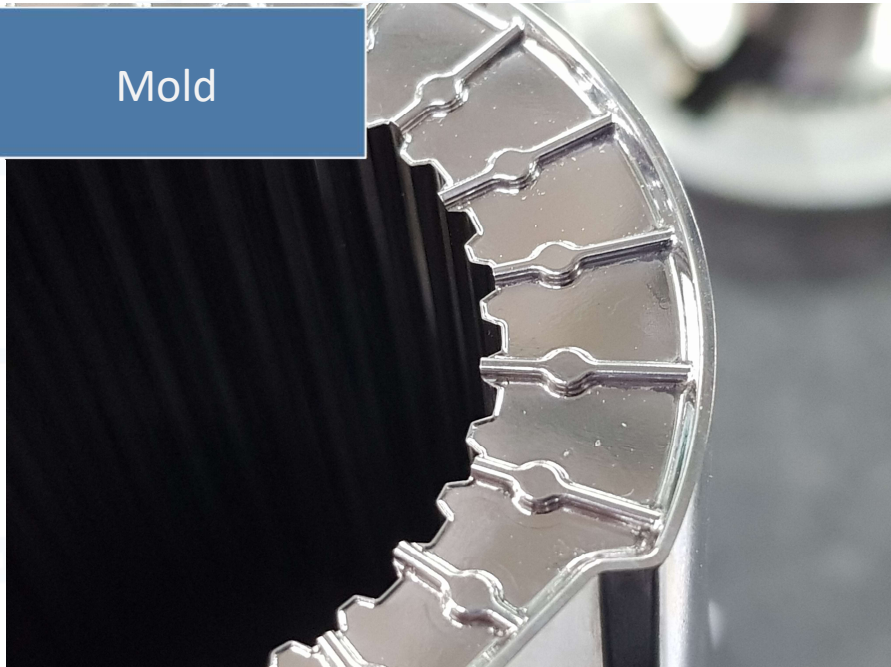


Mold



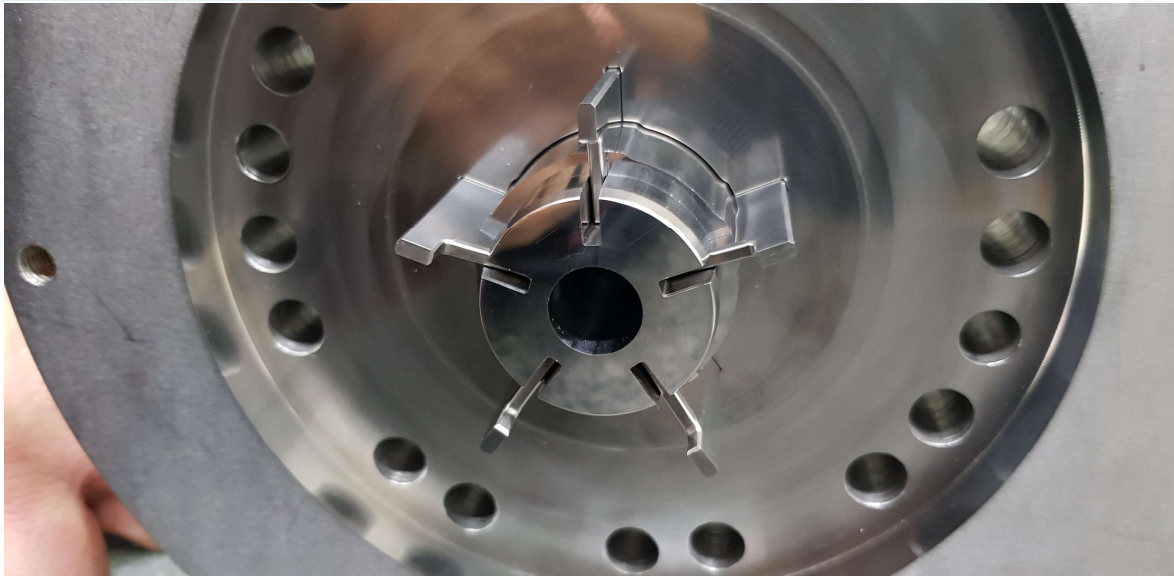


Mold





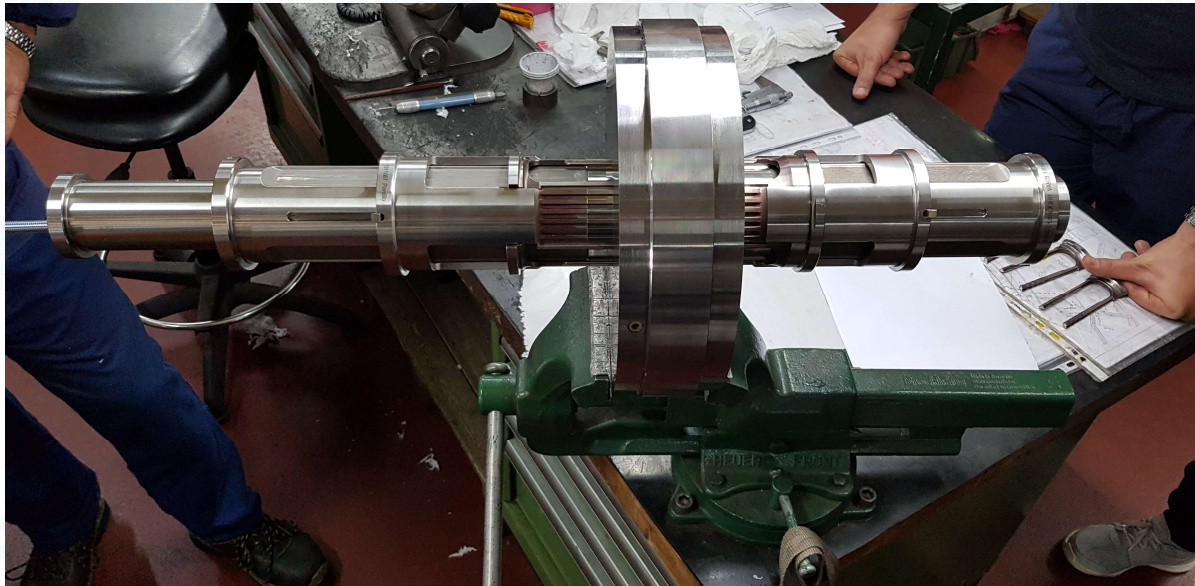
## Mold





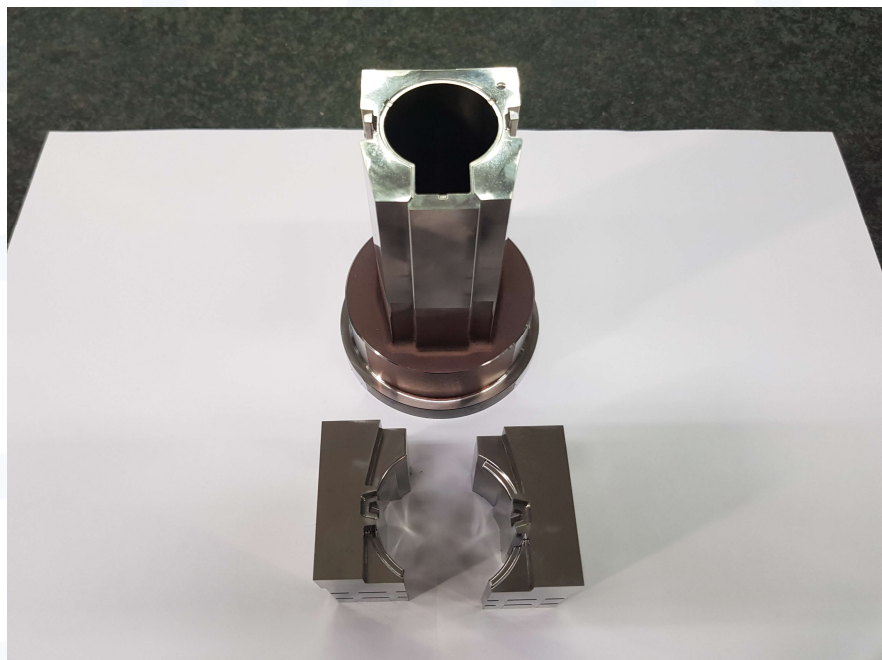
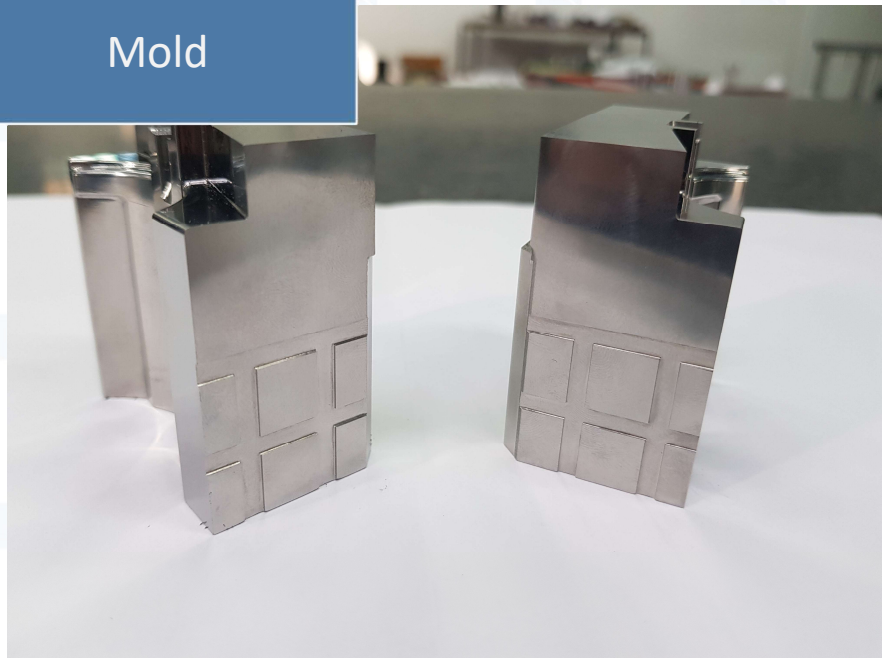
## Mold

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Mold





Mold

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## Helical Gear





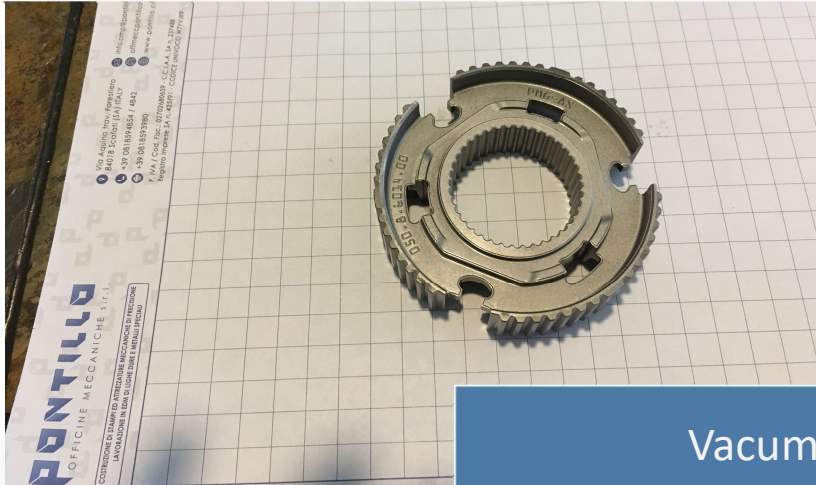
Product of the helical system, made with a numerical control system

- ✓ Number of teeth: 50
- ✓ Helix angle: 30°
- ✓ Height: 15 mm
- ✓ Outer diameter: 67,2 mm
- ✓ Press: 200 tons
- ✓ Frequency: 11,8 realization cycles per minute
- ✓ Average density: 7,25 g/cm<sup>3</sup>

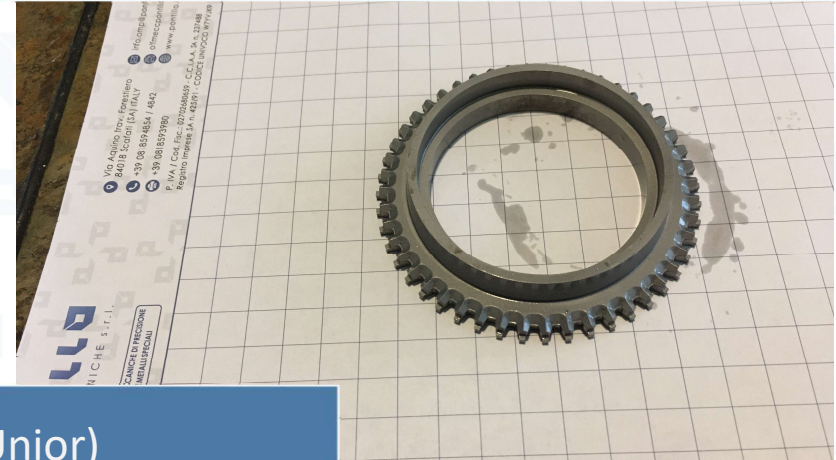




Syncro Hub (PMG)  
Pressing + sizing



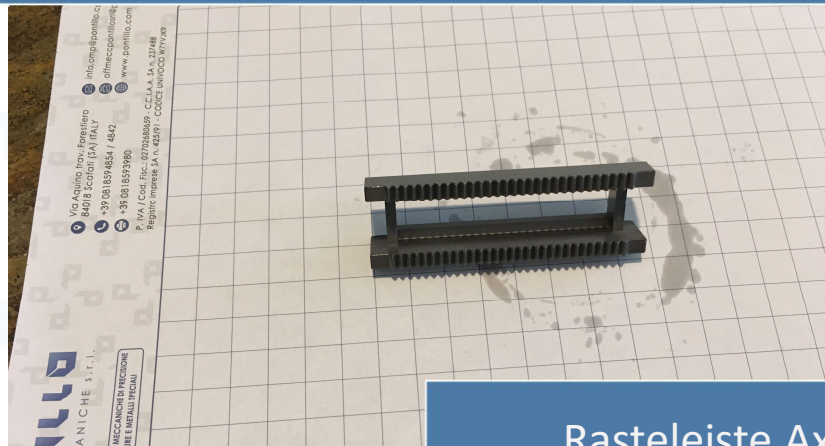
Syncro Ring (Sintertech)  
Pressing + sizing  
Density 7,2 g/cm<sup>3</sup>



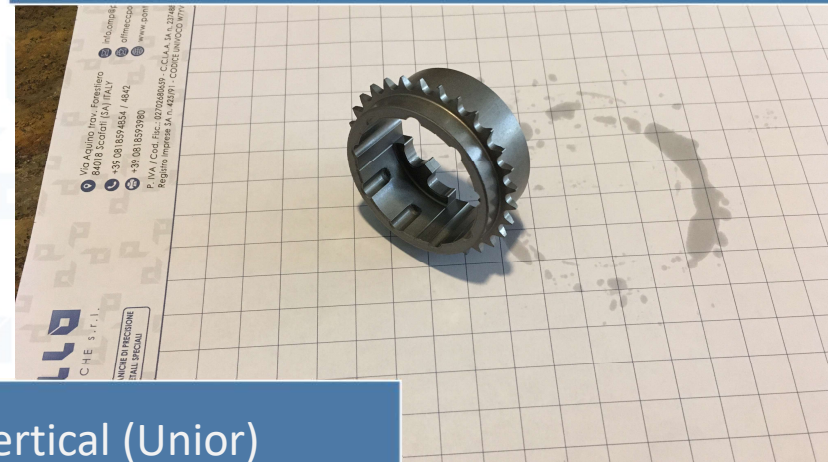
Vacum Pump (Unior)  
Pressing  
Density 7 g/cm<sup>3</sup>



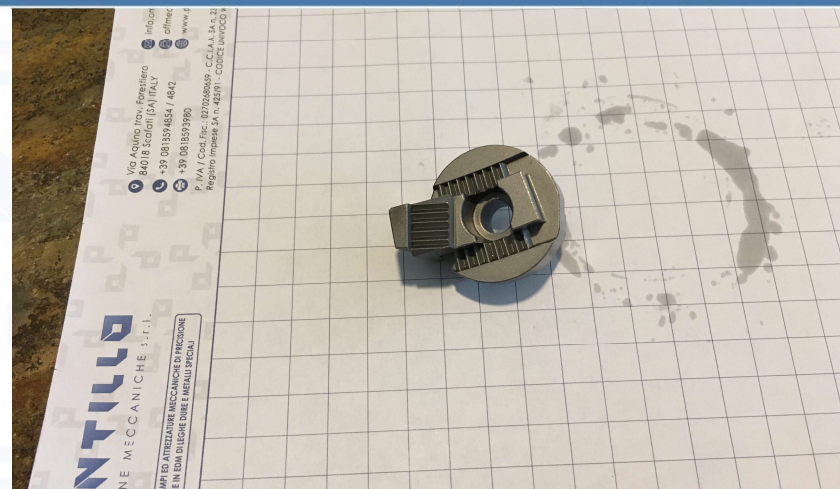
## Rasteleiste Axial (Unior) Pressing BMW



## Chain Wheel (Carbosint) Pressing + sizing



## Rasteleiste Axial + Vertical (Unior) Pressing BMW





Thank you for your attention

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**Pontillo Tooling**