



FAIST

INSPIRING SOLUTIONS

Bologna Tool Shop
Company Profile



FAIST Light Metals



Individually, we are one drop. Together, we are the ocean.



The Tool Shop of **FAIST Light Metals**, founded in 1987 near Bologna, has specialized in the design and manufacturing of dies for high-pressure casting of aluminum in both sectors of **Automotive** (transmission housing, steering elements, vacuum pumps, oil pumps) and **Telecom** (heatsinks and filters).

We can realize dies up to a total weight of 18 T. Our specialized team follows every production stage from the design up to the hot test.

Furthermore, our internal expertise with a deep insight in foundry processes is able to support the Customer not only during the design and development stage but also as far as feasibility analysis, part co-design and advanced simulation activities are concerned.

The long lasting experience matured in the design and manufacturing of dies for the Automotive and Telecom sectors allowed us from the one hand to get a comprehensive technical overview on specific critical issues; on the other hand this gives us the possibility to think strategically by sharing and applying skills and solutions to both sectors in a mutual and profitable way.



SOME OF OUR PRODUCTS

Main Sectors:

AUTOMOTIVE

TELECOMMUNICATION
INDUSTRY



Transmission Housings

Steering elements

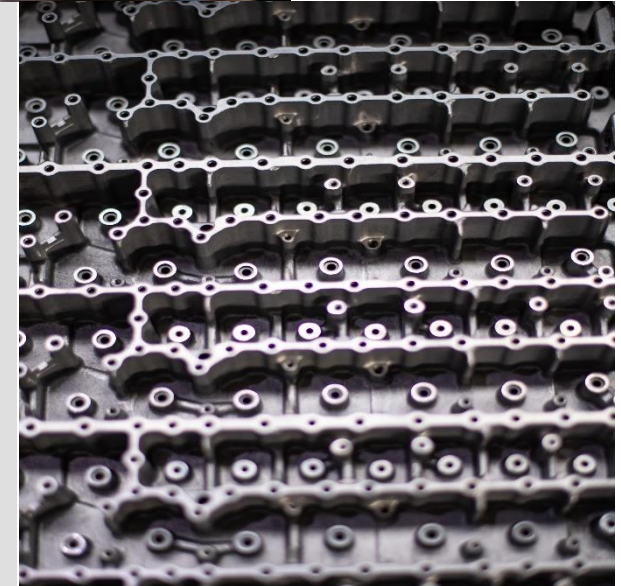
Vacuum Pumps

Oil Pumps



Heatsinks

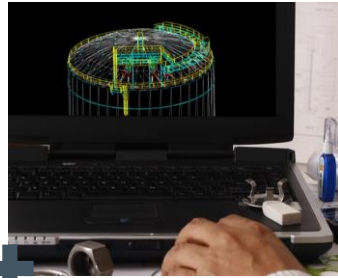
Filters



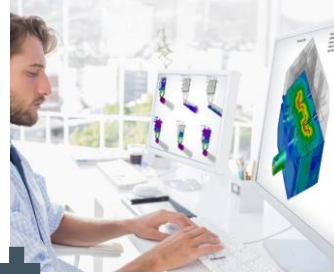


OUR PROCESSES

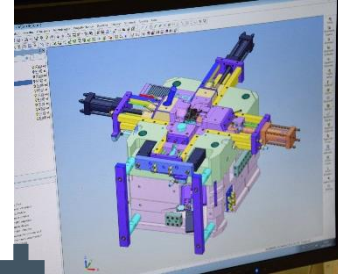
FAIST Light Metals



Part Design



FEM & Simulation
Analysis



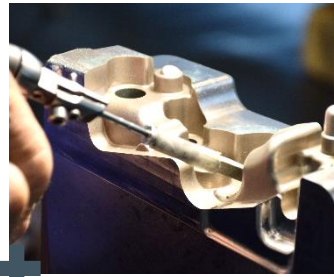
Tool Design



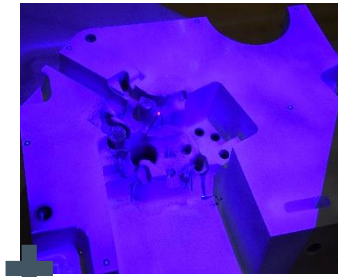
CNC Machining



EDM



Assembly



Quality Controls



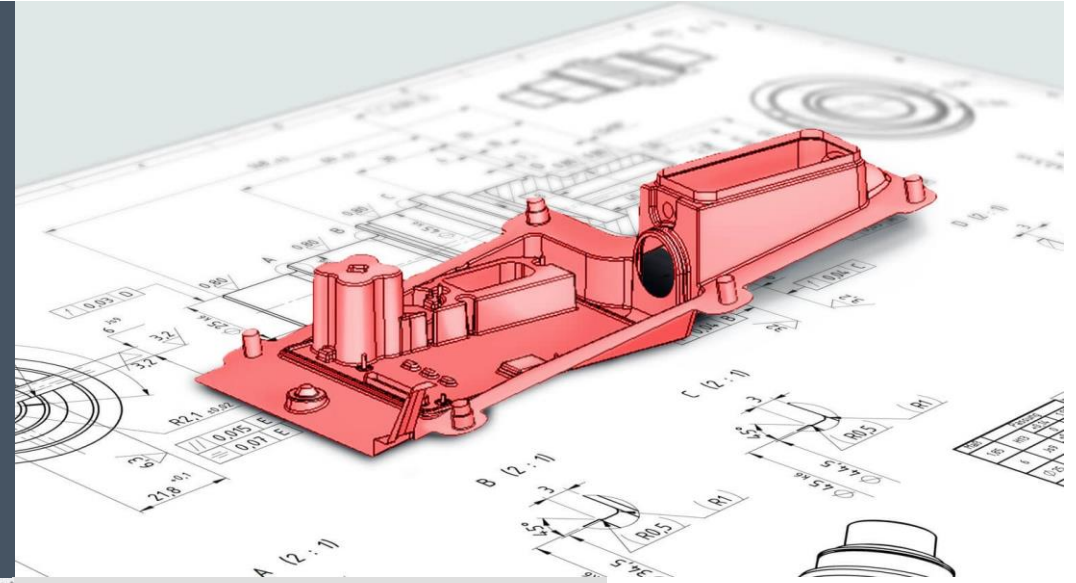
Hot Tests



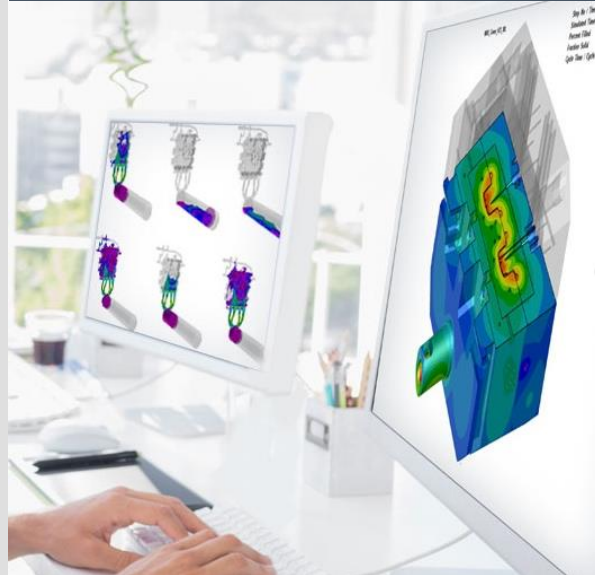
TOOL & PART DESIGN

CAD - CAM Software

- Catia
- Unigraphics NX
- PTC Creo
- Cimatron



Co design activities to realize components using HPDC.



Manufacturing of dies with advanced features:

- vacuum
- squeeze pin
- jet cooling
- conformal cooling

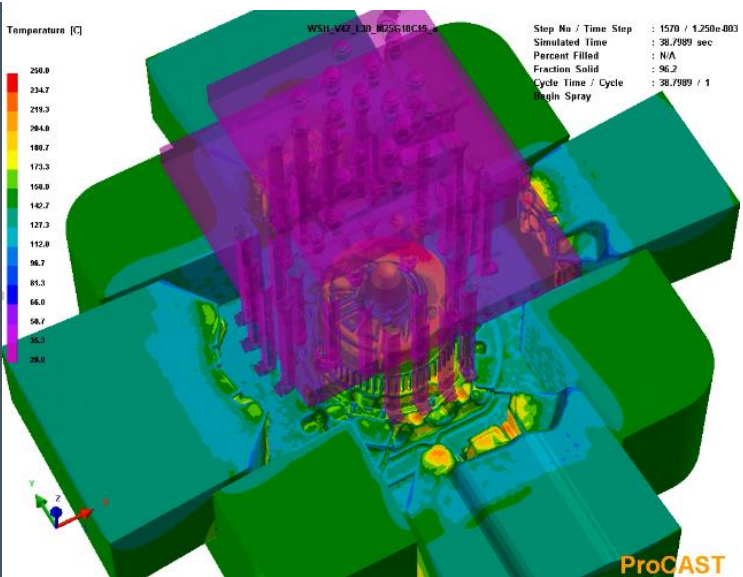


PROCESSES VIRTUALIZATION

FEM Analysis

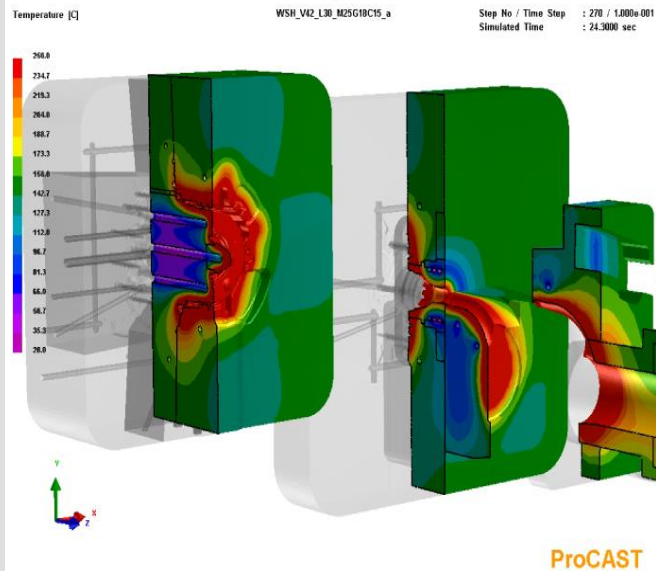
Simulations

Tool virtualization to predict its useful life



Total Die Casting process virtualization:

- Spraying head optimization and design
- Dosing system analysis
- Spraying head optimization and design
- Ejection force/displacement
- Part heat treatment analysis
- Trimming tool study
- Burst test study



Our softwares:

- Ansys
- Magma
- ProCast

Possibility to run FEM Analysis combining predicted defects and residual stress generated by casting process.



CNC MACHINING



5 milling machines with 5 axis
(max. stroke 3800x1200)

3 milling machines with 3 axis
(max. stroke 2100x770)

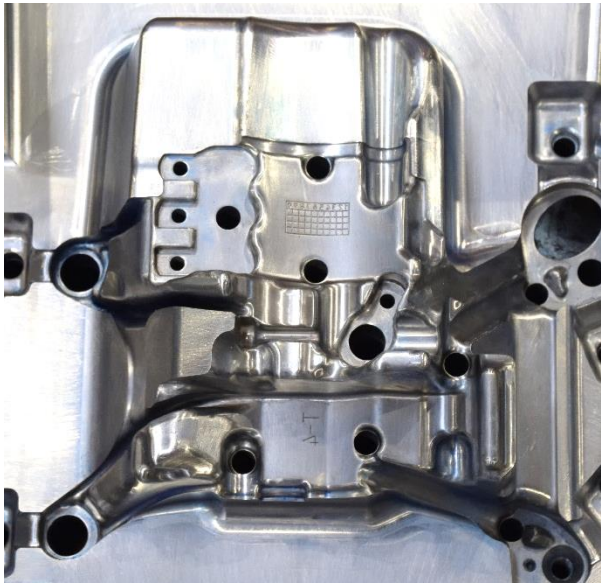
1 deep drilling machine
(max. stroke 800x800)





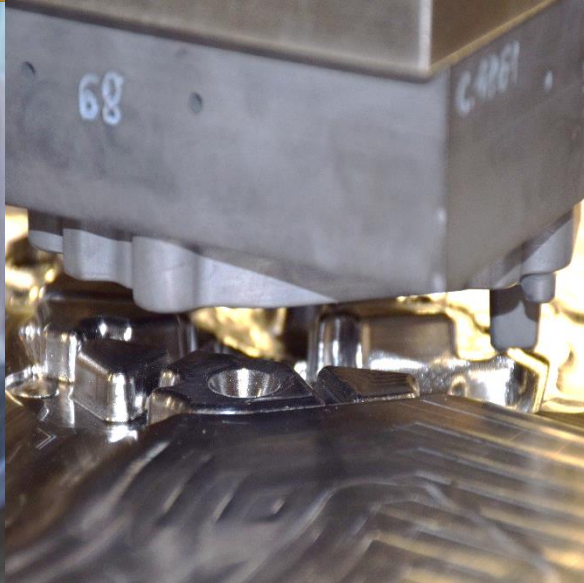
EDM

3 spark erosion machines
1 wire erosion machine



Advanced co-design allows us to realize elements with complex profiles.

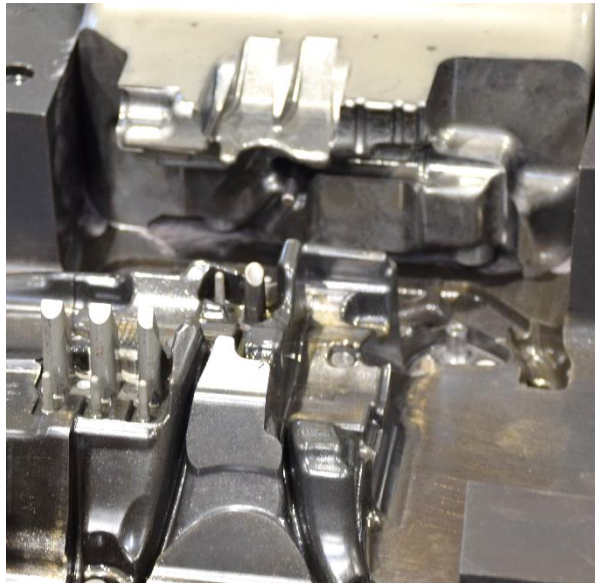
In-house manufacturing of the electrodes.





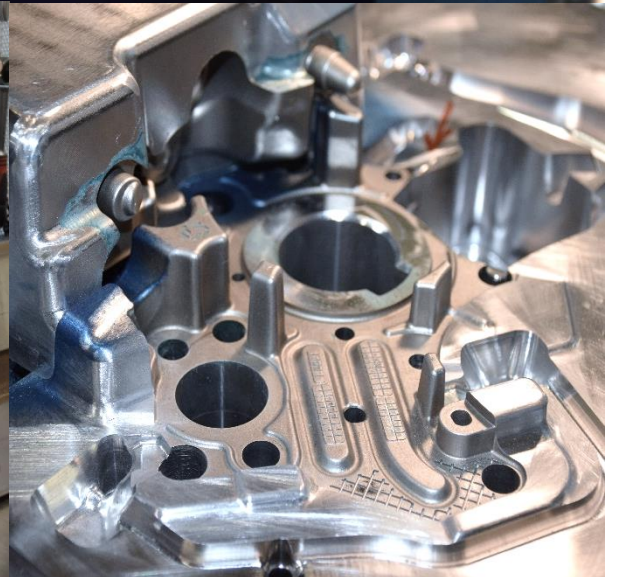
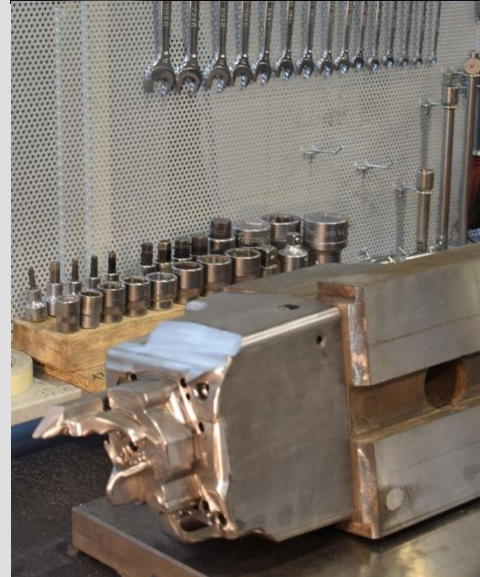
ASSEMBLY

Assembling staff with decades of experience in polishing and die closing on the spotting press.



5 assembly workstations

1 grinding workstations

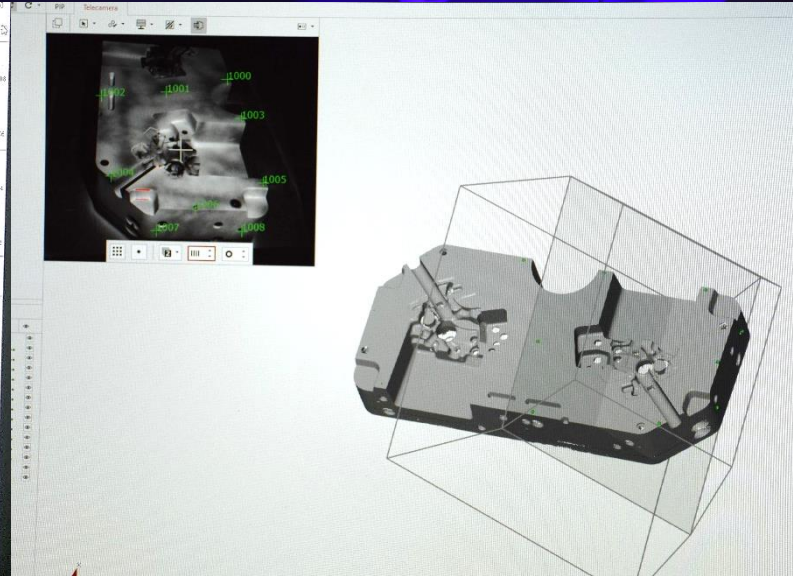
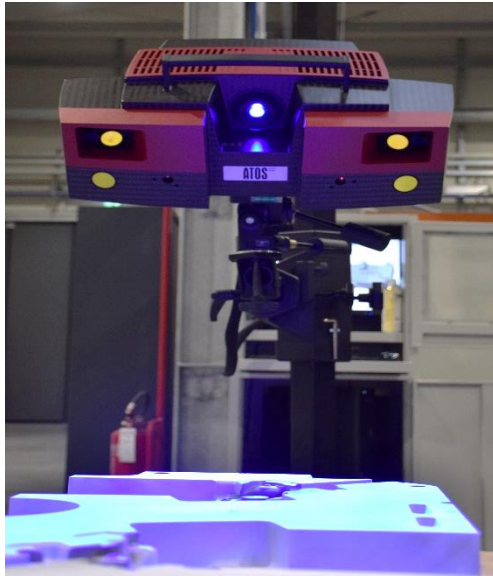
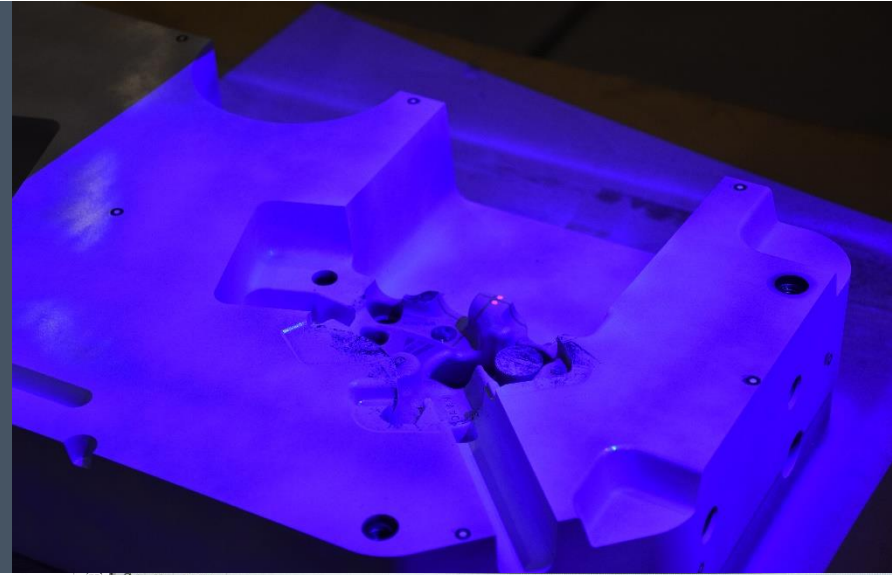




QUALITY CONTROLS

3D Controls
Best fitting

3D photometric control
system GOM, accuracy 0,01





QUALITY SYSTEM

FAIST Light Metals

Lean Processes
Control Plans
Auditing



Kaizen Activities

Staff Training Programs

Quality comes first



FAIST Light Metals



THANK YOU
FOR YOUR ATTENTION



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