



PORTEGUESE MOLD MAKER, ADDITIVE MANUFACTURING AND PLASTIC INJECTION EXPERT

INTEGRATED SOLUTIONS

# About us

The Erofio Group, a family-owned business with over three decades of expertise, has established itself as a leading player in the product and process engineering, mold manufacturing, plastic injection and additive manufacturing industry.

With three specialized units: **Erofio – Engineering and Mold Manufacturing, Erofio Atlântico – Injection Molding and Additive Manufacturing Unit** — the group offers an integrated approach tailored to our clients' needs.

More than a supplier, we build long-term partnerships with our clients, driving innovation and quality in every project.



erofio

erofioAtlântico





# Our History

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**1990**

Engineering and  
mold manufacturing  
(Toolmaking Unit)

**2000**

Erofio Atlântico  
(Plastic Injection Unit)

**2011**

1st Additive  
Manufacturing  
Equipment

**2022**

Additive Manufacturing  
Unit (AM services)

# Key figures



20.624 (M€)

Turnover



8.344 (M€)

Gross Value Added



3.650 (M€)

Investment



+70 %

Financial Autonomy



+79%

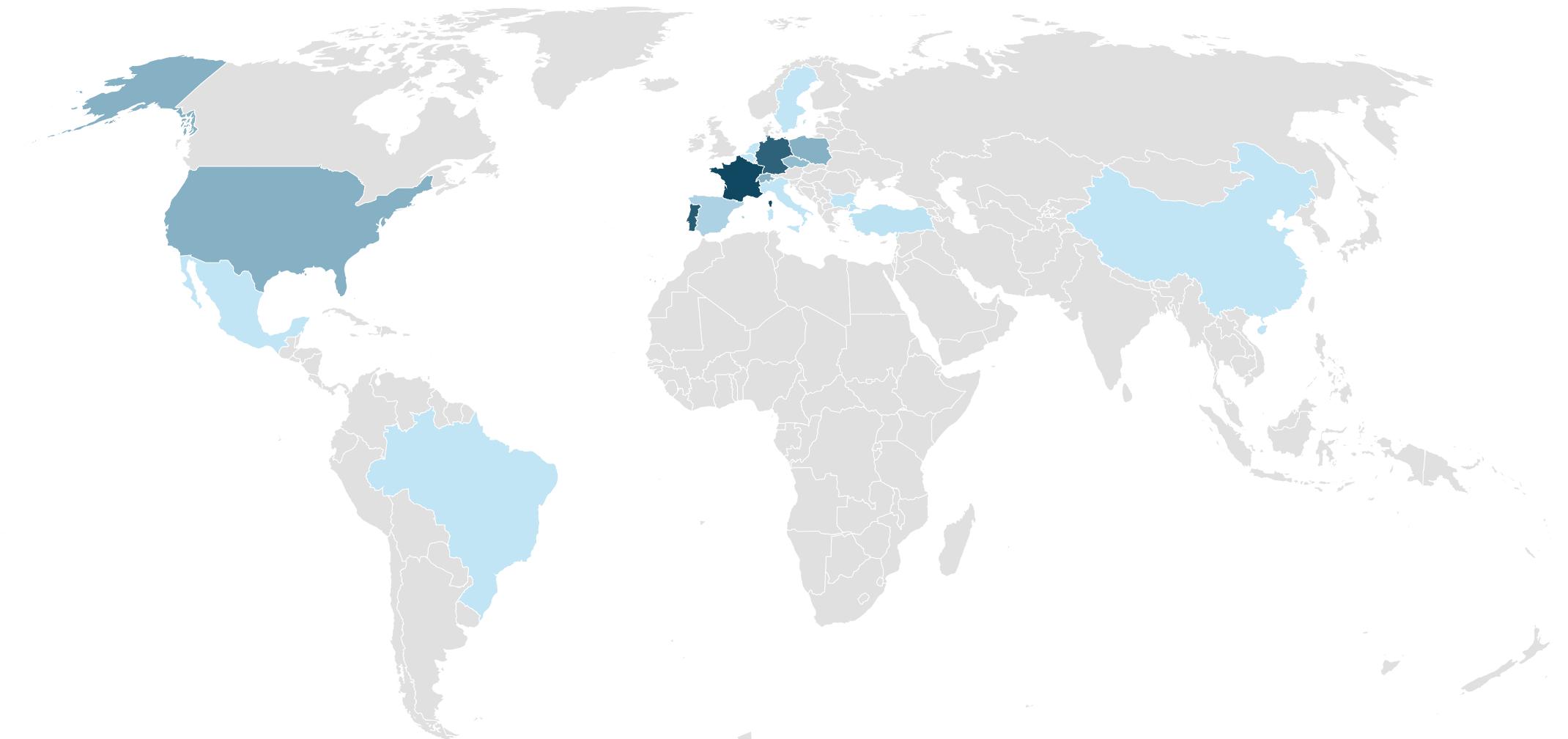
Export Rate



224

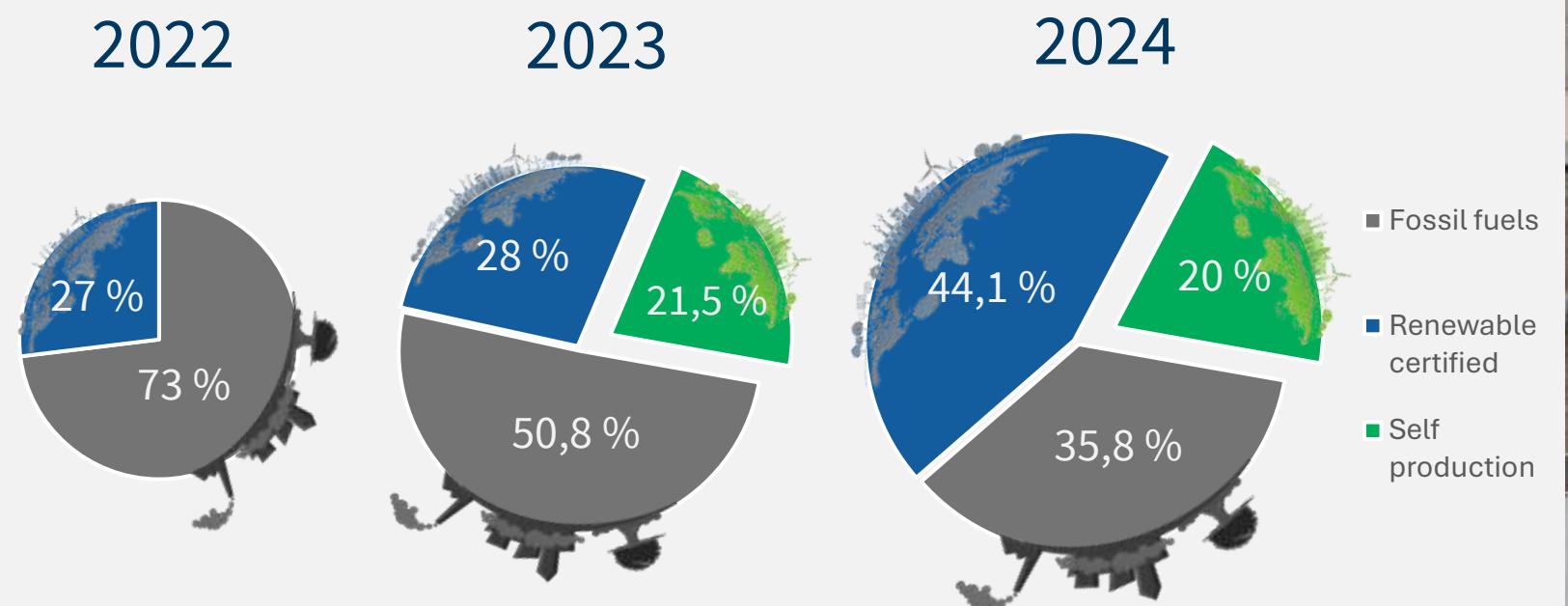
Total Workforce

# Markets

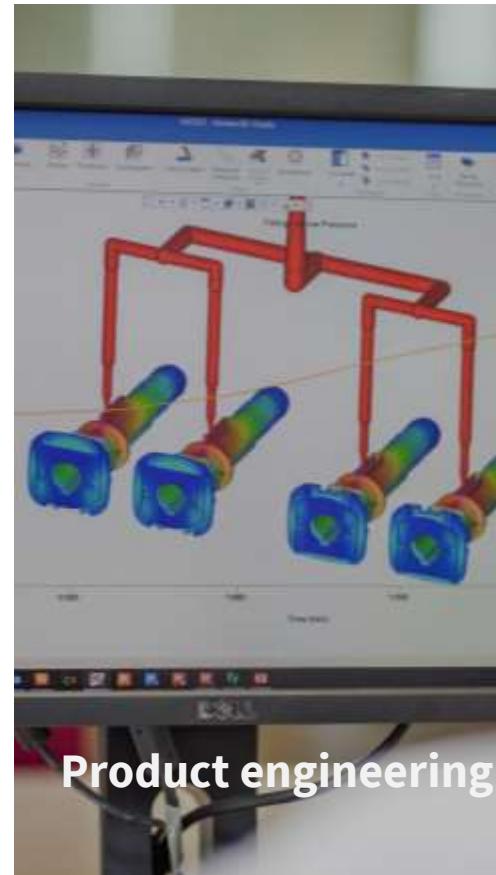


# Green Transition

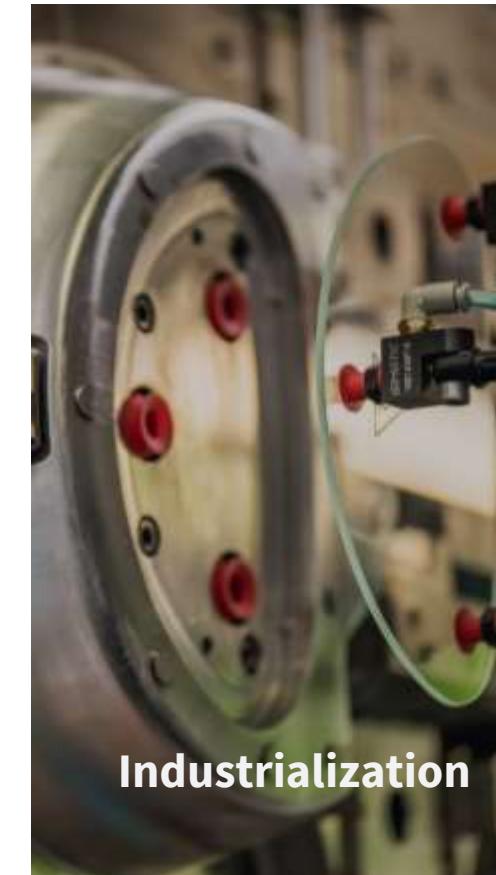
- Electrical self-production starting from 2023
- Reduction in electrical costs
- Reduction in CO2 emissions: *74 tons in October 2023*  
*(less 26 tons than 2022)*



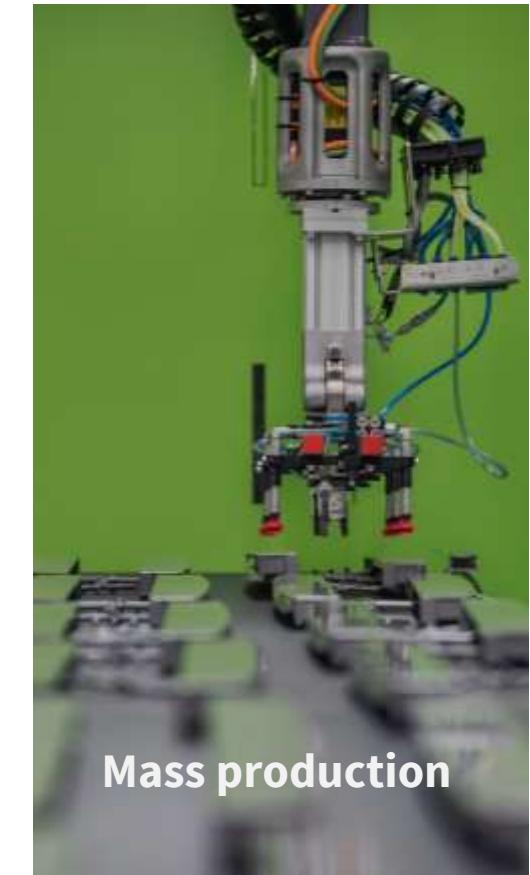
# Our Services



Product engineering



Industrialization



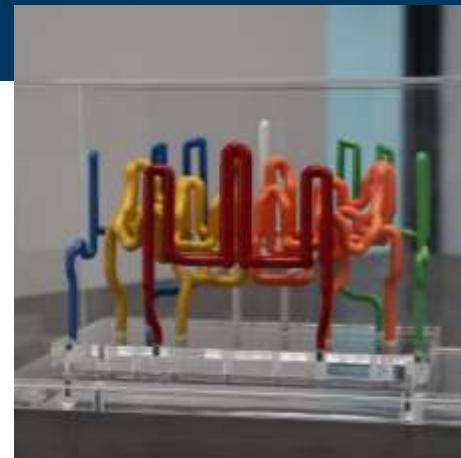
Mass production

# Product Engineering



## Development

Functional analysis and technical feasibility to obtain a quality product at the best cost.



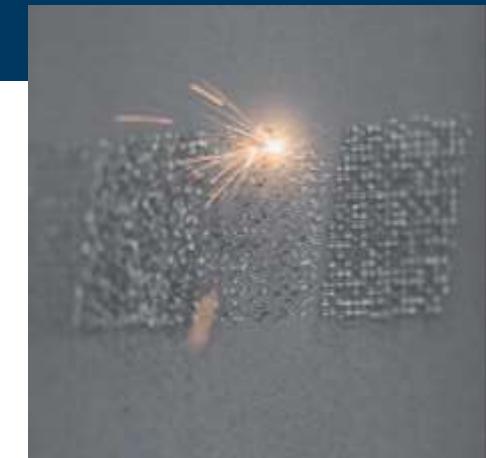
## Prototyping

For aesthetic and functional validation of plastic and metal products.



## Simulation

To validate the product and propose optimizations for better performance.



## Additive Manufacturing

To optimize injection molding process or develop new products.

# Industrialization



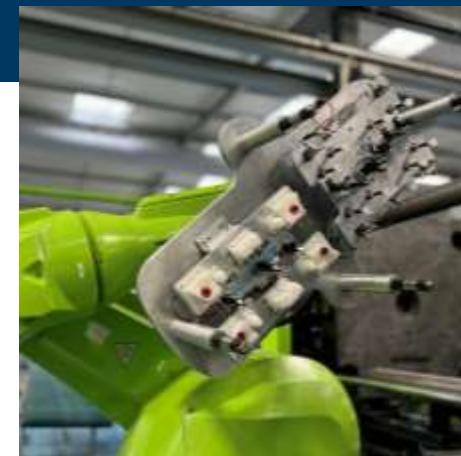
## Process Design

From mold to plastic part, every step is designed to ensure an optimized product.



## Moldmaking

We manufacture highly complex and precise molds. We use state of the art technology and internal development to ensure the best outcome possible.



## Auxiliary Equipment

Grippers and robot hands with advanced functions for IML, control and positioning devices, cutting sprue, assembly and checking equipment.



## After-sales services

We guarantee the reliability of our products and have a highly specialized technical team ready to respond to any request.

# Mass production



## Injection Molding

34 injection machines from 25t to 1100t to ensure mass production up to 4 materials (4k injection).



## Decoration and Assembly

Hotstamping, tampo and laser printing finishing of electronic components.

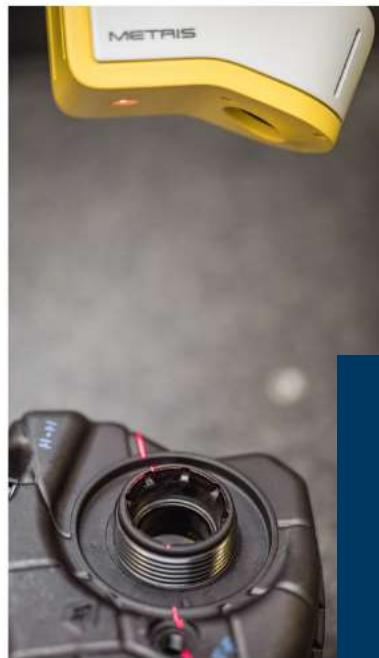
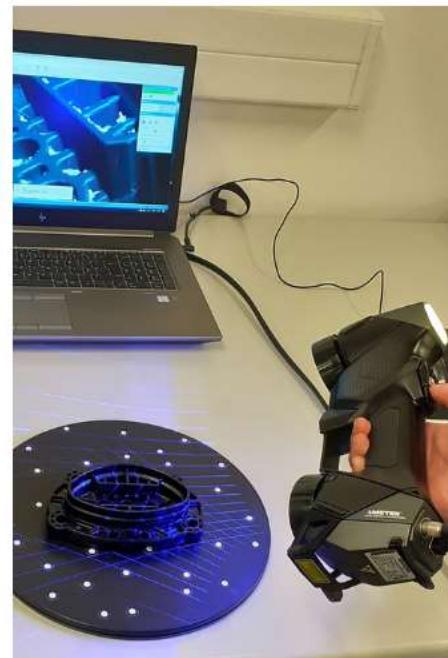


## Packaging and Logistics

Experienced in supplying customers' assembly lines over long distances, we carry out professional stock management (F.I.F.O.).

# Metrology

- 4 CMM 3D machines (Zeiss, Mitutoyo, Wenzel, Nikon)
- 3DMM (contact and scanning)
- Capacity (max): 900 x 1 600 x 600 mm
- Laser scanning (Nikon)
- Creaform Handyscan & Maxshot black elite
- 3 axis Video Measuring Machine (Vision Falcon)
- Electronic Microscope
- Customized test bench development

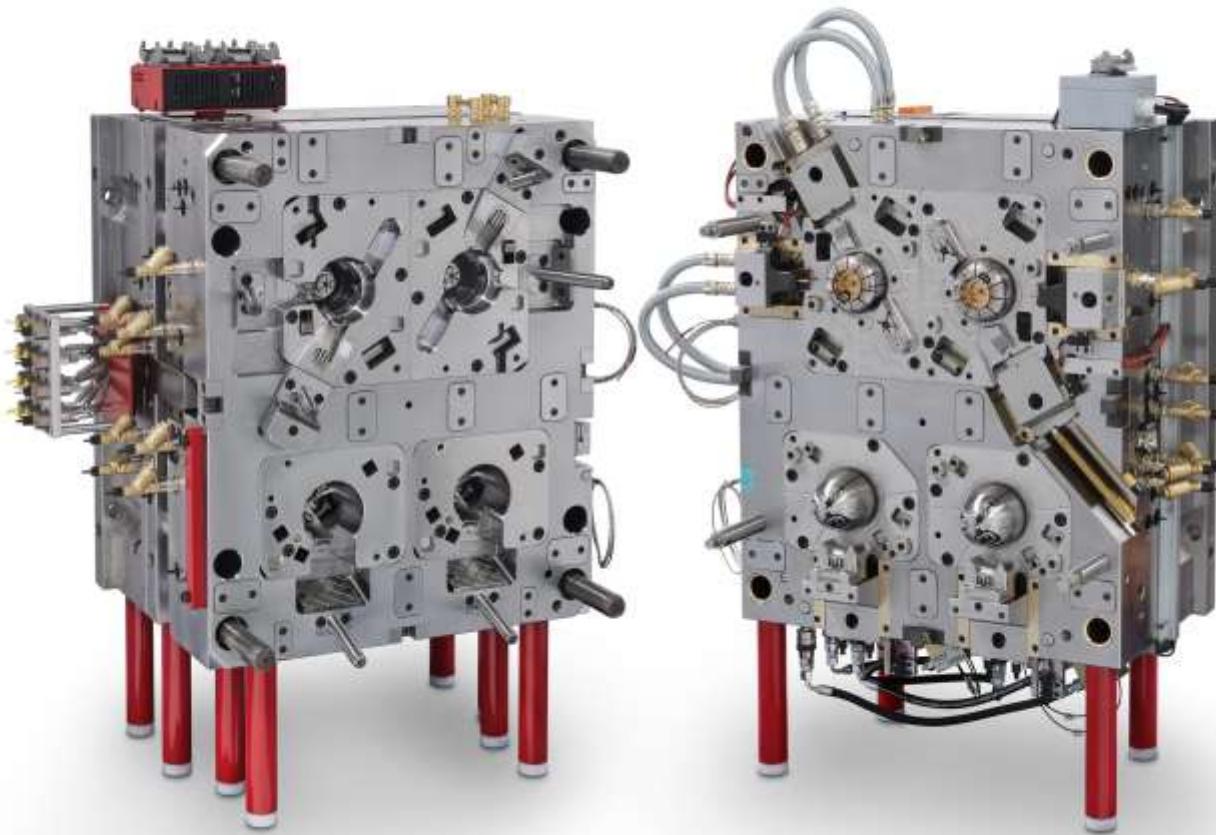


**SIGMASOFT®**  
Virtual Molding

Ansys  nTop

## R&D Services

- Injection Molding simulation (Rheological & Computational Fluid Dynamics)
- Structural & thermal simulation
- Topological Optimization



# erofio

ENGENHARIA E FABRICAÇÃO DE MOLDES  
ENGINEERING AND MOLD MANUFACTURING

inovadora'24



Engineering & Tooling ®  
— COECCO —  
FROM PORTUGAL

# Quality

- By the operator at the workstation
- By the quality team
- By metrology

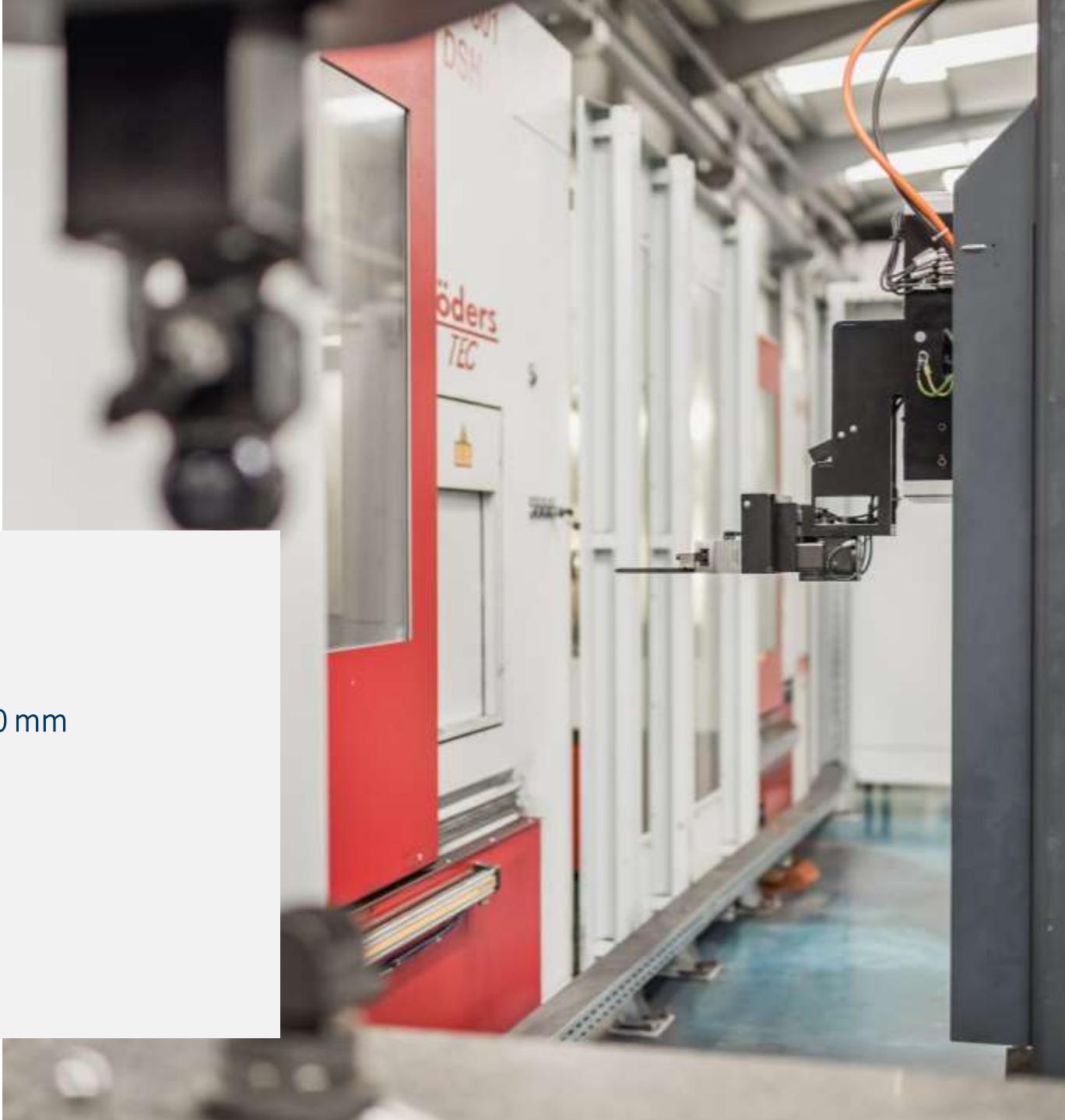


# Milling processes

- 24 CNC Machining centres  
Dimensions (max.): 2700 x 2700 x 1600 mm
- 13 machines with 5 axes  
One setup  
Shorter preparation time  
Increase in precision and speed



# Erosion Processes: wire

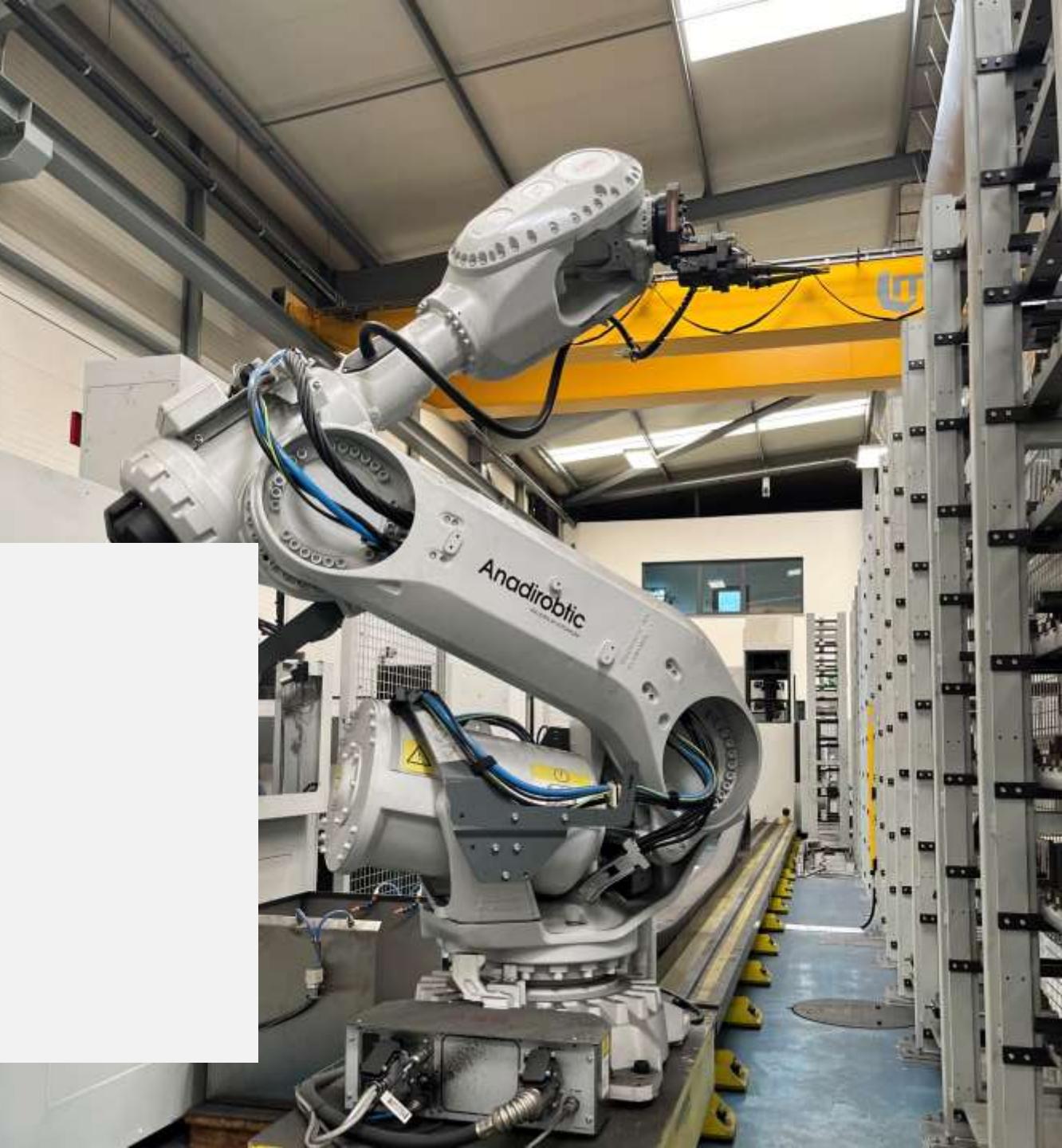


Erosion machines – wire and sinker:

- 4 + 7
- Max Dimensions of the tank: 2 600 X 1 500 X 1 000 mm
- Speed: 120 Amp.
- Electrode storage capacity: up to 3 000
- Programming: automatic (24)
- Fully submerged parts -> Superior quality

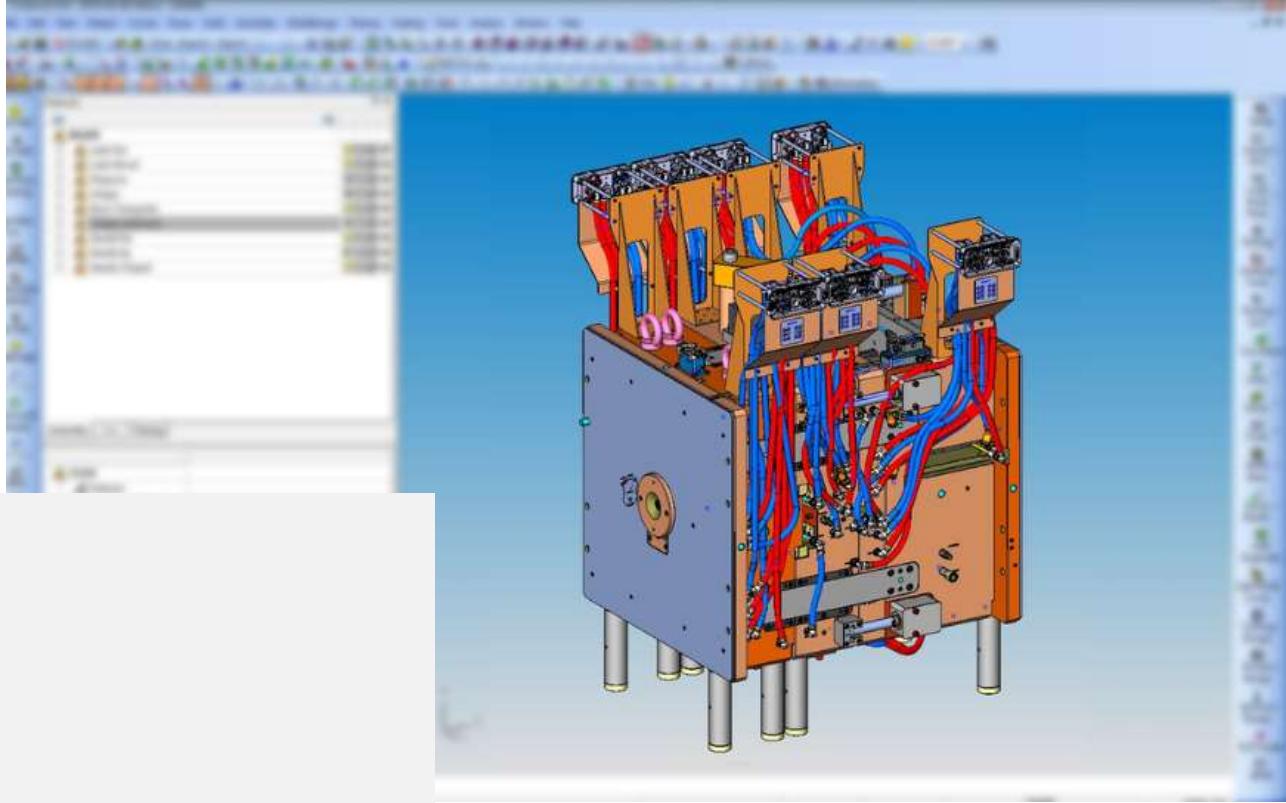
# EDM processes

- 1 Fully automated EDM cell with 8 machines
- 2 Electrode machining cells (RÖDERS)
- 5 EDM equipments
- 1CMM control equipment



# Software

- CIMATRON (Integrated CAD/CAM tool software)
- 3DXpert (3D printing)
- SolidWorks (3D modeling)
- Moldex 3D (File conversion from any 3D software)
- Ansys (Structural and thermal simulation)
- nTop (Topology optimization)
- Sigmasoft (Injection simulation - Rheology & CFD)



# erofioAtlântico

ENGENHARIA E PROJECTO DE MOLDES  
MOLDS AND ENGINEERING SOLUTIONS

**inovadora'24**



# 34

## Injection machines

- 25-1100t clamping force
- 10 bi-injection machines - 2 with juxtaposed injection groups
- 1 vertical injection machine
- Rotative plate, index plate, tandem, sandwich, insert, transfer
- Multi component up to 4k injection:
  - Babyplast Micro Injection Moulding Unit
  - Mold-Masters E-Multi Auxiliary Injection Unit



# Quality assurance

- By the operator at the workstation
- By the quality team
- By artificial vision
- By metrology

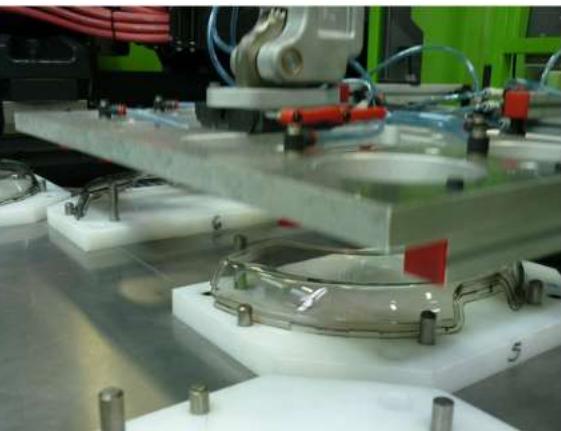


IATF 16949:2016  
ISO 9001:2015  
ISO 14001:2015  
ISO 45001:2018

[www.tuv.com](http://www.tuv.com)  
ID 9105055191

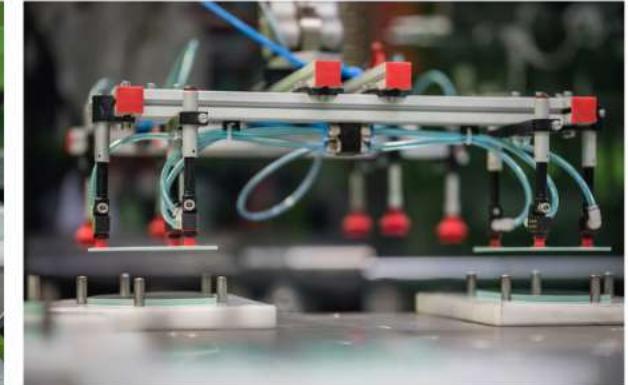
# Overmolding

- PBT 20GF + PESU
- Overmolding with two injection machines.



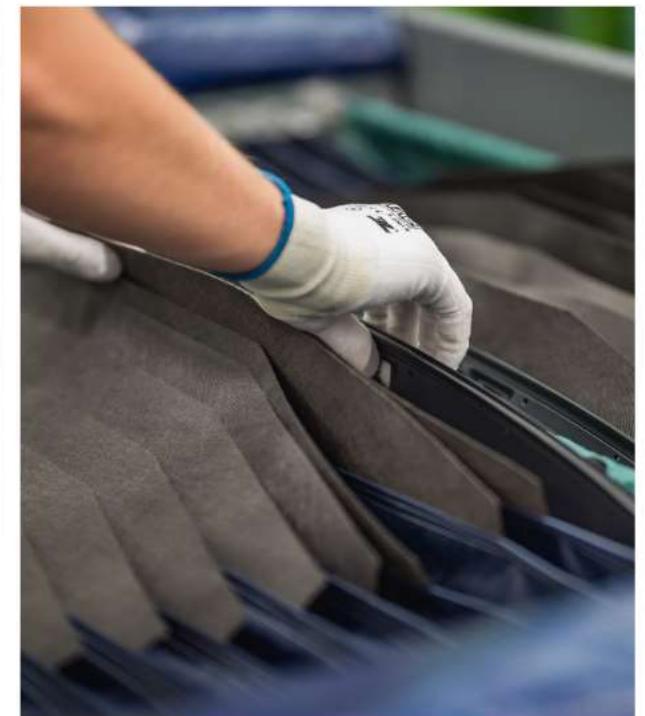
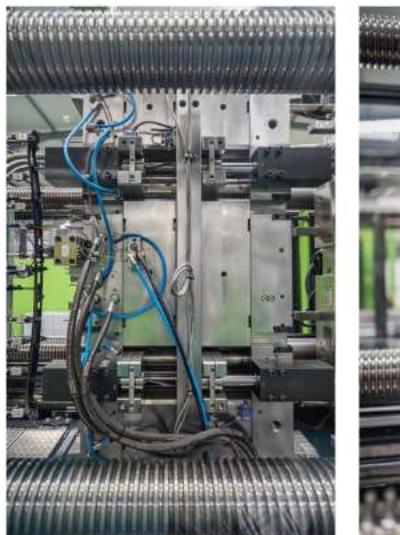
# Insert molding

- Injection of PBT GF20 over glass
- Rotative plate displaying the glass inserts
- Robot hand feeds the insert and returns fully done part



# Juxtaposed injection

- 2K – PP GF30 + TPV
- Horizontal rotary table machine



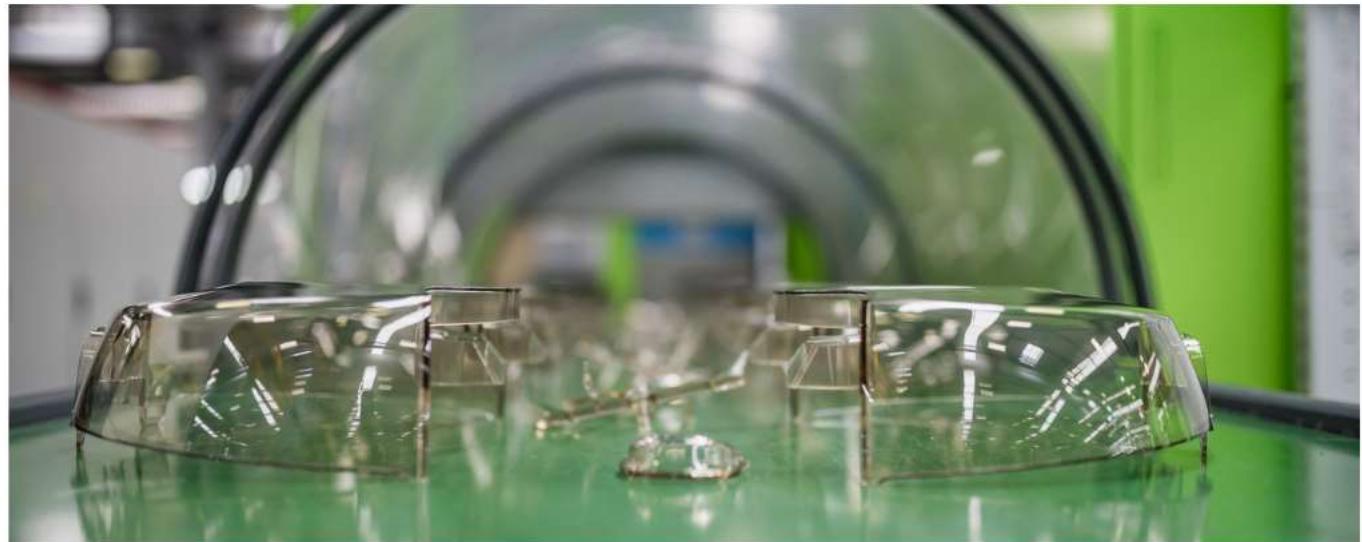
# Transfer molding

- 2K – PP GF40 + TPV



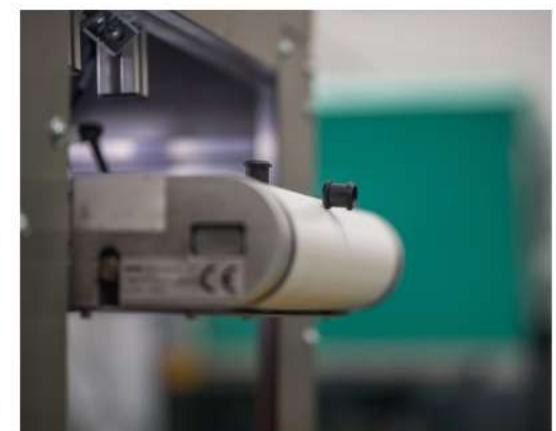
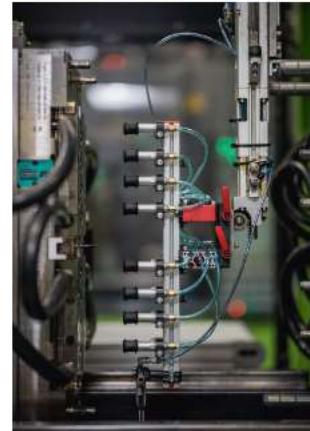
# Transparency

- PESU
- Transparency and high glass visible surface



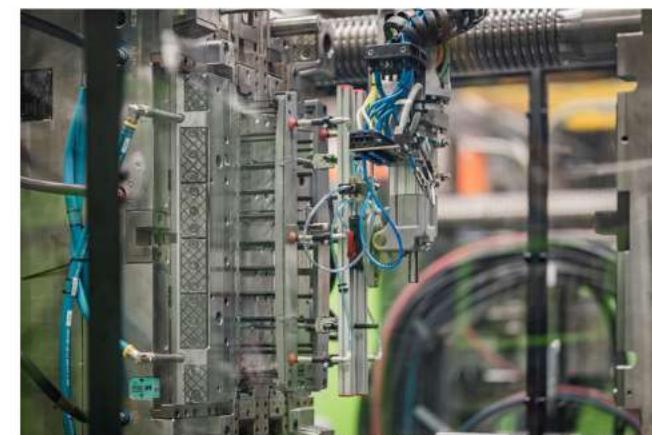
# High cavitation

- TPE
- Artificial Vision
- For high cavitation molds
- Fully automatic compliance decision



# Color Quality Control

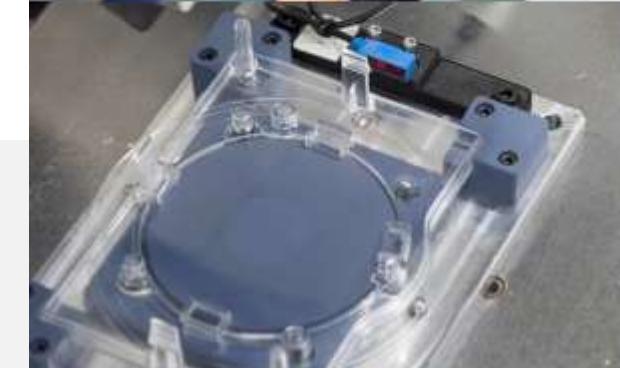
- ABS
- High gloss visible surface
- Colors: white, black, grey, beige
- Spectrophotomer
- Light chamber

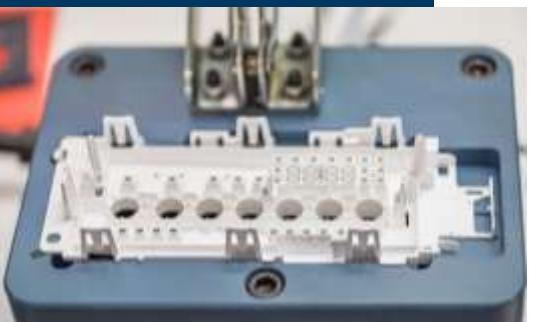




## Finishing

- Tampo printing:
  - up to 5 colors
- Hot stamping
- Laser engraving





# Assembly

- In mold Assembly
- Artificial Vision
- Ultrasonic welding
- Assembly lines with electronic components and inserts





# Portfolio Gallery

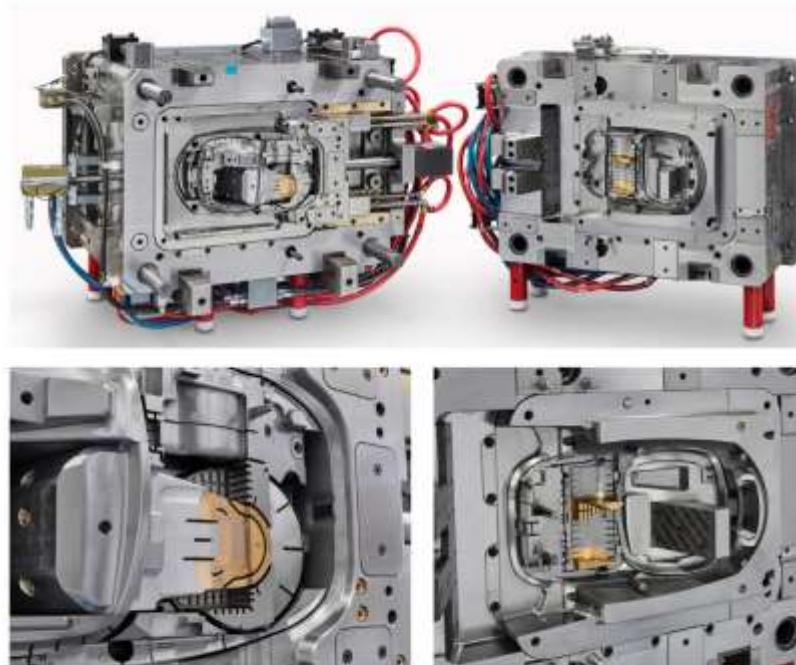


Household appliances: Vacuum cleaner part

Index Plate mold



# Portfolio Gallery

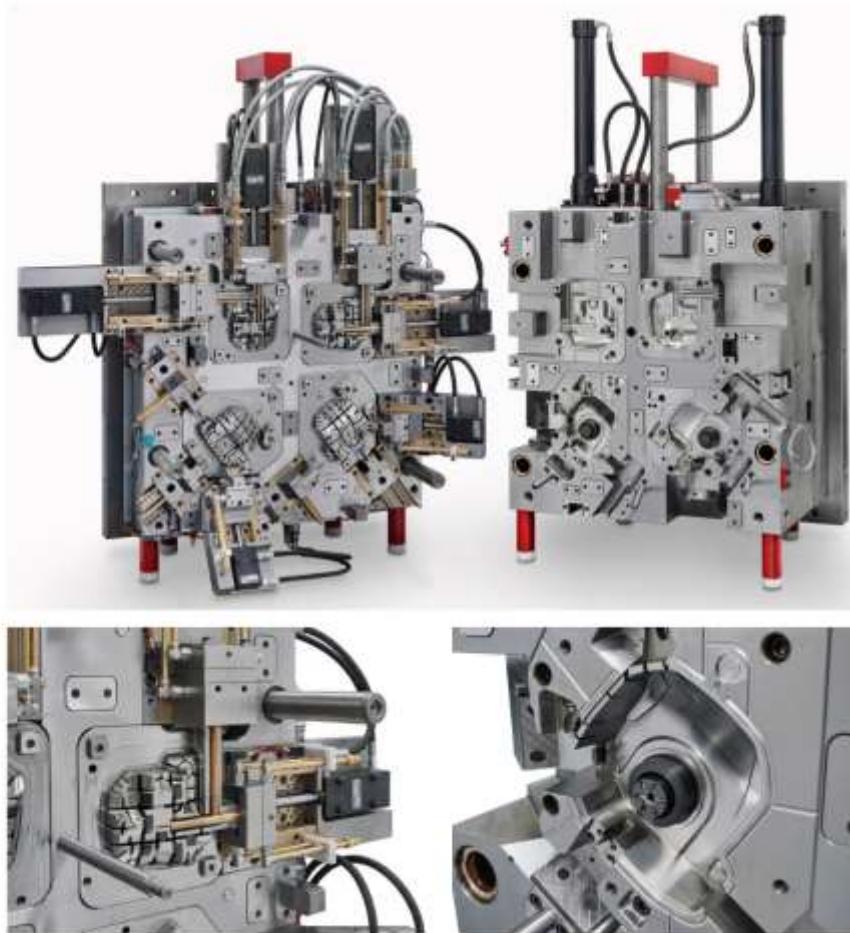


Household appliances: Vacuum cleaner

Conventional mold with multiple movements



# Portfolio Gallery

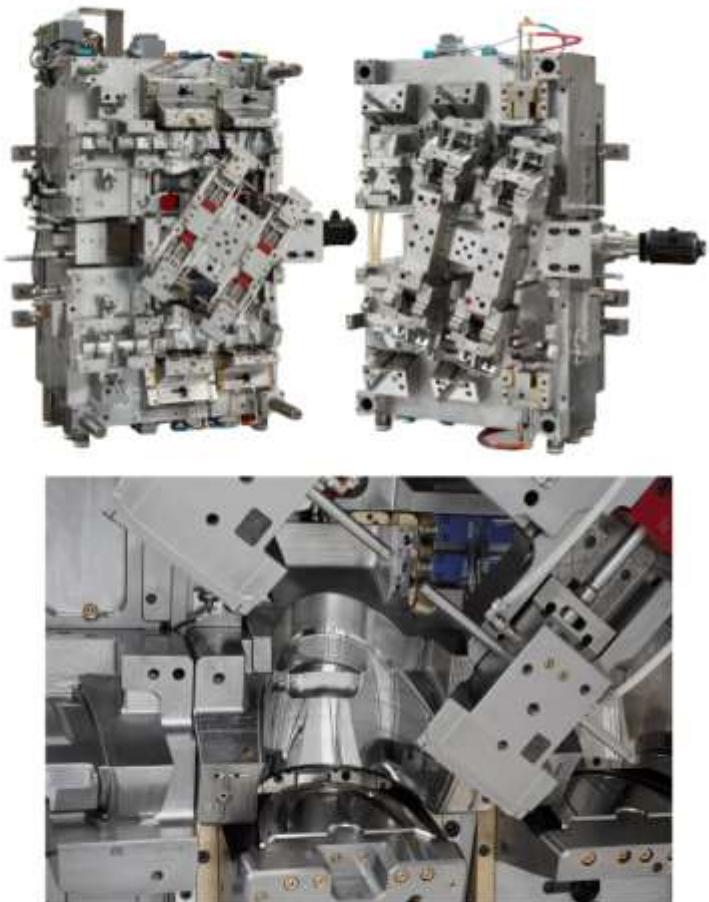


Automotive: Water tank

Conventional mold with multiple movements + conformal cooling



# Portfolio Gallery



Household appliances: Final water tank part in 1 cycle

In mold welding, Index Plate mold



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UNIDADE DE FABRICAÇÃO ADITIVA  
ADDITIVE MANUFACTURING UNIT

# About us

Opened in February 2022, the Additive Manufacturing Unit emerged to respond to the demand for additive manufacturing services.

Completely implemented in the Erofio production chain since 2011, additive manufacturing has played a fundamental role, both in optimizing the injection process and in the development of new business areas.

This modern unit is unique at an European level in terms of its size.



Erofio – Additive Manufacturing Unit



### GE - Concept Laser M Line

Corrax  
46-50 HRC

Dimensions (max.):  
500 x 500 x 500 mm



### GE - Concept Laser M2

1.2709  
46-54 HRC

Dimensions (max.):  
250 x 250 x 300 mm



### GE - Concept Laser M3

Engraving

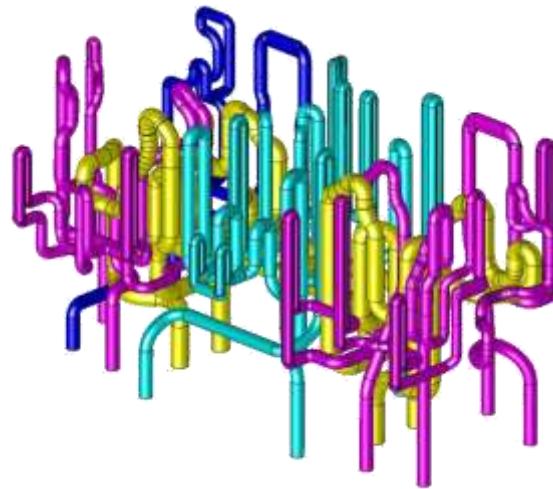
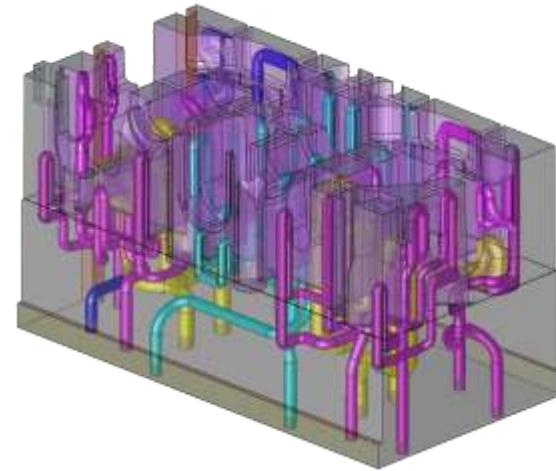
Dimensions (max.):  
300 x 350 x 250 mm

### CUT AM 500 EDM Part separation

# Additive Manufacturing Services

- Part Production
- Modification and repair of damaged components
- Concept development for automotive and aeronautics
- Conformal Cooling Channels
- Special features
- R&D

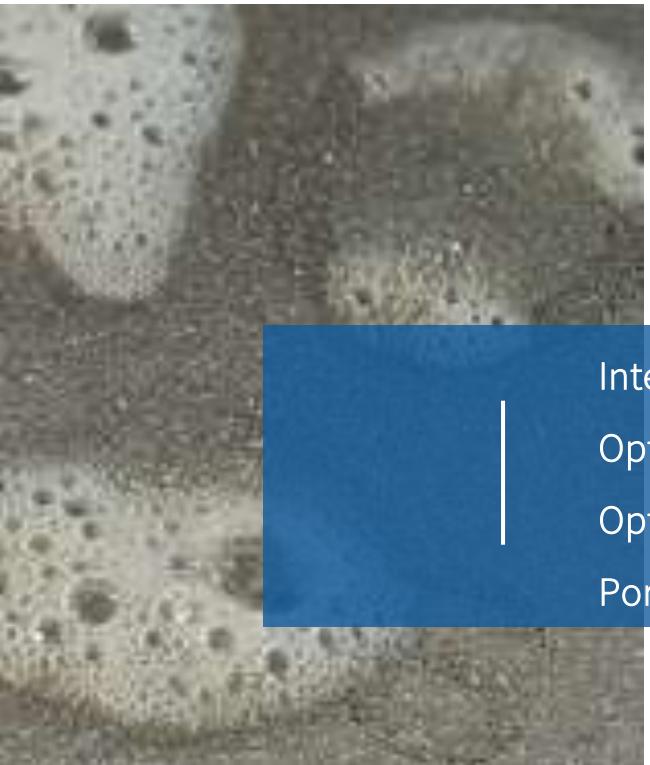
# Conformal Cooling



Conformal cooling channels design  
Rheological simulation  
Refrigeration concepts



# Special Features



Internal lightweight structures  
Optimized part placement for post-processing  
Optimized part placement for scan operations  
Porous Steel & Hybrid Manufacturing



# Portfolio Gallery



# Contact us



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