



PORTUGUESE 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

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%

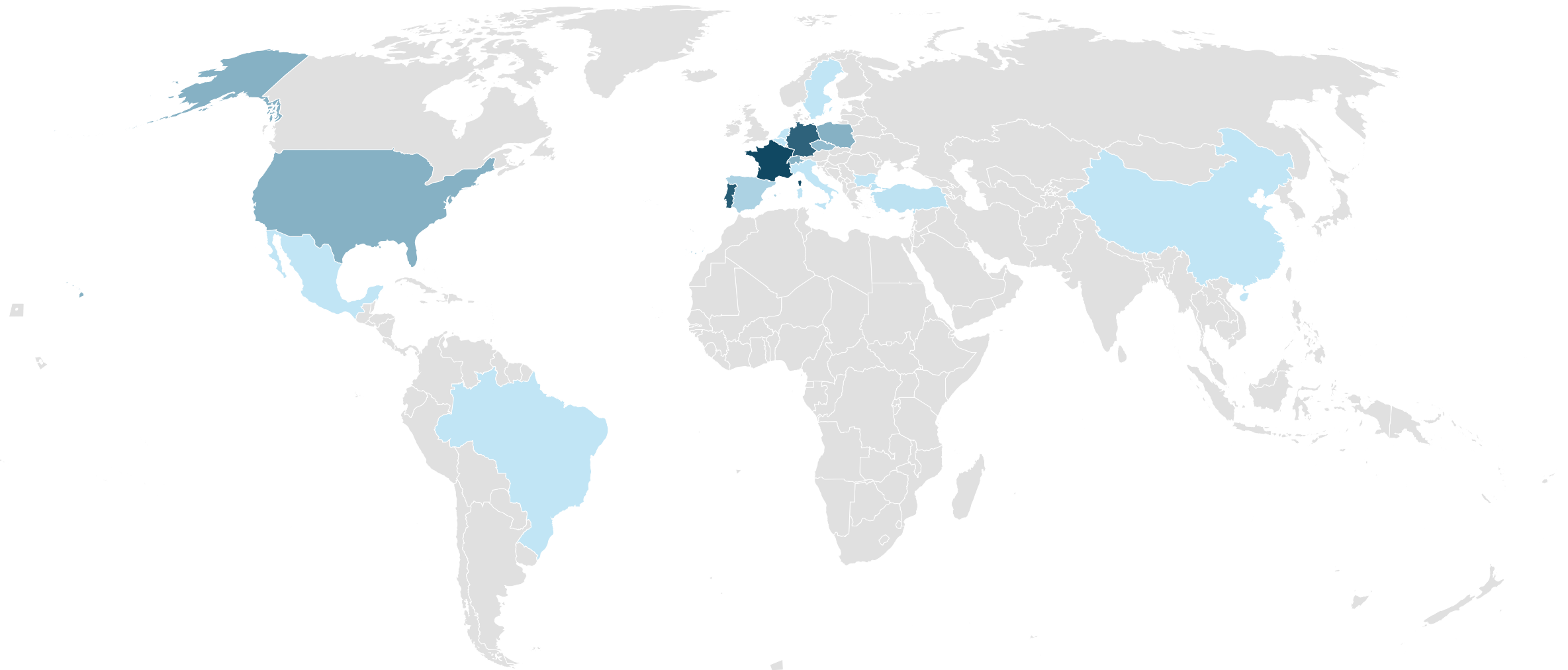
Export Rate



224

Total Workforce

Markets



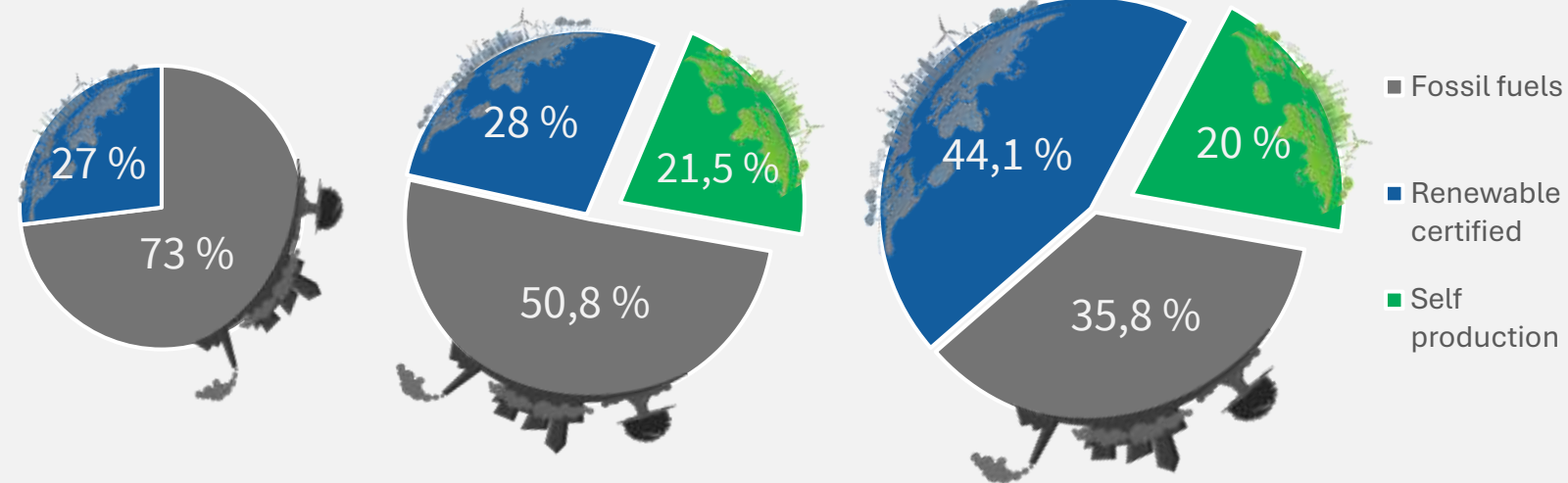
Green Transition

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

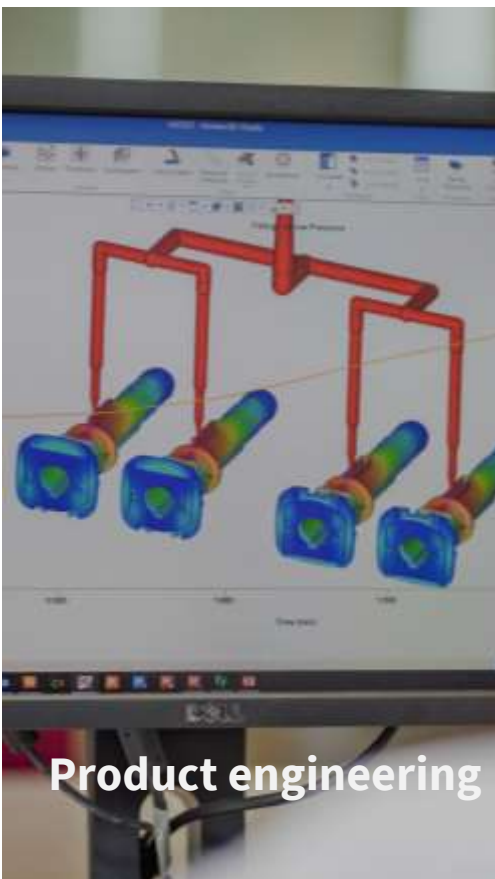
2022

2023

2024



Our Services



Product Engineering



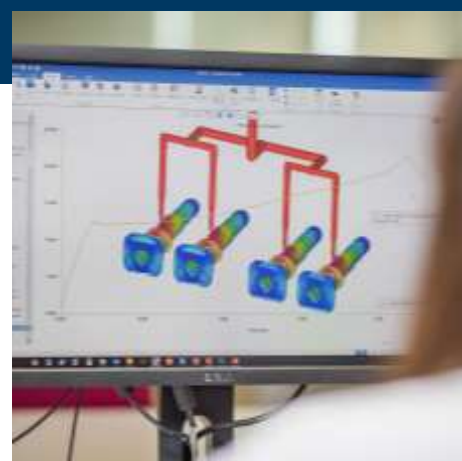
Development

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



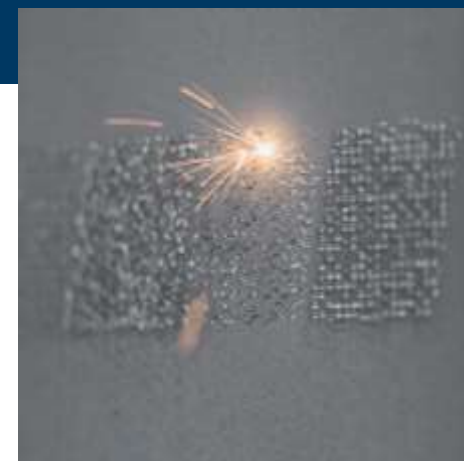
Prototyping

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, tampe and laser printing finishing of electronic components.

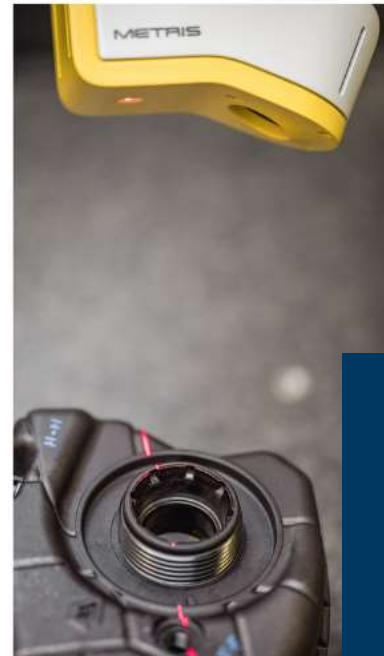
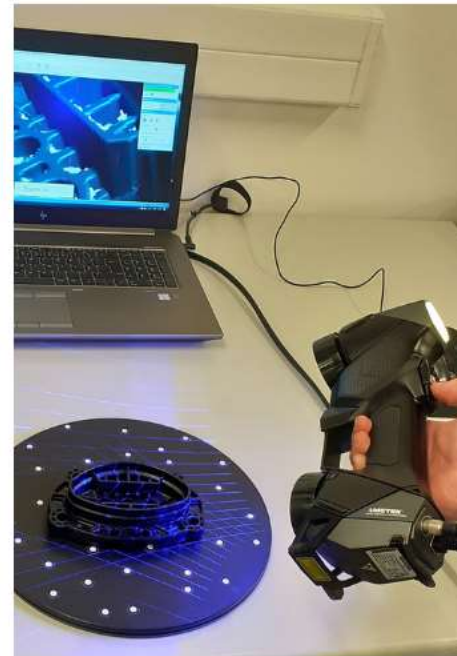


Packaging and Logistics

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

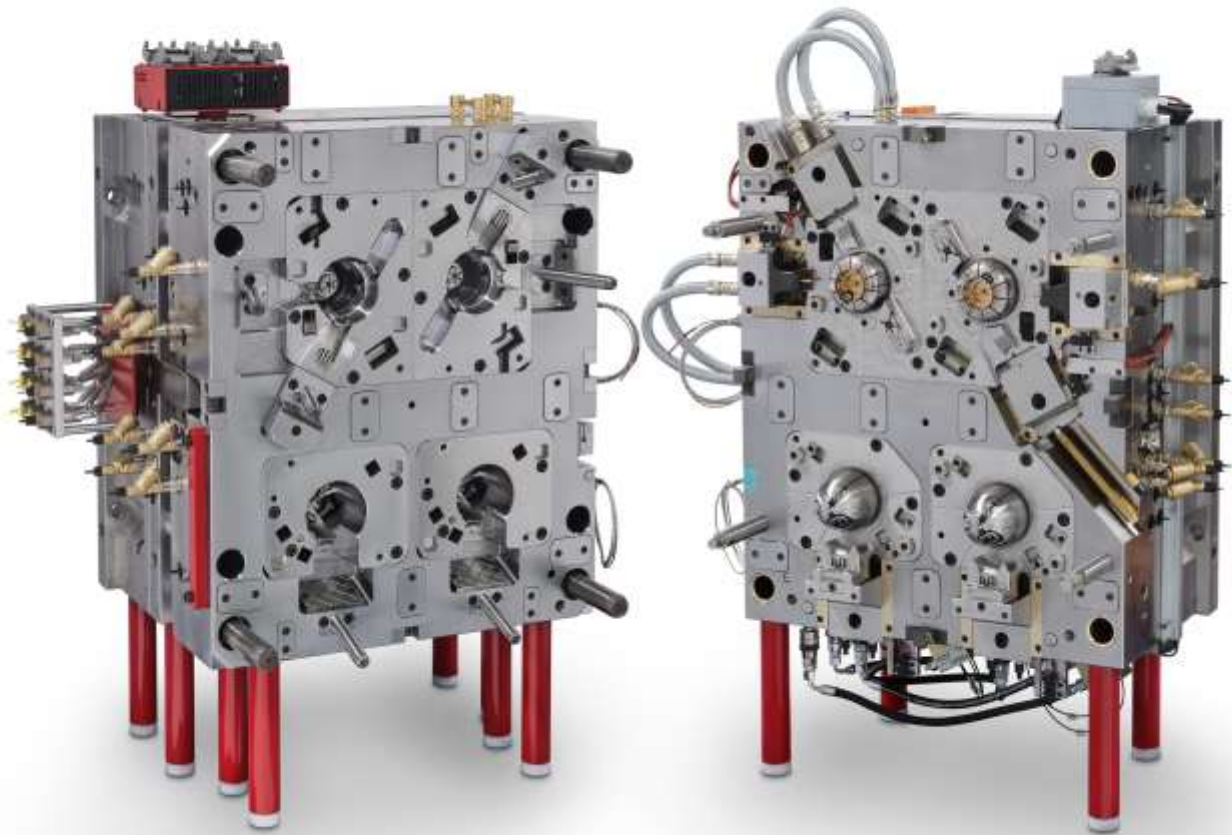


SIGMASOFT®
Virtual Molding

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®
FROM PORTUGAL

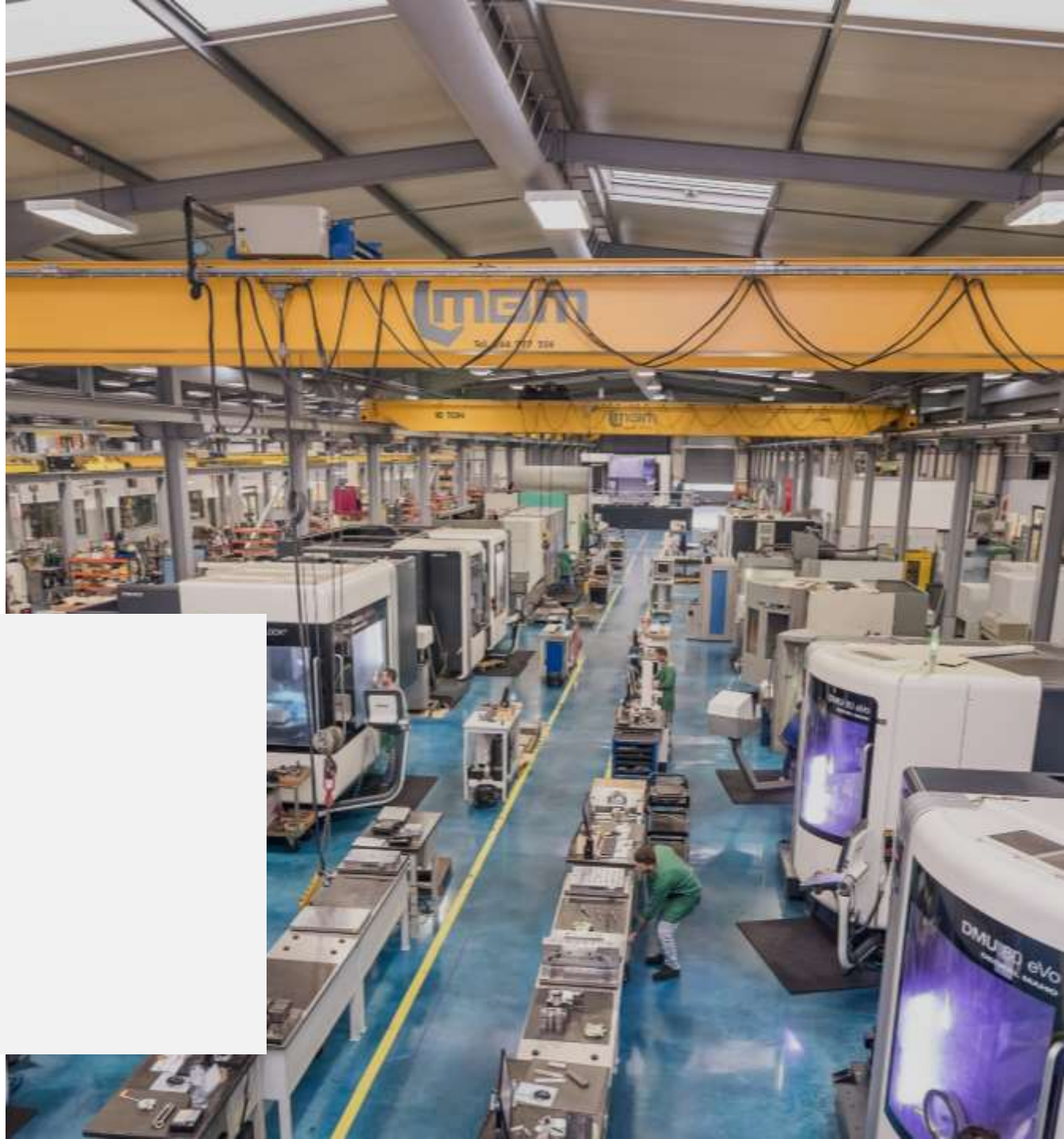
Quality

- 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

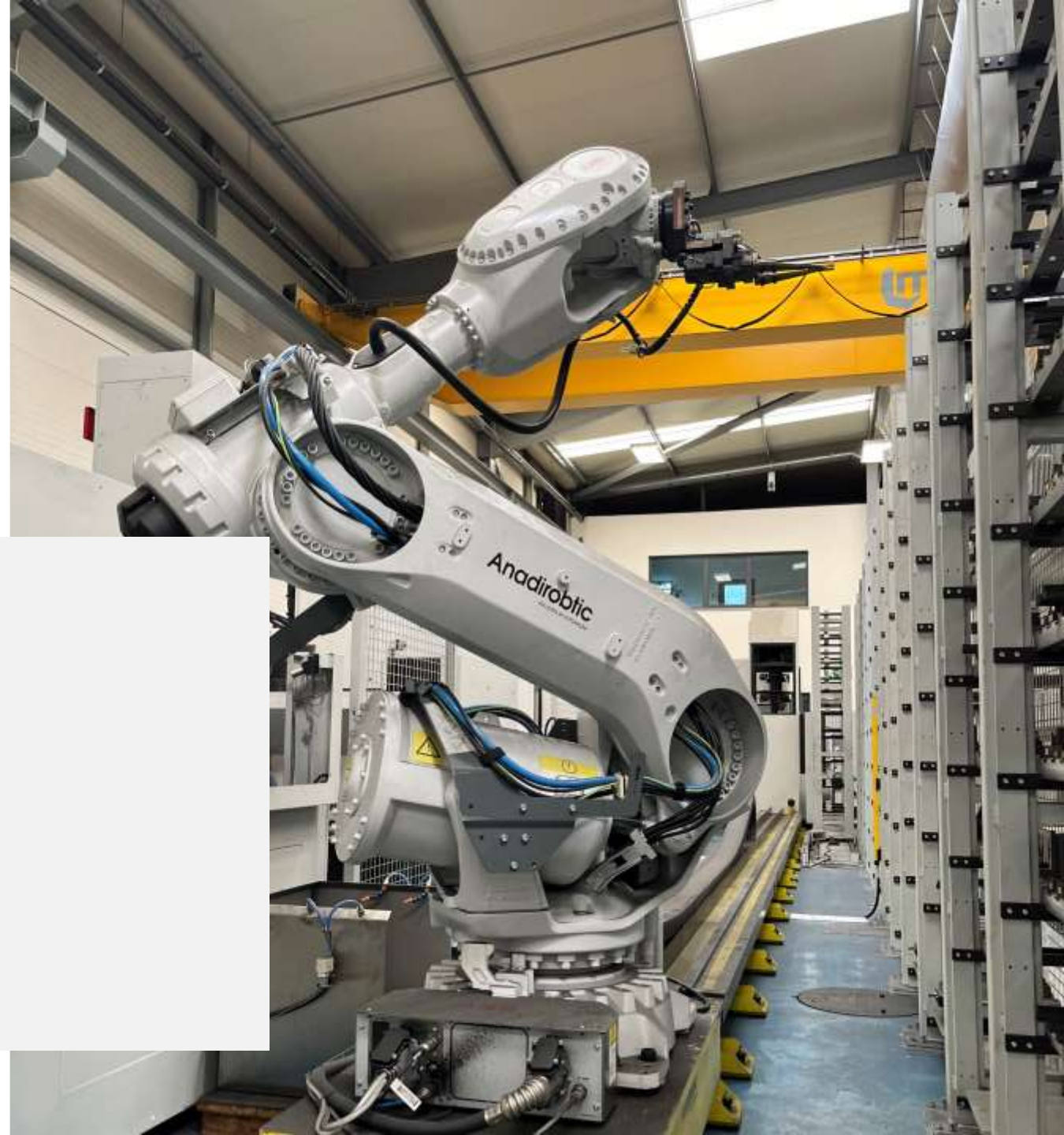
Erosion machines – wire and sinker:

- 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



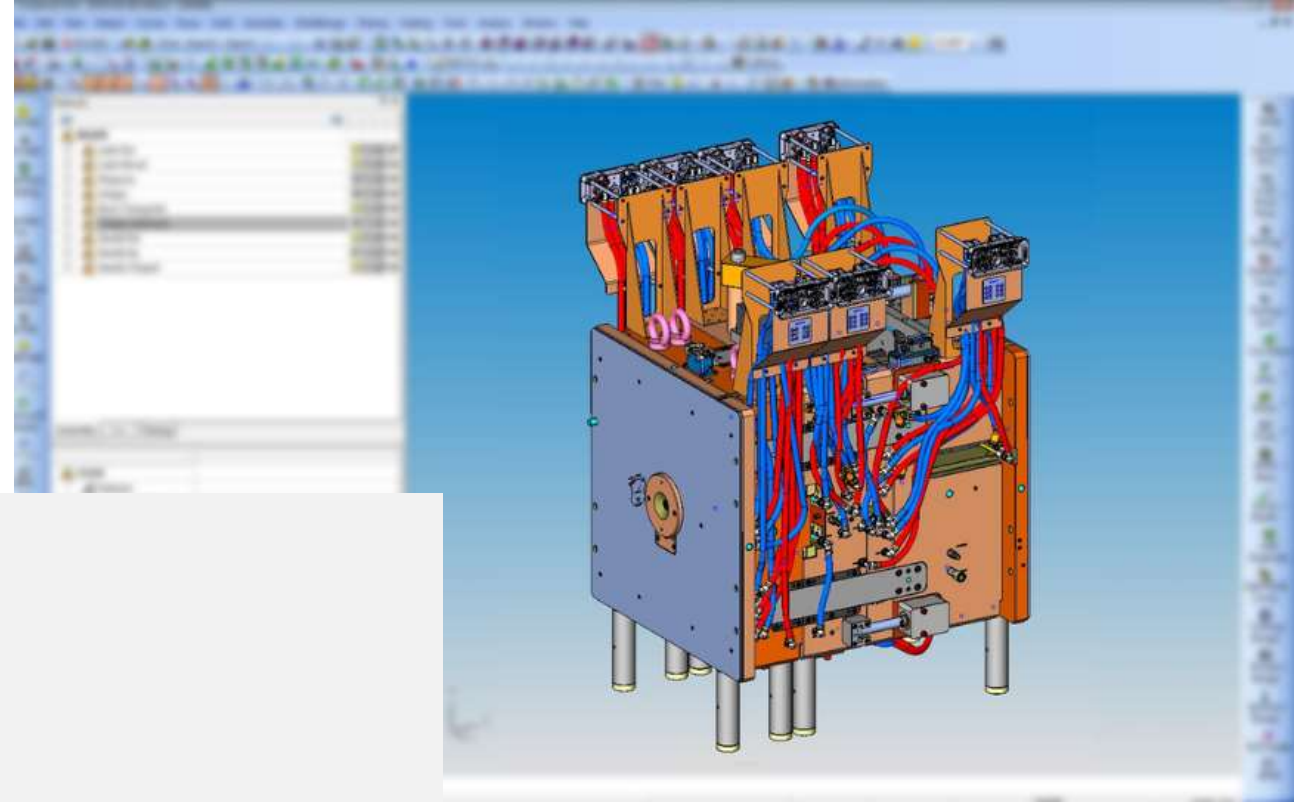
EDM processes

- 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



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



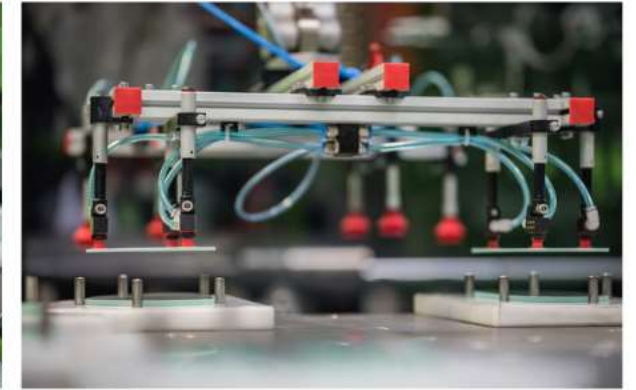
Overmolding

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



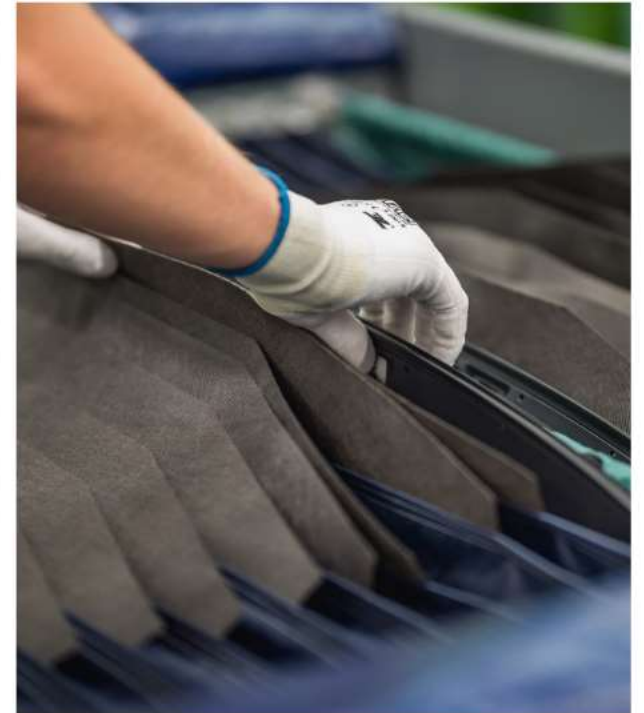
Insert molding

- 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



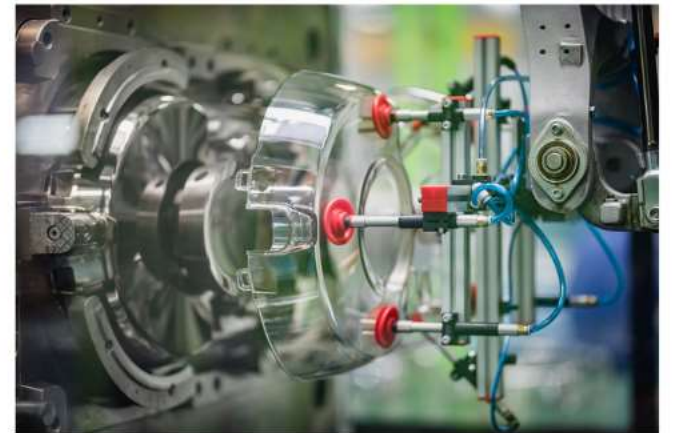
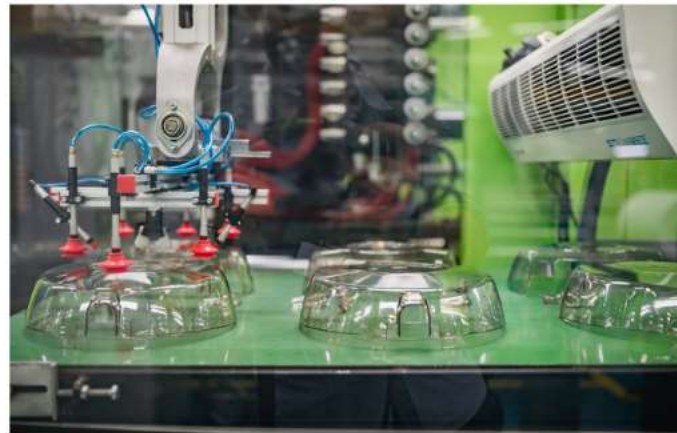
Transfer molding

- 2K – PP GF40 + TPV



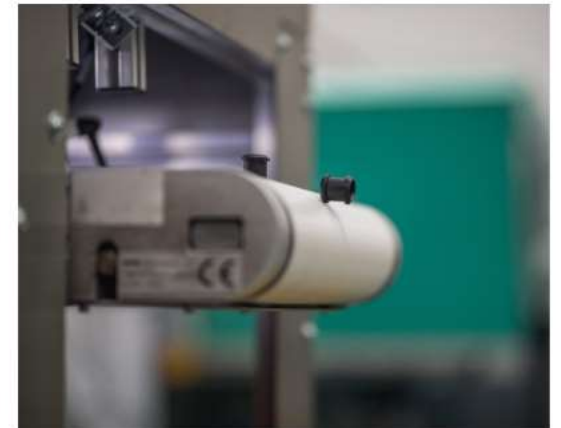
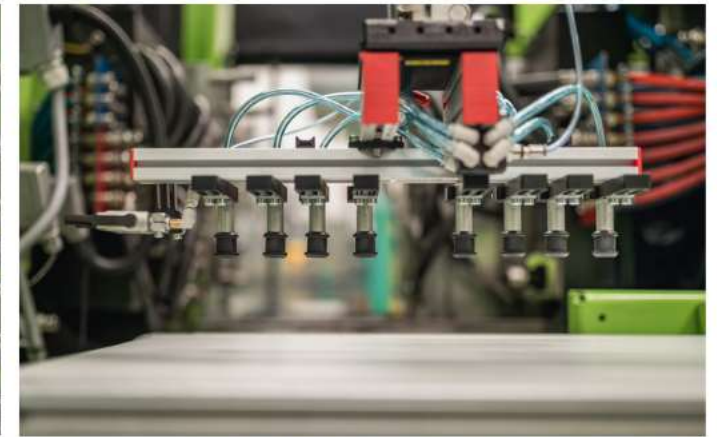
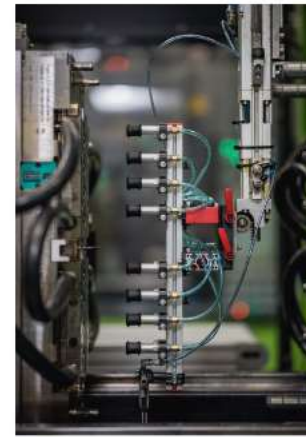
Transparency

- PESU
- Transparency and high glass visible surface



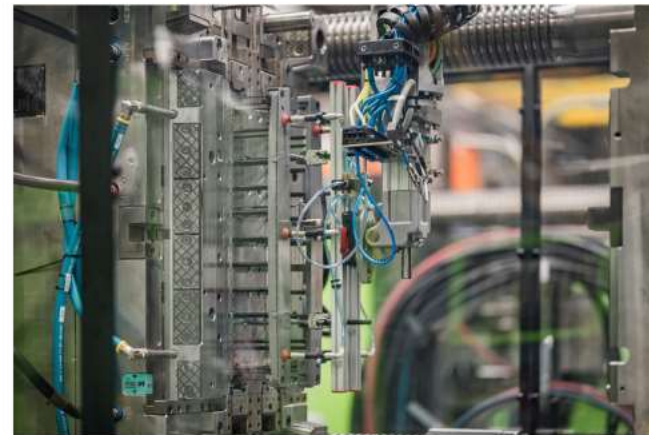
High cavitation

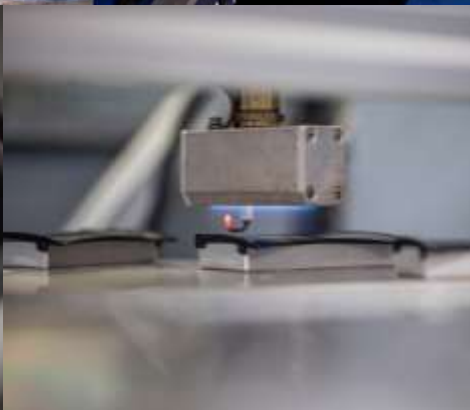
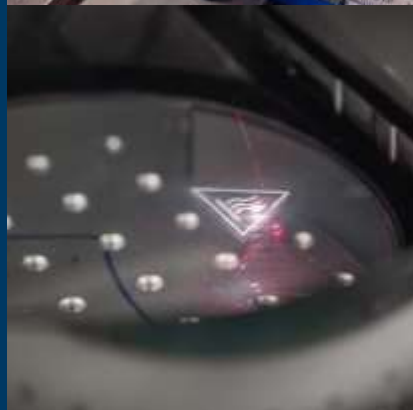
- TPE
- Artificial Vision
- For high cavitation molds
- Fully automatic compliance decision



Color Quality Control

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





Finishing

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



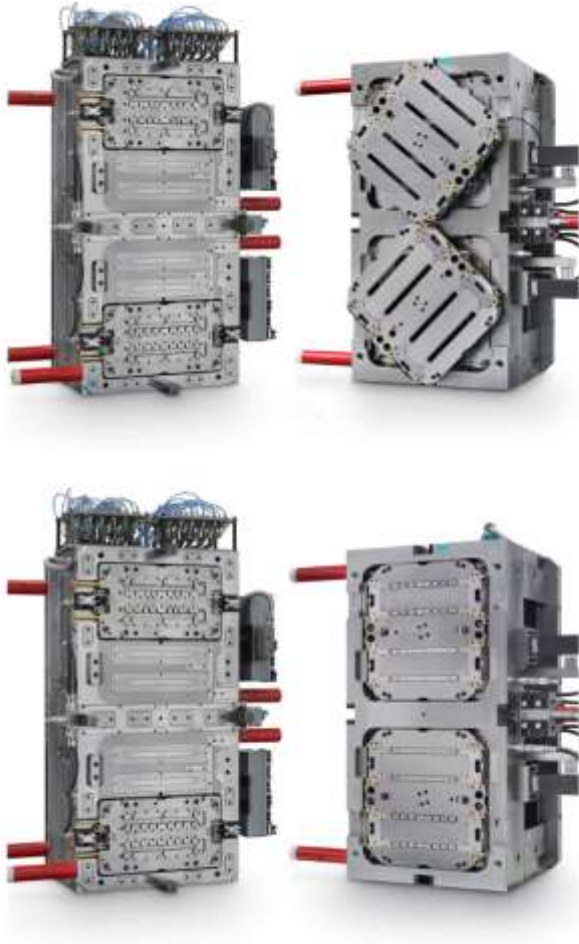


Assembly

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



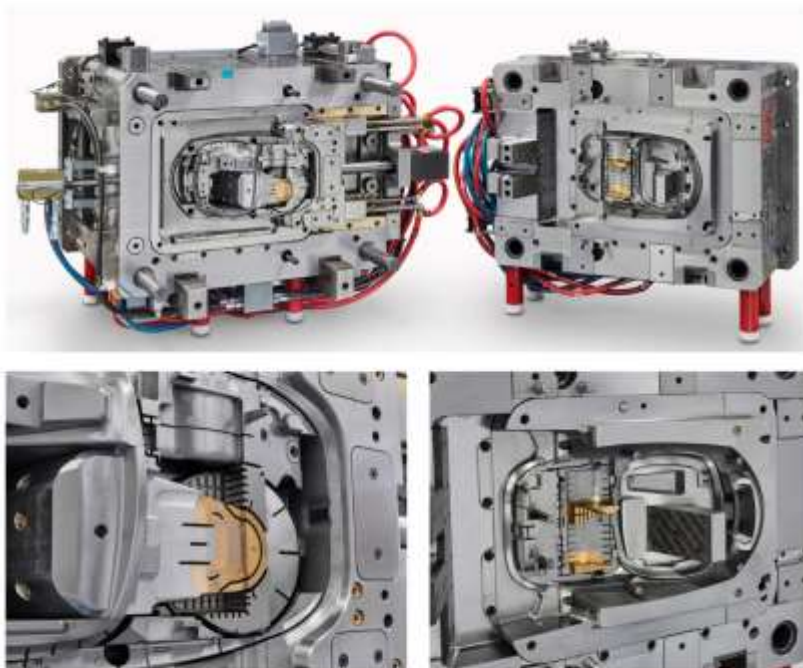
Portfolio Gallery



Household appliances: Vacuum cleaner part

Index Plate mold

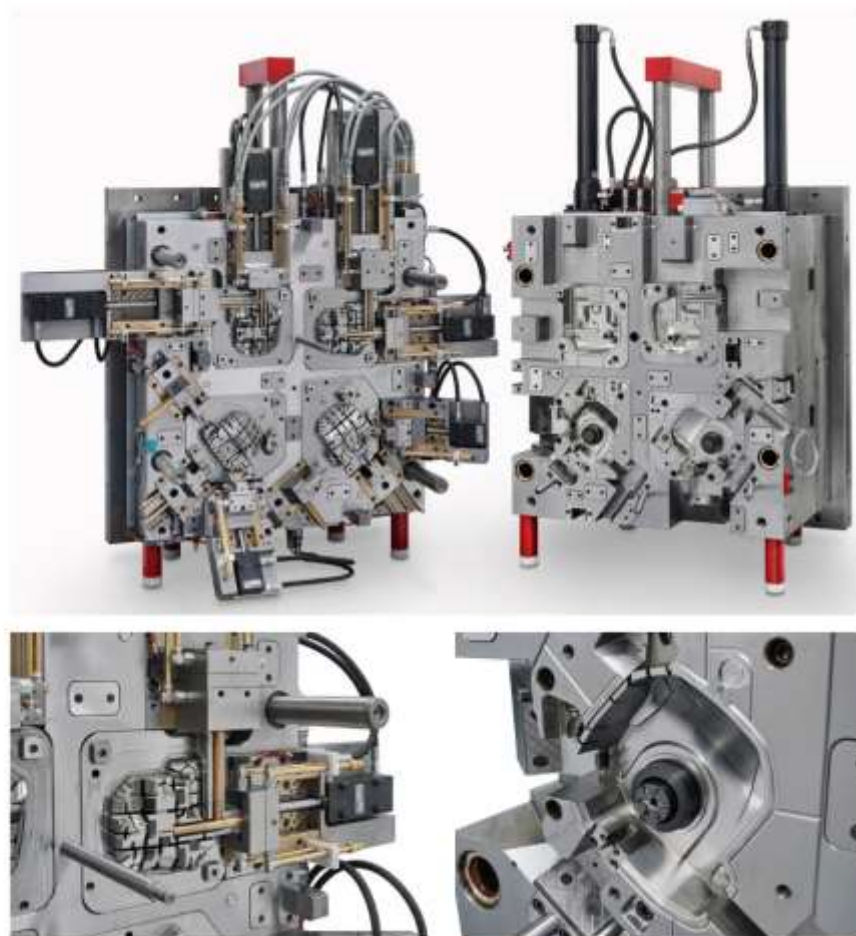
Portfolio Gallery



Household appliances: Vacuum cleaner

Conventional mold with multiple movements

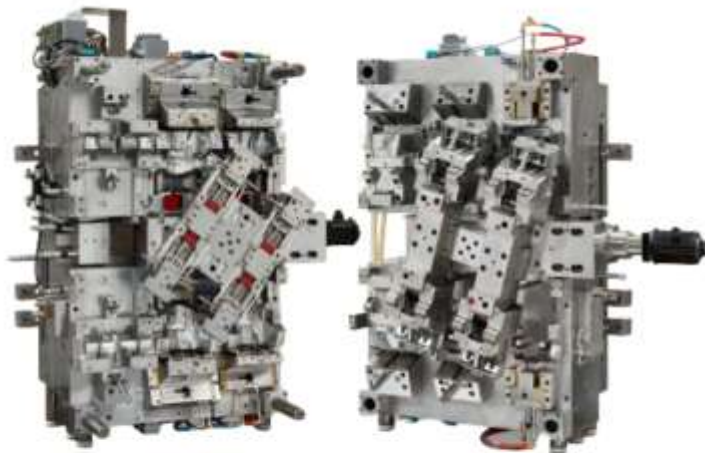
Portfolio Gallery



Automotive: Water tank

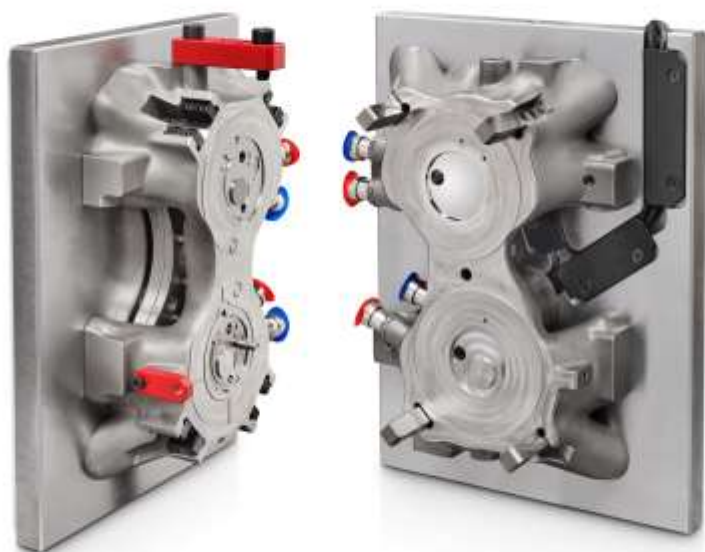
Conventional mold with multiple movements + conformal cooling

Portfolio Gallery



Household appliances: Final water tank part in 1 cycle

In mold welding, Index Plate mold



erofio
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**

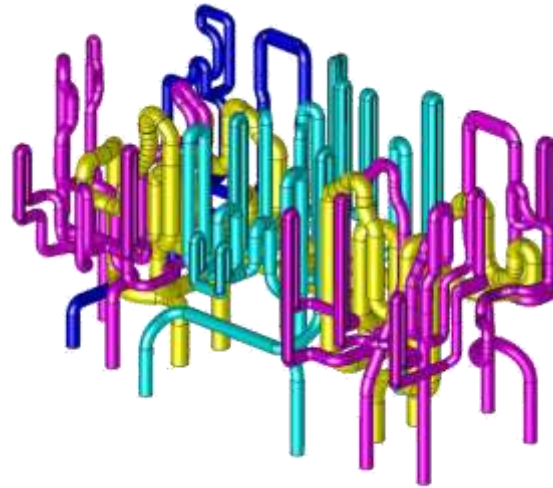
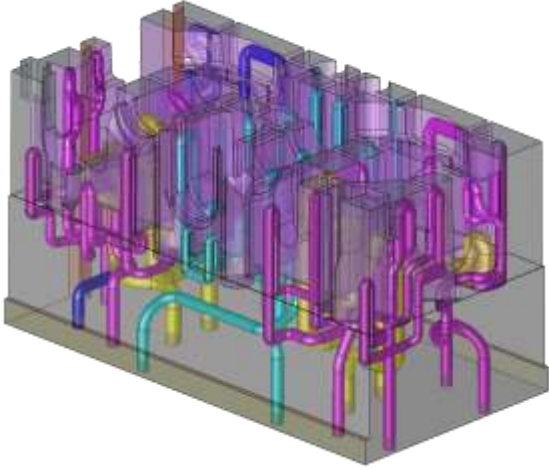
Engraving

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

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



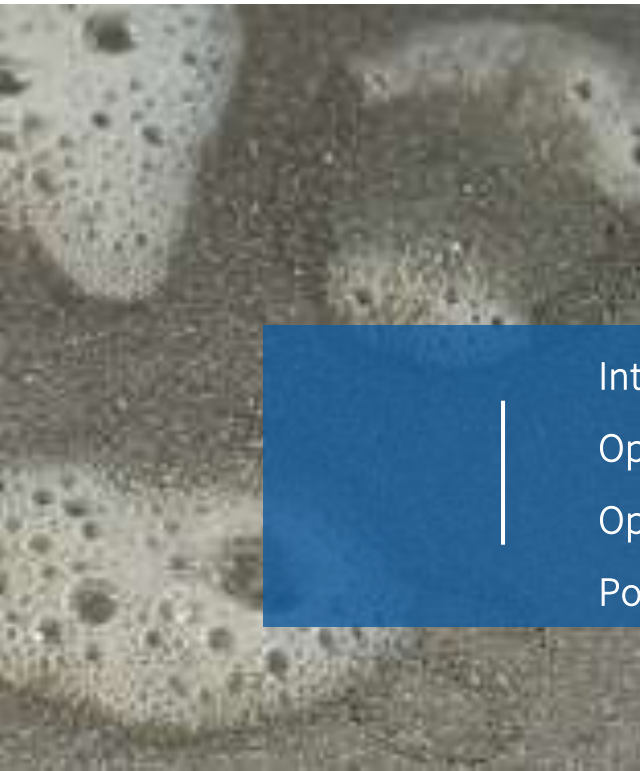
Conformal cooling channels design

Rheological simulation

Refrigeration concepts



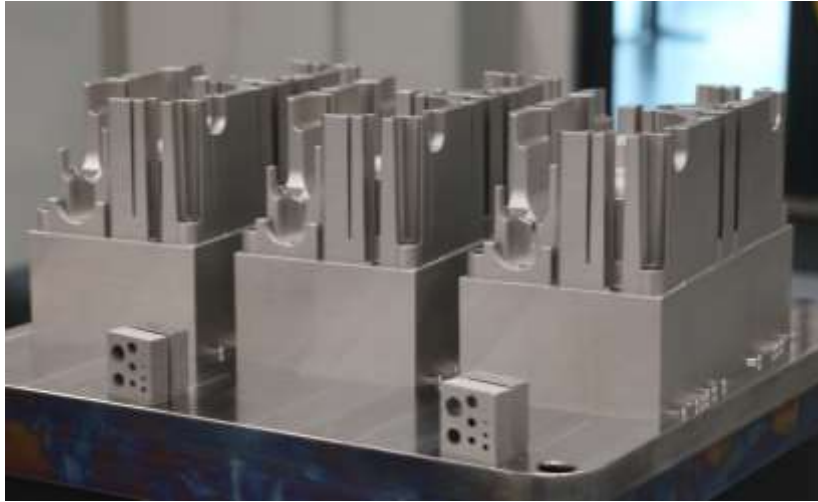
Special Features



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





Portfolio Gallery



Contact us

 (+351) 244 770 940

 geral@erofio.pt (mold unit)
erofioatlantico@erofio.pt (polymers unit)
additive@erofio.pt (aditive manufacturing unit)

 www.erofio.pt
<https://additive.erofio.pt/>

 Rua do Pinhal, 200 | Jardoeira
2440-373 Batalha | Leiria
Portugal