



#### About us

The company was originally founded in 1964 in With a staff of 350 employees, Ecrimesa Group the northern Spanish city of Santander and has combines youth and experience to obtain a remained operating from this location ever since. dynamic and modern company.

Providing the most efficient technology for each With the service we offer to our clients as a client, Ecrimesa Group develops efficient steel and aluminium parts with Investment Casting, MIM, Machining and Additive Manufacturing.

primary focus, we invest heavily in innovation to optimise our efficiency and our commitment to the environment.

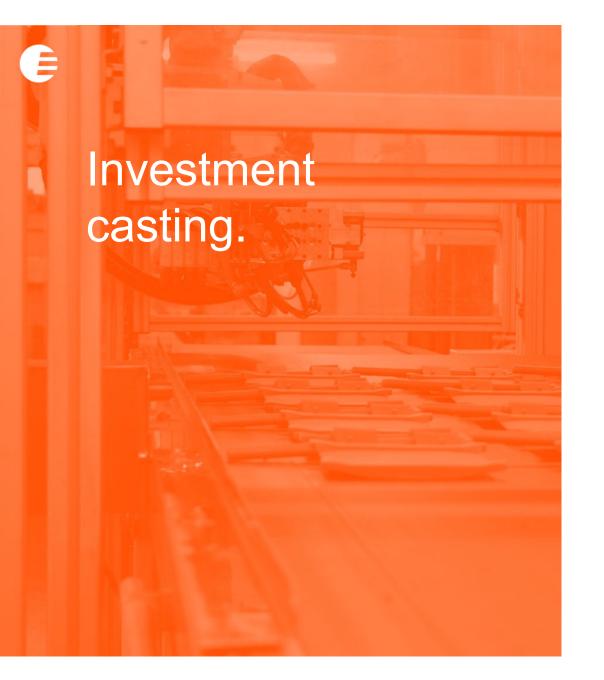
Moving forward to seize the industrial transformation.





#### **Technologies**

- Investment Casting.
- Metal Injection Moulding.
- Machining.
- Metal 3D Printing.



Ecrimesa Group offers the experience of more than 7,000 projects developed since 1964 with alloys, stainless and carbon steel as well as aluminium.

With a production capacity of more than 10 tons of steel per day, we also offer complete parts including finishing works and heat treatment.

Our offer includes the fabrication of prototypes through Additive Manufacturing with wax, the redesign of parts, simulations, and many more. E

## Technical Office and Tooling Plant.

Ecrimesa has a mould manufacturing workshop equipped with modern machinery such as wireerosion machines or 5 axis high speed machining centres (42.000 rpm).

In addition, its technical bureau is equipped with the most modern design systems (3D CAD-CAM Pro Engineer and Hypermill).

Its technical staff has extensive experience in the use of these software packages.

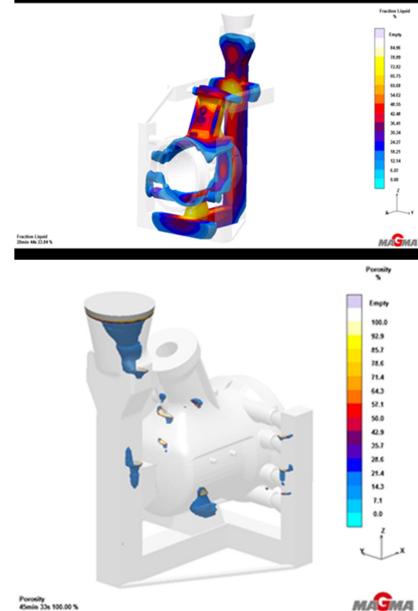


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#### Simulations.

Ecrimesa Group uses simulation systems for melting processes (Magma and Inspire Cast) to collaborate with our customers while developing new products and improving them.

We support the design process as well as the decision which materials to use, while taking into account their fabrication features.





#### Wax Injection.

The wax workshop is highly versatile, by combining automatic, semi-automatic and manual injection machines. It's able to meet all the different requirements of the customers.

The facilities are also equipped with an automatic de-waxing installation for the removal of soluble wax cores. In addition, the pre-produced ceramic core technology is widely used in the wax injection process.

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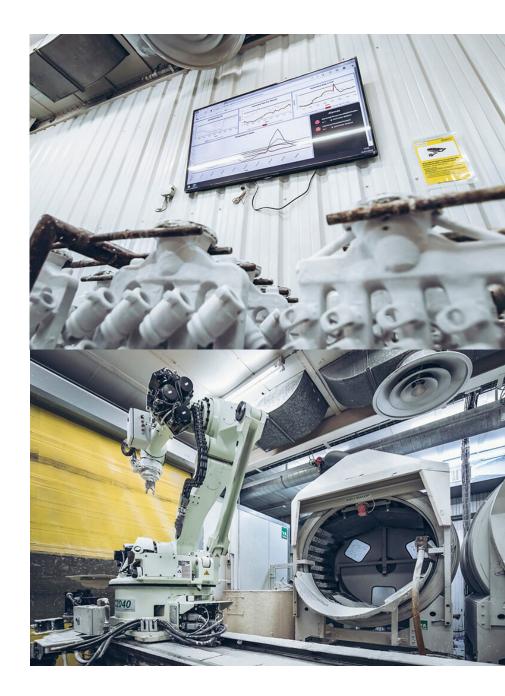
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### Ceramic Shell Room.

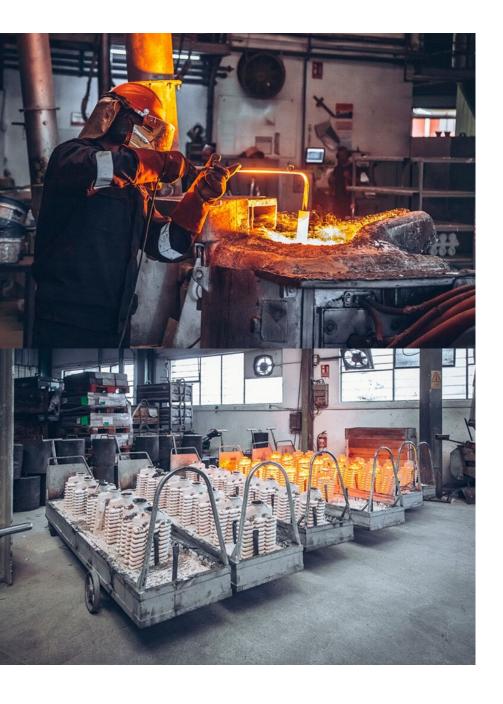
The shell production process is automated, having two robotic production lines.

These lines operate in strict conditions of temperature and humidity, controlled by modern air-conditioning systems.

These two installations yield a large production capacity and flexibility.



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#### Melting Plant.

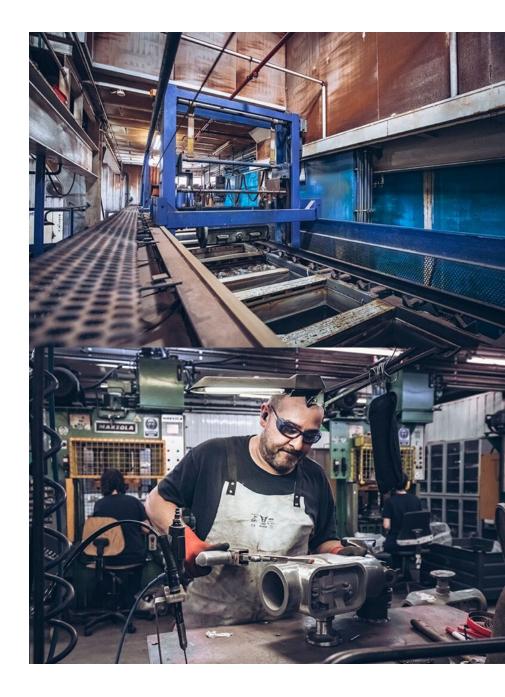
The melting department is equipped with 2 sets of variable frequency induction furnaces (a total of 5 furnaces) which yield in excess of 12.000 Kg of molten steel per day.

Moreover, this production is achieved with a level of quality that is highly regarded by our customers.

Samples are sent via a pneumatic line to the metallurgical lab which can then analyse and certify each melt in a few seconds.

# Cutting and Polishing.

Ecrimesa offers robotic cutting systems, part by part or by elements of the tree.





#### Calibrating

In order to optimize the tolerances or ranges of tolerance, Ecrimesa develop special tools for coining operations.

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#### Heat Treatment Plant.

A wide range of heat treatments is offered as a complement to the cast component. These are performed either in close-working subcontracted companies or in-house installations.

Our heat treatment ovens are certified according with the standars:

• CQI-9 of Heat Treat System Assessment.





#### Pickling Plant And Surface Finishing.

Ecrimesa has its own pickling and surface finishing plant, fully automated and with preestablished programs.

In-house services also include shot blasting processes with glass or corundum.

Moreover, we can offer various other surface treatments thanks to our subcontractors (bluing, zinc finishes, phosphate coating, nickel plating, etc.).

## Testing Machines.

PT installation in plant with operators with level 2.

Magnetic particles in plant with operators with level 2.

Rx equipment in plant with operators with level 2 and 3 outsourced.

Workers certified for welding operations.





Metallurgical Laboratory and R&D. Quality and Metrology.

The most modern technologies to guarantee quality to our clients, both from a metallurgic and a dimensional point of view.

Including espectrometers to guarantee the composition of the castings, X-ray with digital tomography or systems of contact measuring, vision or white-light against 3D.



Being the first company in the world to produce in a continuous process furnace, Ecrimesa Group has developed over 2.000 different references since 1993, working alongside customers from over 20 countries and from a wide variety of industries.

We have design offices equipped with the most modern design systems and staffed by highly experienced personnel.

The mould manufacturing workshop is equipped with state-of-the-art machinery, such as wire-erosion machines or 5 axis high speed machining centres.

### Injection and Automatic Manipulation Plant

Equipped with a wide range of automatic injection machines with robotic handling systems, which yield a high level of quality and productivity.

Our automated production lines allow the production of parts with no manual handling, from the injection of the parts to their exit of the furnace.

The installations are equipped with optical inspection systems able to meet the highest quality requirements.





#### Manipulation Plant and Artificial Vision.

We recently implemented installations for artificial vision and manipulation. Certain projects require them due to their volumes or special characteristics. E

#### Continuous Furnaces Plant

Ecrimesa Group has four continuous sintering and debinding lines and two batch lines for sintering.

These installations allow for fabrication of more than 1.5 million of MIM pieces per month.





Metallurgical Laboratory and R&D. Quality and Metrology

Our metallurgical and metrological laboratories are the main axis of the productive process and the finished product.

Their staff, composed by young technicians with wi de experience in MIM technology is a differentiating asset from other MIM plants. E



Machining plant was incorporated to the Group in 2005. It has a wide experience in the field of part machining, after being a strategic supplier for over twenty years.

We design all our machining and controlling tools. We take responsibility, alongside the other productive plants of the group, for the supply of parts according to the needs of the client.

This includes the assembly of sub-components when necessary.

#### Machining

Ecrimesa Group has modern machining installations, either horizontal machining centres (Matsuura and Mazak), Vertical machining centres (Chiron), or numeric control lathes with or without motorised heads like Muratec, Okuma, etc.





Ecrimesa Group has focused on this new technology for more than three years now, stemming from a collaboration with main universities and R&D centres of the Spanish Ministry of Science and Innovation.

We currently have two FDM printers in order to build prototypes and small series of MIM pieces, as well as a printing machine to deliver wax parts without a metal mold for investment casting.

We continue to invest in this technology through numerous collaborations with pioneer companies for the development and middle-term implementation of Binder Jetting.





#### Homologations.



# Homologations

#### Homologations

Mimecrisa, certified according to the IATF 16949:2016. DIN EN 9100:2016, ISO 14001:2015. has the following main strategic objectives:

- Full customer satisfaction, providing quality in both products and services.
- To achieve a continuous improvement in the quality and productivity of our services and products.
- To promote training, awareness and personal involvement of the staff to overcome the problems and assure an improvement in the quality of their work.



Businoes area: Electro Crisol Metal, SJ Avda. de Parayas, sin soue date: 2016-12-12 Expiry date: 2019-12-11 K. Dieskes A TÜVRheinland\*

DIN EN 9100:2016



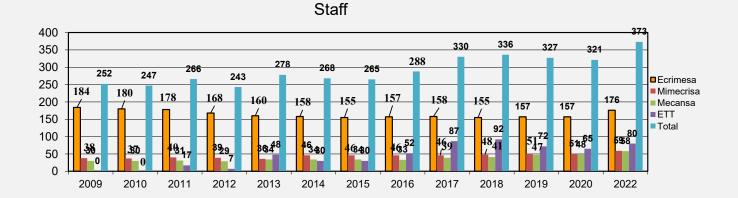
ISO 14001:2015

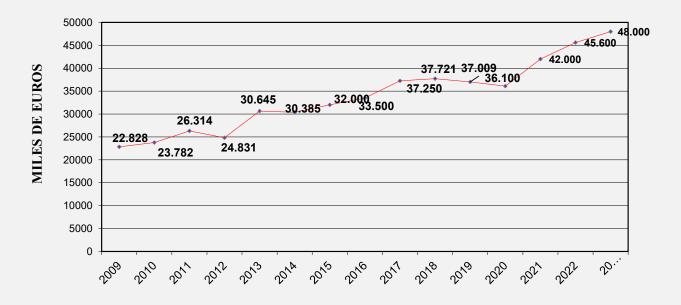
#### Facts and figures.





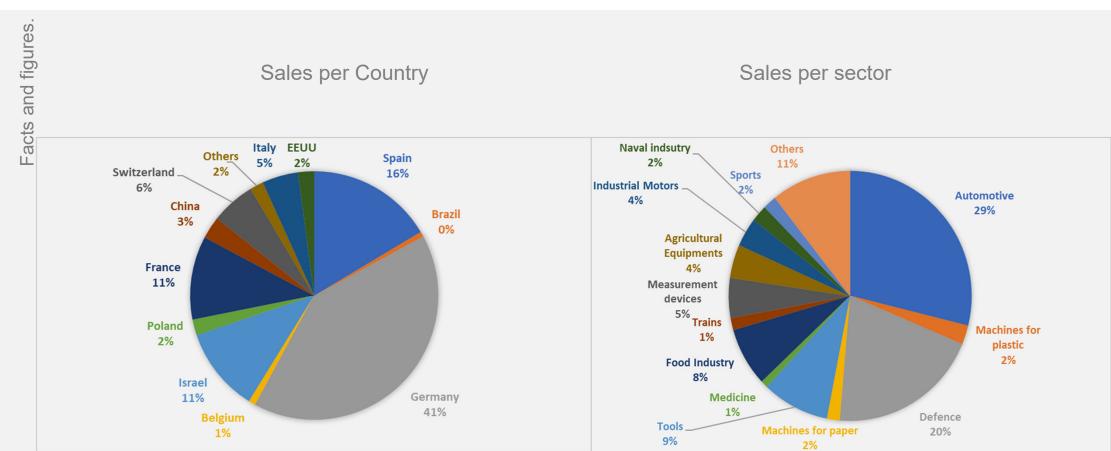
## Total sales Ecrimesa Group



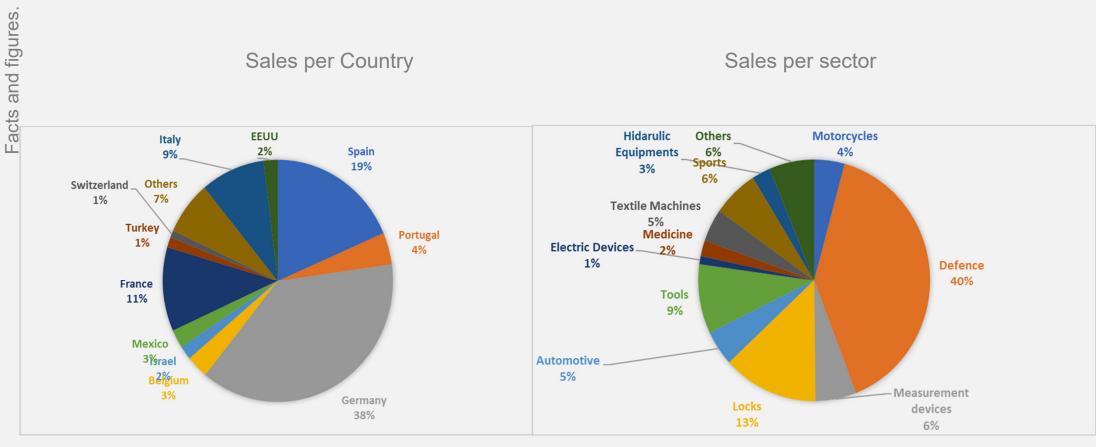


#### Investment casting

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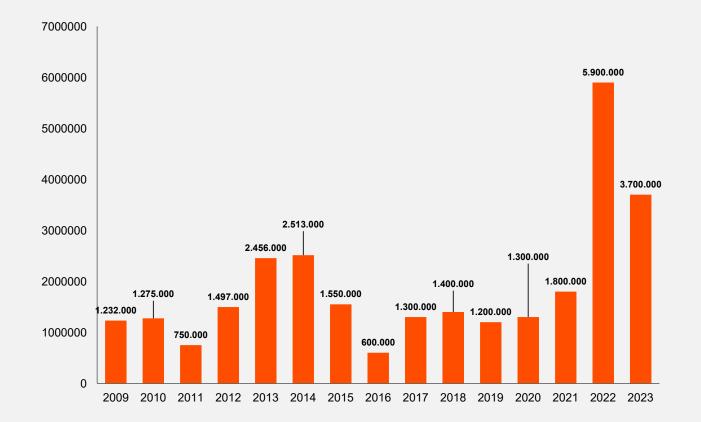


#### MIM





#### Group Investments



Acquisition of two new MIM injection moulding machines.

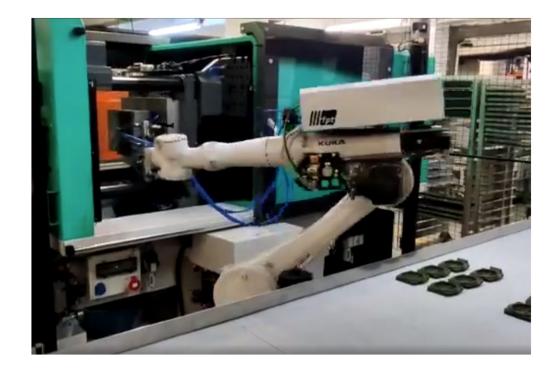


New dimensional control system with vision and contact Mitutoyo QV 404 PRO





## New wax injection molding machine with KUKA robot



new wire erosion machine, model Mitsubishi MV2400 S



Last investments.

With the acquisition of our latest plot, we've extended our total area of facilities to about 20,000 m2, housing various plants and building heights.



New robotized Investment Casting installation for wax assembly.





### Ceramic Demolding System for Investment Casting.



MIM Master Furnace. This fourth continuous production line will increase our capacity by 30%.





New system for the inspection of metallurgical defects with deep learning.



### Mimecri USA

New productive MIM-plant fully operative in Thomasville (Georgia) during second quarter of 2023.





### Smart Dispenser Warehouse.



Installation of a Mitsubishi EA28V Die Sinker Erosion machine to improve the quality and lead times of our Investment Casting and MIM molds.



## **Commitments.**



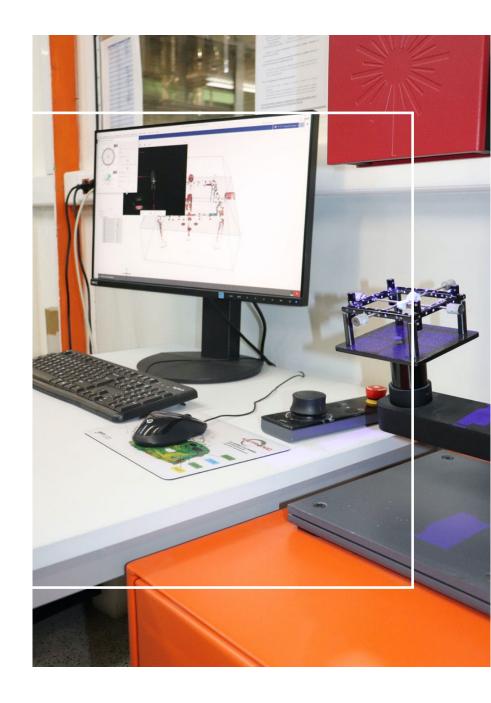
# Full customer satisfaction.

Our main strategic commitment is to provide our clients with full satisfaction through quality products and services.



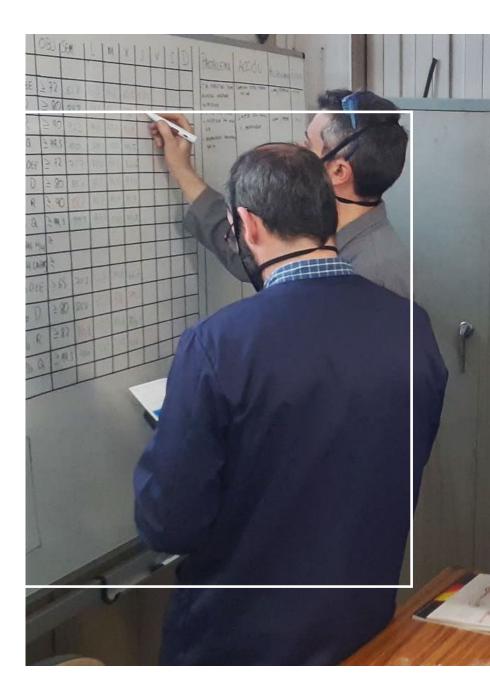
## Continuous Improvement.

We aim to achieve a continual improvement in the productivity and quality of our products and services.



## Training.

We promote the training, awareness and participation of all the staff, so that they can identify and eliminate all those problems hindering the improvement of the quality of their work.



### Environment.

According to our ongoing commitment with the society and the environment, at least 10% of the annual investment budget is destined to reduce the environmental aspects of our production process.

The EN-ISO 14001 certificate was obtained in 2005.



#### **ECRIMESA GROUP**

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