

COMPLEXITY MADE SIMPLE



CASTIZE
more than casting



» MISSION

We provide customised solutions for the design, development, prototyping and series production of products in ferrous and non-ferrous alloys, assisting our customers throughout each stage of the process while focusing on product and production optimisation.

» VISION

We want to make complex things simple, enhancing casting technology with an engineering approach to uplift the market and create a culture where the foundry becomes synonymous with technological innovation.

» BRAND VALUES

TECHNICAL INNOVATION

Our goal is to raise the technological level of the market and create a culture that gives the foundry new prominence and a central role. We aim to do this using an approach geared towards constant process innovation and ongoing research into new technologies and technical solutions.

EXPERTISE

We have long-standing experience in the foundry industry, particularly focusing on production using earth/sand/resin casting. Our team's technical expertise allows us to solve process and product issues by offering high-quality customised solutions.

QUALITY

For us, quality is a commitment that goes beyond monitoring products and the production process. It is a shared mindset applied to all of the company's activities, and a driving force towards constant improvement, which allows us to always offer our customers the best.

FLEXIBILITY

We manage complex, customised projects, even from incomplete drawings or parts without drawings, offering solutions tailored to customers' specific requirements in terms of engineering and the materials used.

TRANSPARENCY

We establish an open and transparent partnership with our customers. Developing a project entails their active involvement and sharing all information so that we can achieve a result to meet their needs.

COLLABORATION

Our company comprises people of similar experience, who wanted to build a shared vision by combining skills that allow us to solve ever-changing needs and, through continuous interaction with customers, deliver fully customised projects.

AN ENGINEERING APPROACH,
FOR A NEW CULTURE OF
CASTING

HELLO, WE ARE CAST

01 CONSULTING

We turn ideas into concrete projects, combining engineering and technical expertise: from feasibility studies to business plans, resulting in effective choices and optimised, sustainable production processes.

02 DESIGNING

We shape ideas using cutting-edge 3D designing: from drawings or the actual part, we refine every detail together with the customer before casting the prototype.

03 CASTING

Our long-standing experience in the foundry industry enables us to apply advanced technical expertise to foresee and solve eventual critical issues at each stage of the process.

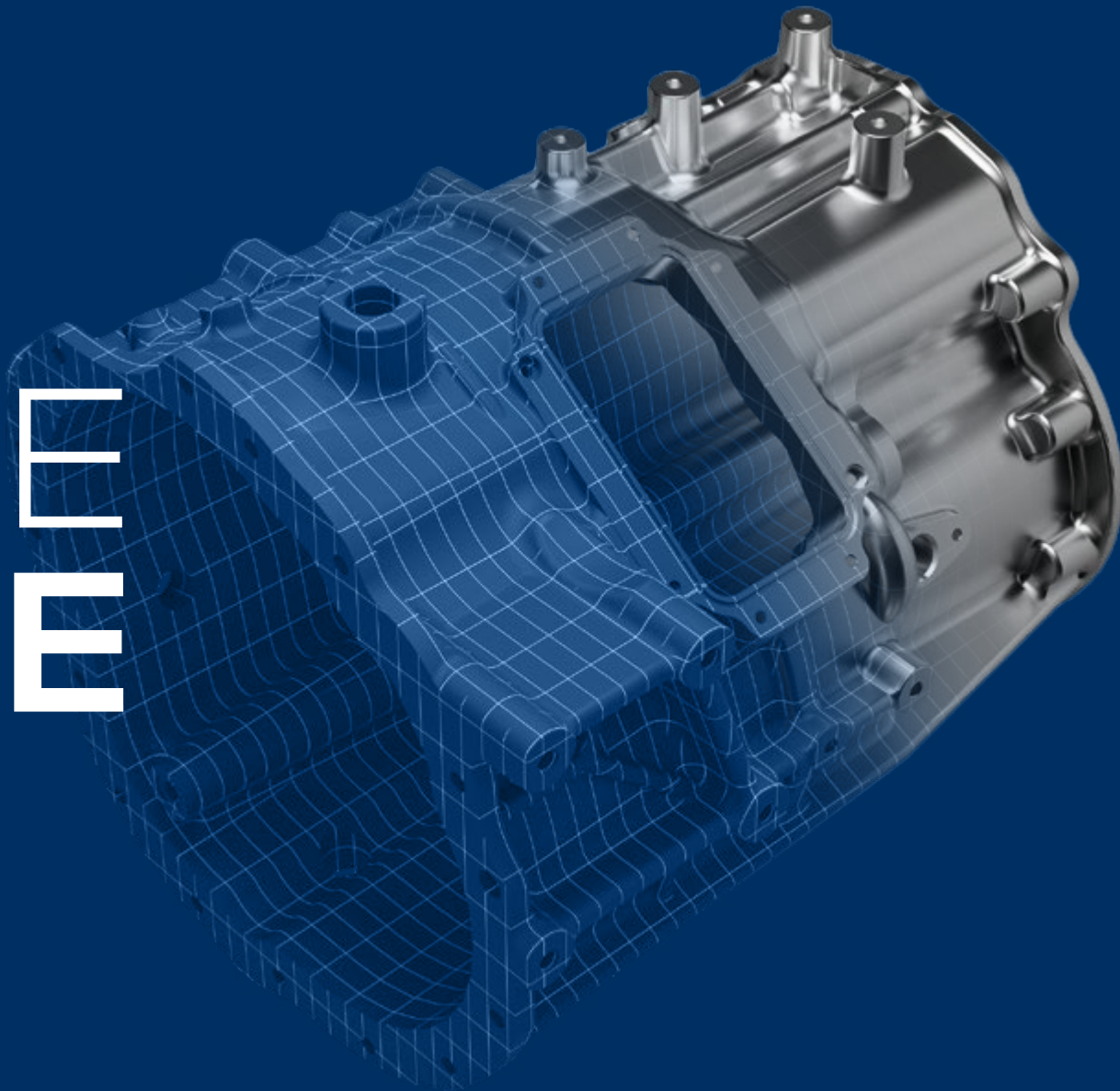
04 POST-CASTING

This process is completed with NDT (Non-Destructive Testing), Hi-Mec machining, treatments and finishes – also with the collaboration of skilled partners – for a supply chain tailored to the project.

05 LOGISTICS

We provide customised logistics solutions: warehousing, pre-assembly, dedicated deliveries and Kanban reorders. Each stage is intended to perfectly integrate with the customer's production requirements.

ARE IZE



MATERIALS WE PROCESS

Our experience covers the processing of a broad range of materials: from strong ferrous alloys – ideal for highly resistant structural components – to versatile non-ferrous alloys such as aluminium, bronze and brass, valued for their specific properties of lightness, conductivity and corrosion resistance.

SECTORS OF OPERATION

We operate in highly specialised sectors: **automotive, motorsports, metalworking, defence, naval, design and architecture**. We tackle each project with an engineering approach and flexibility, adapting materials, processes and finishes to suit the specific requirements of individual projects. A single expert technical contact person will be available for the entire production flow.

CERTIFICATIONS

We are ISO 9001:2015 certified, a guarantee of quality and control throughout all processing stages. This is complemented by specific certifications for the part produced, including chemical analysis, mechanical tests and NDT to ensure the technical conformity required by each sector and application.

PRELIMINARY CONSULTING

PROJECT ANALYSIS

» GOAL

We turn requirements into concrete projects, optimising each stage of the production process to ensure efficiency, quality and long-term economic sustainability.

» SOLUTIONS

We use 3D modelling, reverse engineering, and casting or mechanical machining simulations to optimise each technical aspect, validate choices and guarantee reliable results before casting.

» COST DEFINITION

We analyse costs and returns with a techno-economic feasibility study: each project starts with a realistic business plan, built on data and simulations.

WE AIM TO CREATE NOT ONLY A PRODUCT BUT ALSO A PROJECT

MINARY

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Our goal is to turn an idea into a concrete, sustainable and competitive project, ensuring a measurable and lasting return on investment.

Even from a technical drawing or an undocumented part, we build a solution tailored to our customer's requirements and specifications.

Our roots lie in the heart of the Italian steel industry, from which we draw experience and expertise. Our preliminary consulting phase complements this technical know-how with an engineering and strategic approach: we analyse the entire production process, planning analytically in order to foresee any potential critical issues, and optimise costs and timeframes.

Right from the outset, we involve all key players, offering the customer concrete support in choosing materials, processes and supply partners. What matters to us is not just the product, but the value we help to create.

CONSULTING

DESIGNING

CASTING

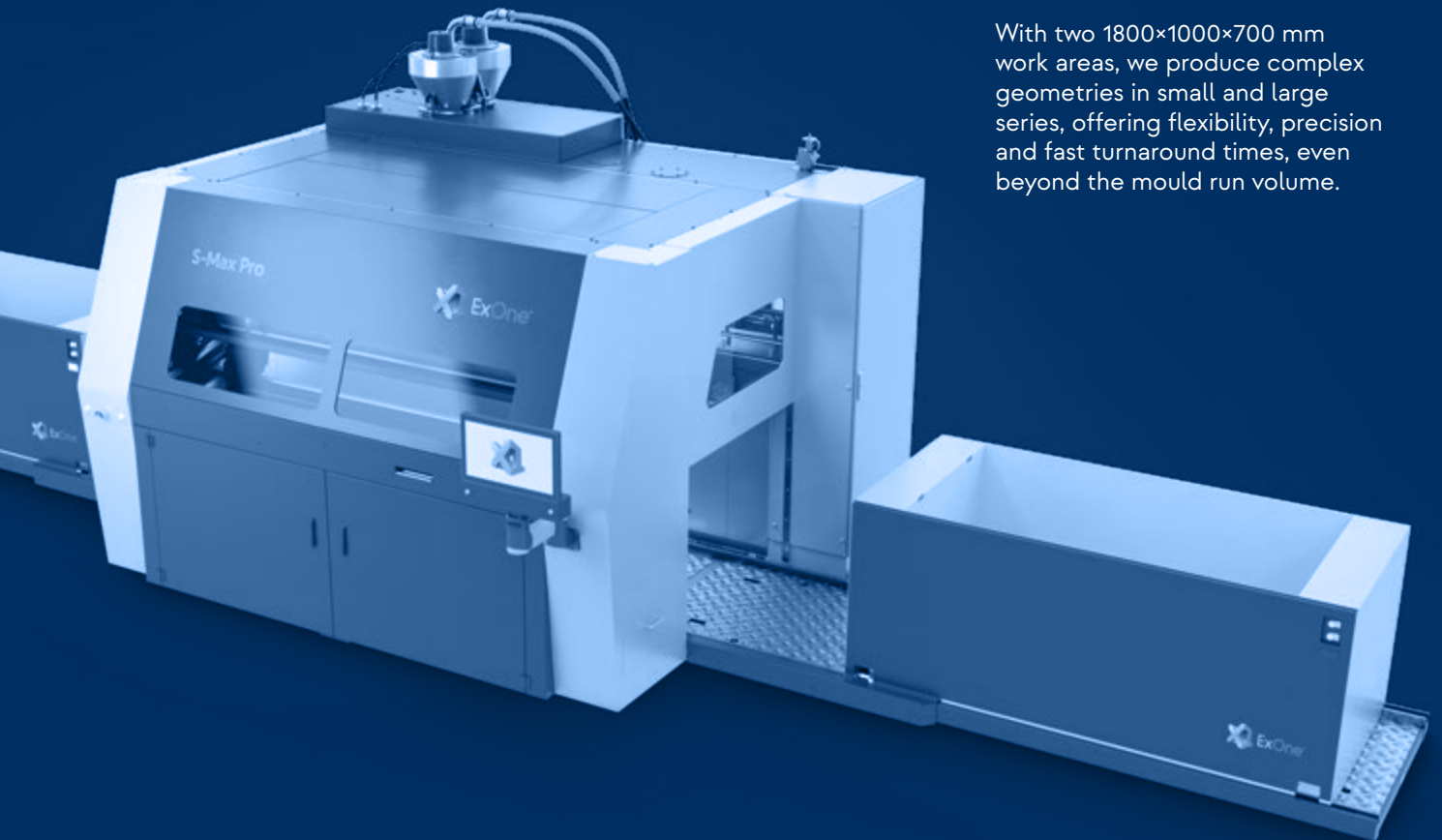
POST-CASTING

LOGISTICS

RAPID CASTING PROTOTYPE

We have an in-house ExOne S-MaxPro 3D-printer for producing cores and sand moulds.

With two 1800×1000×700 mm work areas, we produce complex geometries in small and large series, offering flexibility, precision and fast turnaround times, even beyond the mould run volume.



EXECUTIVE DESIGN

We turn 2D drawings or physical parts into 3D models, co-designing with the customer. Casting is preceded by promptly making an in-house sand prototype, and an iterative refinement process. Each step is validated and then subject to NDT. This sound, flexible and measurable method allows us to safely progress to final production, without wasting any time or costs in production.

RAMP-UP CASTING



CASTING

The casting stage is the first real test of the project. We produce prototypes using the rapid-casting process replicating production conditions in order to validate materials and processes in a short timeframe, before actual casting.

ANALYSIS

After each casting, the part produced is carefully analysed using non-destructive testing, enabling us to validate design choices and accurately identify any areas for improvement.

CHANGES

We make targeted changes to the model or process based on the results. The entire cycle is repeated for as long as required, allowing each detail to be corrected in order to progressively achieve the objectives.

NDT (NON-DESTRUCTIVE TESTING)

Non-destructive testing is essential to validate prototypes without sacrificing integrity. It allows us to detect any internal or surface defects and ensure the quality of the part prior to series production.

RADIOSCOPIC TESTING

We use radioscopic testing to analyse the quality of the casting and detect the presence of any internal defects. This test gives us an overall structural vision.

LIQUID PENETRANT TESTING

Liquid penetrant testing highlights, with great accuracy, surface discontinuities such as cracks or porosity, and can also be used on complex geometries and porous materials.

3D DIMENSIONAL INSPECTION

3D dimensional inspection checks the conformity of the part with the model, detecting any deviations and ensuring design precision.



CASTING TECHNIQUE

Our expertise stems from the foundry, with an approach geared towards constant innovation. We are familiar with all the critical aspects of the process and know how to tackle them in advance. We are specialised in earth and sand/resin castings, ideal solutions for small series requiring flexibility, precision and high metallurgical quality.

SAND CASTING

Sand casting allows the production of complex shapes, even large ones, with excellent results in economic terms, from the prototype to the medium series. Flexible and reliable, it offers good metallurgical quality, but with limitations for minimum thicknesses and surface finishes.

LOW-PRESSURE CASTING

Low-pressure casting ensures that high-quality components are easily repeatable. Ideal for medium/high series production, it offers excellent finishes, a reduction in casting defects and a process that can be automated, although it requires higher initial investment and specific moulds.

LOST-WAX CASTING

Lost-wax casting offers extremely high precision, an excellent finish and a wide choice of shapes. Suitable for various alloys, it allows the production of complex geometries without the need for expensive equipment. Ideal for special or limited production, not suitable for large quantities.

DIE-CASTING

Die-casting involves using permanent steel moulds, ideal for products in aluminium and bronze. It provides excellent surface finishes, reduced thicknesses and good mechanical properties, making it advantageous for medium series, although it has limitations for complex shapes and sizes.

HIGH-PRESSURE DIE-CASTING

High-pressure Die-casting allows fast, high-volume production with excellent surface quality and narrow thicknesses. Ideal for light alloys, it requires specific moulds and machinery, and is suitable for simple, repetitive medium/high volume parts.



SHING

OUR CUSTOMERS KNOW THAT, BY WORKING WITH US, THEY CAN ALSO RELY ON METICULOUS TECHNICAL AND ECONOMIC ASSESSMENT OF MOULDS AND PRODUCTION EQUIPMENT.



LOGISTICS

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POST-CASTING

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CASTING

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DESIGNING

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CONSULTING



FINISHES

We handle all post-casting finishes, thanks to specialised partners and sophisticated processes. We can provide finished, ready-to-use components, fine-tuned in every detail: deburring, sandblasting, tumbling, polishing and surface treatments for all types of ferrous and non-ferrous alloys.



TREATMENTS

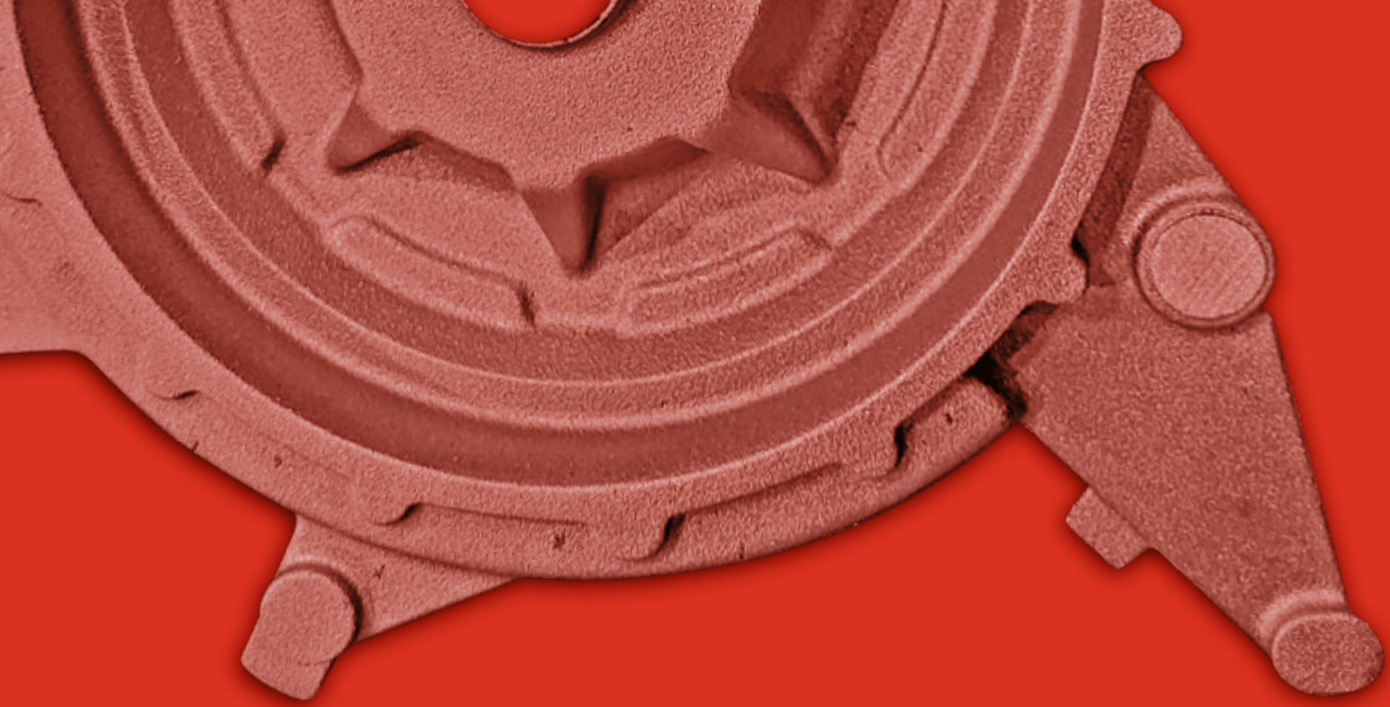
Using our network of skilled partners, we handle all necessary post-casting treatments for ferrous and non-ferrous alloys: thermal, chemical, galvanic or protective. Each treatment is selected to ensure high performance, durability and compliance with project specifications.



HI-MEC SOLUTIONS

The mechanical machining of castings requires specific skills: special clamping, constant monitoring and know-how about complex materials. We therefore work with specialised partners who can guarantee extreme precision in milling, turning and complex machining operations on ferrous and non-ferrous alloys.

POST SERV



CONSULTING

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DESIGNING

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CASTING

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POST-CASTING

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LOGISTICS

OPTIMISATION OF SMALL-SCALE PRODUCT PROCESSES

Our supply chain is tailored to each project, optimising the production process on a small scale. We carefully choose partners for mechanical machining, treatments and finishes, ensuring efficient, customised supply chain management for each individual product.

SUPPLIERS

We have selected the best partners to ensure certified processes and guarantee a product that is perfected in every respect. The choice of suppliers involved in the process is an integral part of the initial project assessment, the aim being to optimise time and costs while ensuring a high standard of quality at all times.

POST-CASTING SERVICES



» CERTIFICATIONS

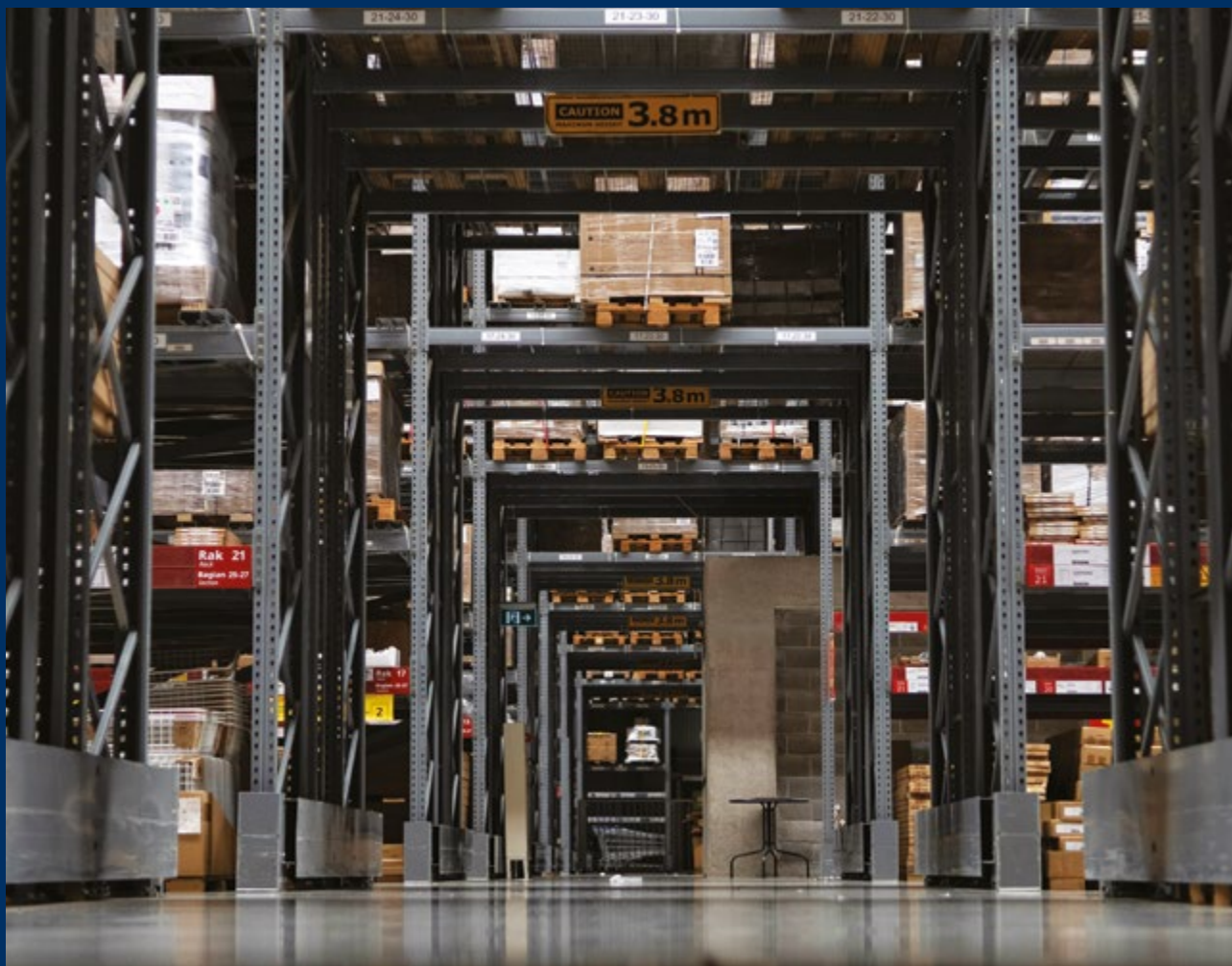


We are ISO 9001:2015 certified, which guarantees an efficient and well-structured quality system. Each product is accompanied by full documentation: certificates of conformity, material traceability and dimensional checks. We work with ferrous and non-ferrous alloys, ensuring high standards throughout the entire process, from the design stage through to the casting and finishing of a small series.

» LOGISTICS

We provide complete pre-assembly management: warehousing of semi-finished products, dedicated assembly sheets and outsourced assembly, ideal for complex machines.

We organise deliveries throughout Europe using reliable logistics partners. We manage Kanban reorders, group supplies, equipment to specification, and all necessary technical and certification documentation, ensuring efficiency, flexibility and operational continuity.





LOGISTICS

- POST-CASTING

- CASTING

- DESIGNING

- CONSULTING



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CASTIZE Srl

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