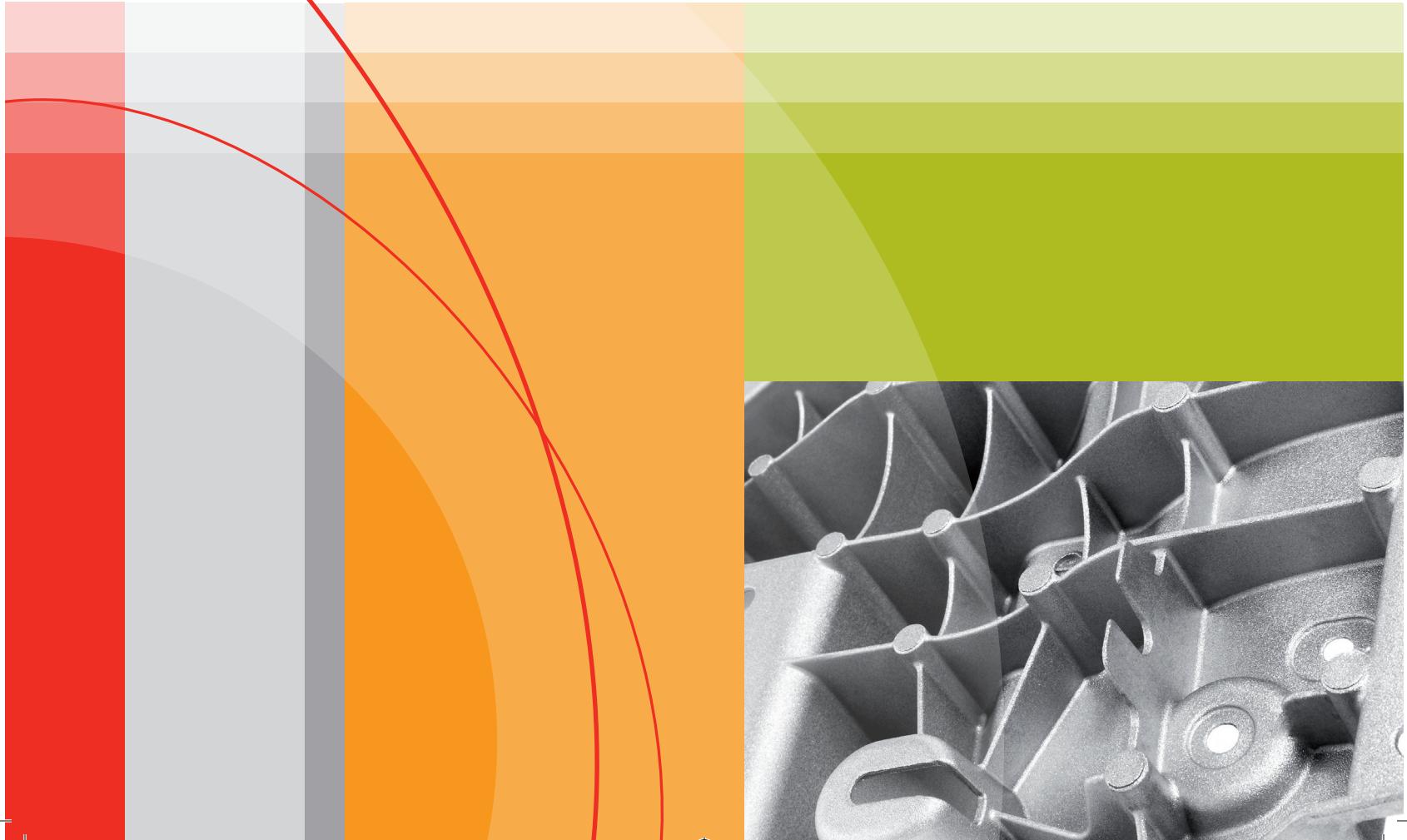
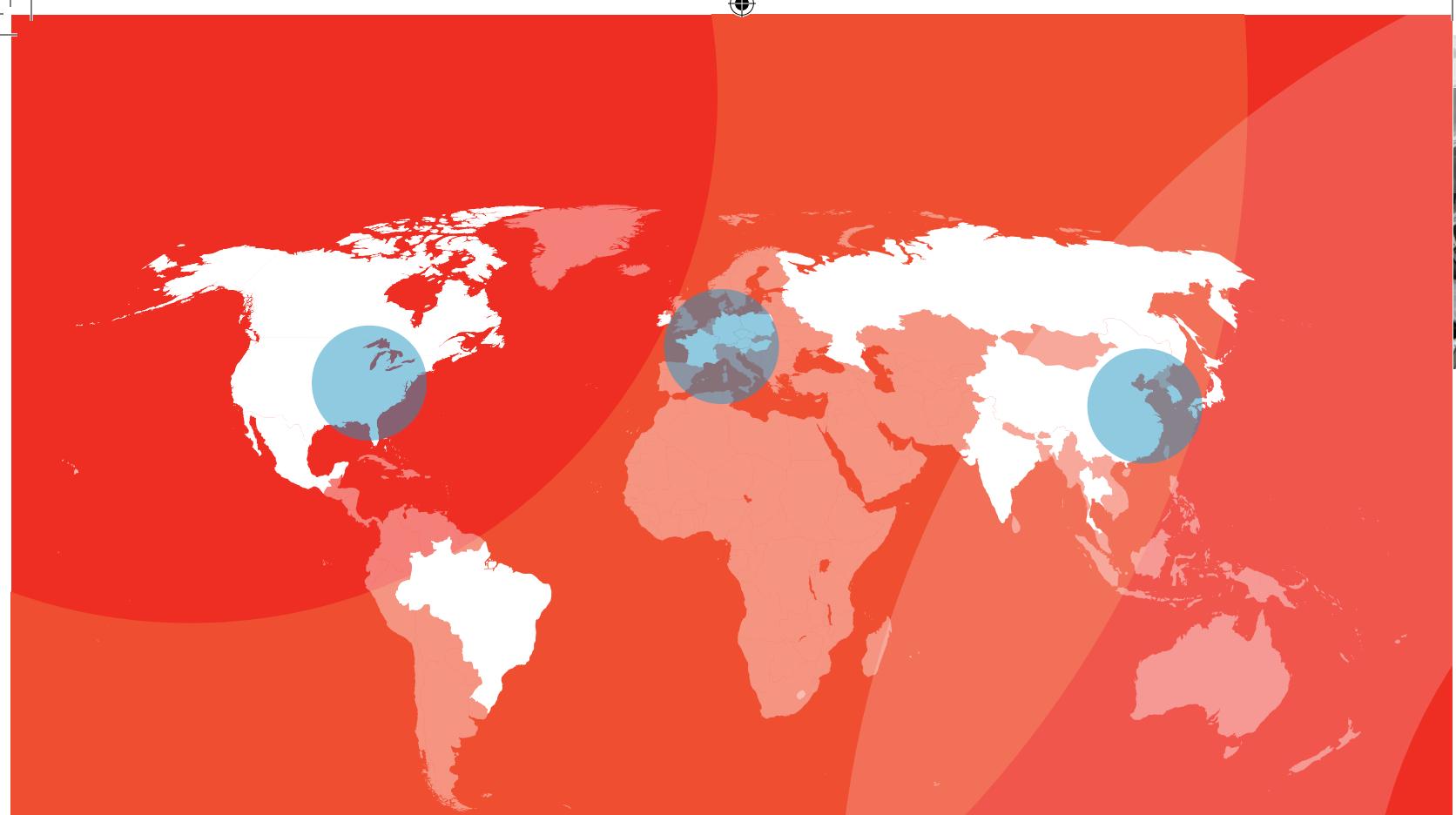


Cosma International
Aluminum High Pressure Die Casting

**MAGNA**
COSMA INTERNATIONAL





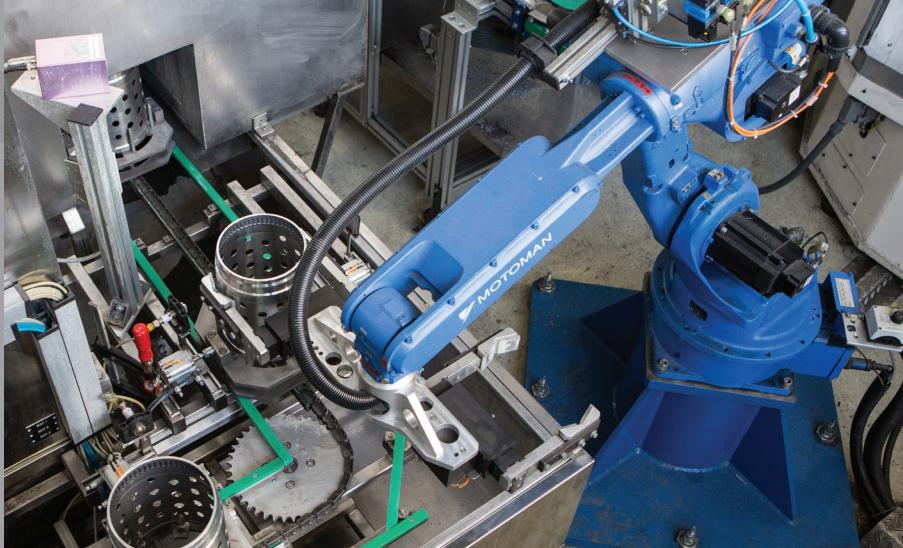
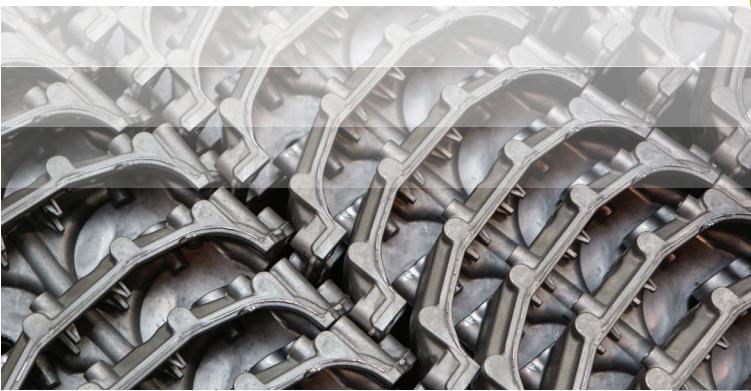
Cosma Locations



Cosma Casting Regions

Global Presence

With over 50 strategically located manufacturing sites, a vast network of sales, engineering, and research and development facilities, Cosma International is well positioned to support global automakers in all major markets throughout the world.



BDW Technologies Joins Cosma

Cosma International, an operating group of Magna International, is the global leader in advanced technology and manufacturing for automotive structures. Offering world class engineering, development, and production processes, Cosma provides its global automaker customers with a variety of material and process alternatives such as stamping, hydroforming, rollforming, advanced joining technologies and, now, high pressure aluminum casting.

Cosma's patented high pressure aluminum casting process, known as High-Q-Cast™, was added to the company's portfolio of technologies by the acquisition of BDW Technologies in 2012.

Originally founded in 1926, BDW has a rich history of providing creative solutions to the European automotive industry, which has led to new global opportunities since becoming part of Cosma. The body and chassis applications of the High-Q-Cast process add to Cosma's proven track record of advancing the industry with innovative lightweight structures.

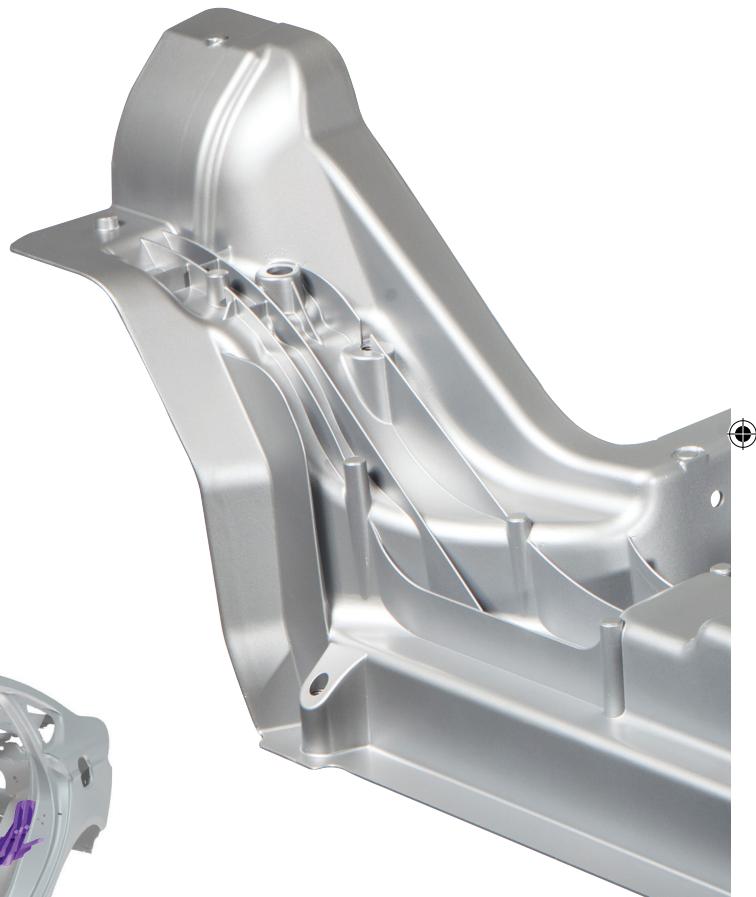
The High-Q-Cast process complements traditional low pressure aluminum casting, which is also part of Cosma's diverse range of process capabilities.

Product

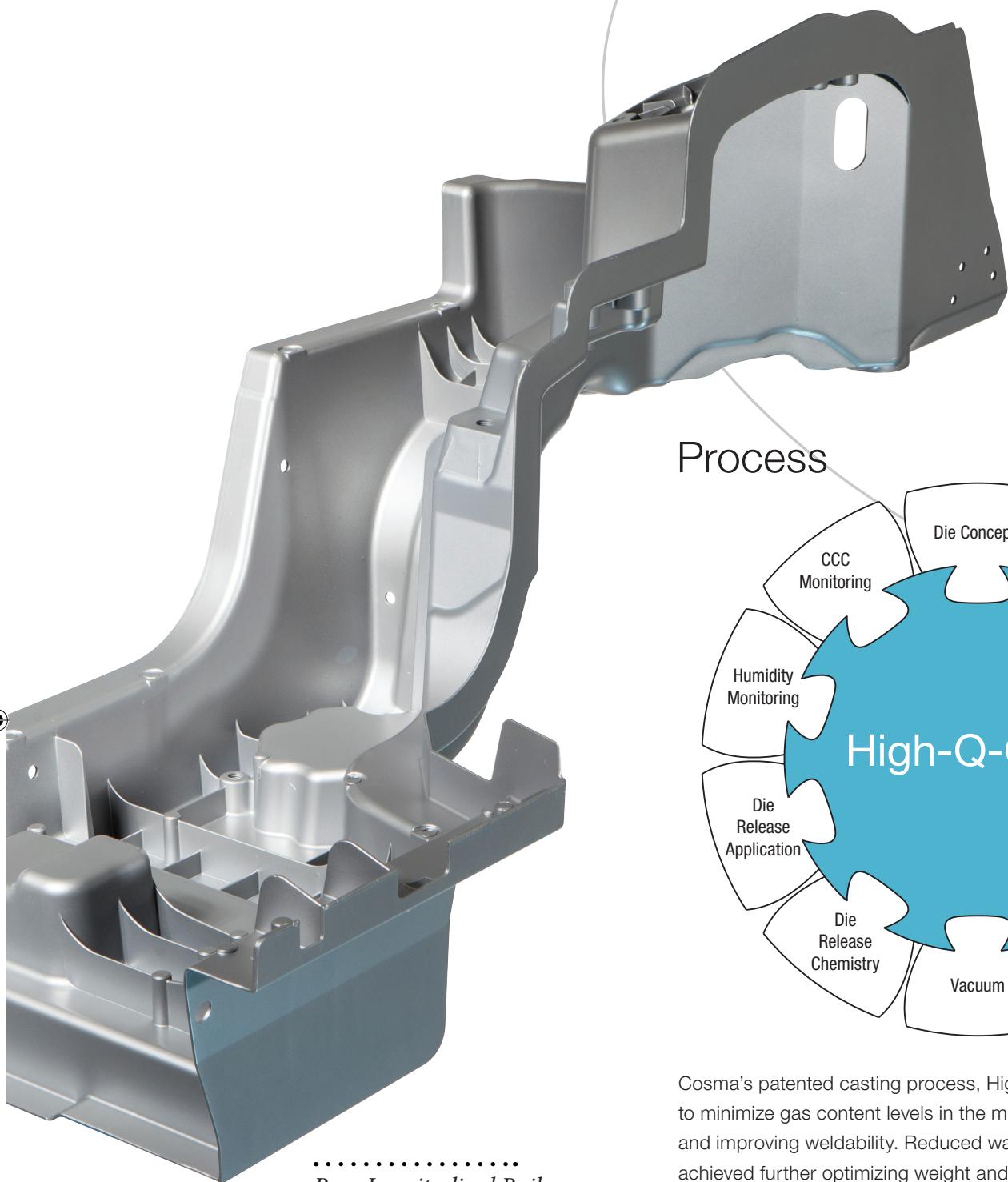
High pressure aluminum castings offer the automaker design, mass, and quality advantages in key body structure applications such as pillars, shock towers, and floor rails, to name just a few. Complex shapes, high product durability, and efficient integration with mating components can be achieved. Traditional body structure design would typically have multiple components welded together in areas now combined in a single aluminum casting, accomplishing the same function with less variability and less mass.

Chassis structure applications such as engine cradles, twist axles, and suspension links are also key areas of the vehicle where high pressure aluminum castings provide our customers the opportunity for product and design optimization.

As vehicle electrification and hybrid powertrains become more abundant in the industry, high pressure aluminum castings can be a key contributor in areas such as battery compartment housings and various transmission and powertrain components.



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Body Structure Applications



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Rear Longitudinal Rail

Cosma's patented casting process, High-Q-Cast, is unique in its ability to minimize gas content levels in the material, thereby reducing porosity and improving weldability. Reduced wall thickness is another benefit achieved further optimizing weight and increasing design flexibility.

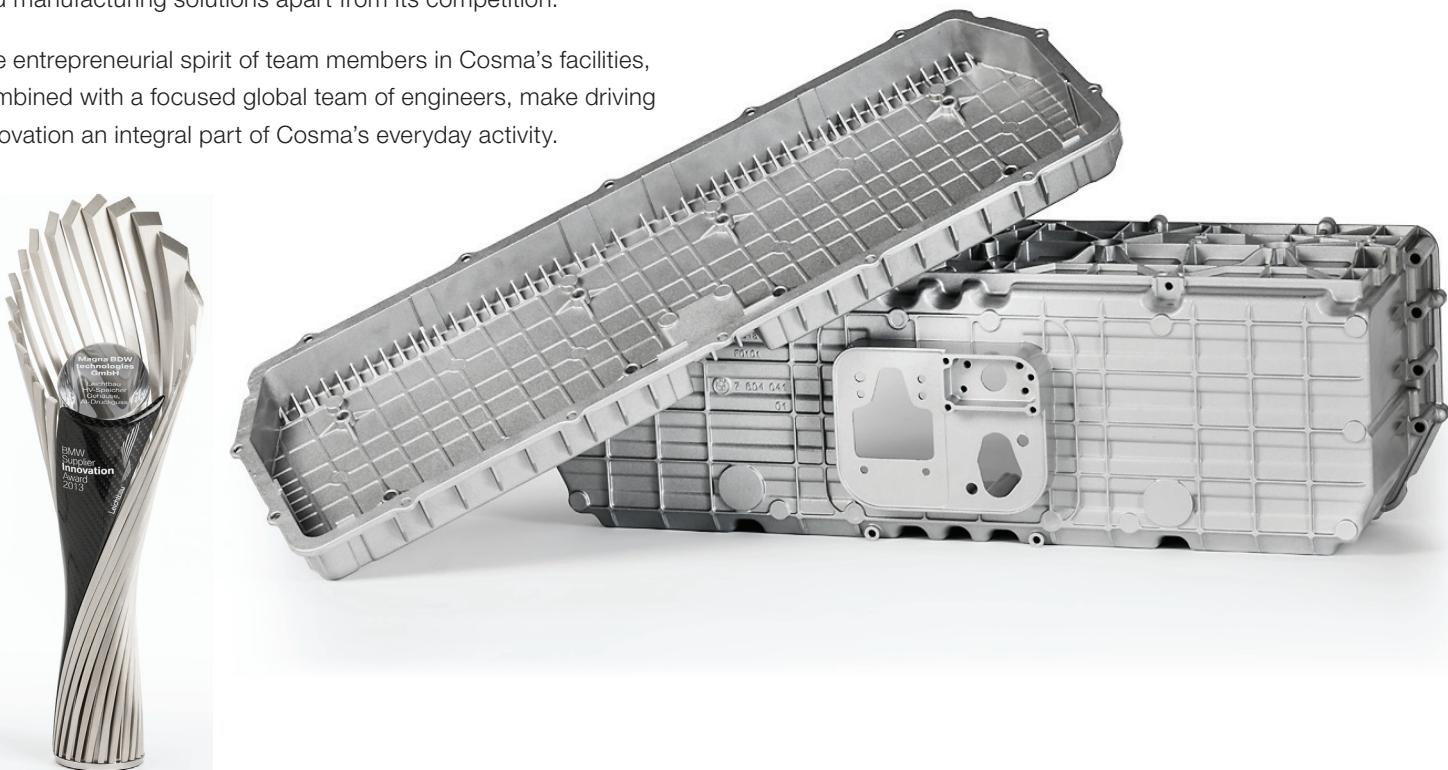
In addition to the casting process itself, Cosma has advanced the development and efficiency of downstream processes such as metal finishing, abrasive blasting, CNC processing, and assembly. Another patented technology, AURAL-THERM™, is an efficient, low distortion method of heat treating cast aluminum parts in areas of the vehicle that are critical for crash management.



Innovation

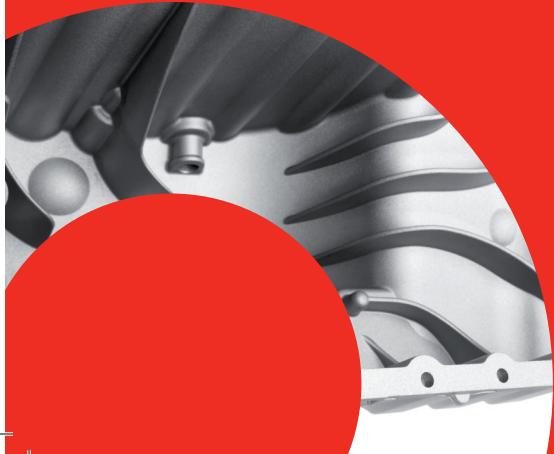
A true passion for innovation is what sets Cosma's product and manufacturing solutions apart from its competition.

The entrepreneurial spirit of team members in Cosma's facilities, combined with a focused global team of engineers, make driving innovation an integral part of Cosma's everyday activity.



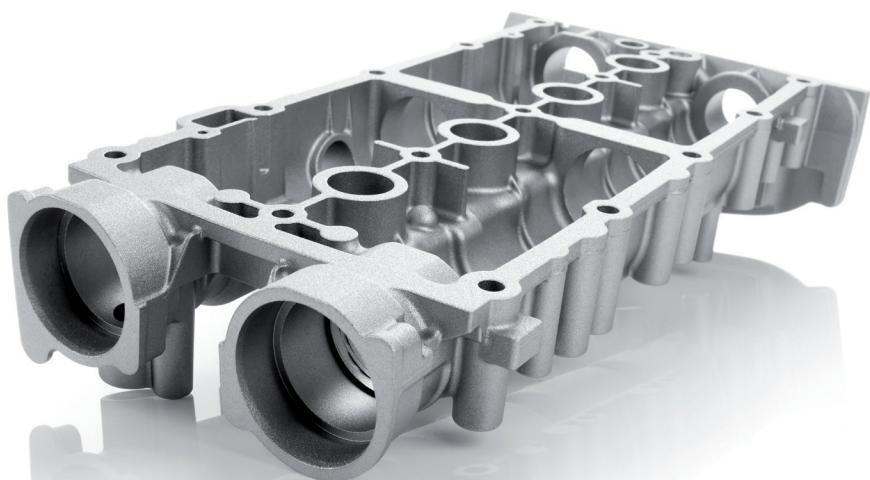
Global Development Team

Cosma International operates several research, development, and engineering facilities around the globe, close to our OEM customers, in order to collaborate on design and process solutions well in advance of serial production. It is through this partnership that ideas can become reality, and all aspects of product development from design, simulation, testing, and prototype can be coordinated through Cosma.



Cosma Alloys	Alloy Family	HT	Yield	Tensile	Elongation	Application
Aural-2	AISi10Mg	T7	120 MPa	180 MPa	10%	Thin wall structural components
Aural-5	AISi7Mg	T5	135 MPa	200 MPa	8%	Thin wall structural components, high dimensional but lower thermal stability than Aural-2

Standard Alloys						
226 / A380	AISi9Cu3	F	140 MPa	240 MPa	3%	Powertrain components
Castasil	AISi9Mn	F	120 MPa	210 MPa	7%	Thin wall structural components



Advancements in Alloys

Before product and process solutions take shape, there must be a solid foundation to build upon, and this happens with alloy development. In addition to working with traditional aluminum alloys, Cosma's patented AURAL™ family of alloys set the standard in areas of purity, flow properties, and material properties that can be customized to suit the product application. The various AURAL alloys are tailored to suit both the High-Q-Cast process and the AURAL-THERM heat treating process downstream. Ranges of chemical composition, ductility, elongation and micro structure ensure there are multiple options for customers to consider.



A Culture of Quality

All quality systems within Cosma facilities are focused on ensuring our customers receive the best product that meets or exceeds their expectations. Precise measurement within all aspects of the material, process, and post process environments are executed through a combination of automation, advanced quality planning, and highly trained quality control personnel.



Our People

Our dedicated employees are the major contributor to Cosma's ability to meet its goals. The development and training of each team member is key to supporting our future growth and adaptation to industry changes. This focus is enhanced with Magna's Employee Charter of Rights and Fairness Committee program, enabling employees to directly impact the success of Cosma, and in turn their own futures.

Our team members participate in our process improvement groups, our corporate fund raising and environmental awareness activities, as well as represent our company in recreational and athletic events within our corporation and community.

Cosma Team Members are proud of the products they supply and their contribution towards the consistently high quality they demand of themselves and each other.



Our Values

Commitment, Fairness, Integrity, Respect and Trust are among our core values. Through these we create an enriched culture which supports our business objectives.

Our Vision

To continually develop our team members and processes, together with the application of new ideas and technologies, in order to exceed our commitment to Customers, Investors, and Ourselves.



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