

70 YEARS OF INNOVATION TO EQUIP THE CAR OF TOMORROW

Paris Mondial de l'Automobile 2016

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PLASTIC OMNIUM IN 3 MINUTES

Plastic Omnium in brief

Plastic Omnium stands for 70 years of innovation which has enabled the Group to fully grasp all opportunities. Present for the first time at the Mondial de l'Automobile, the Group is using the occasion to reaffirm its ambition to support the mobility revolution through an intensified contribution to reduce the environmental footprint.

Plastic Omnium's longstanding commitment to support the car manufacturers globally in responding to the increasingly stringent environmental standards, is reflected through its development of ever more efficient technologies to eliminate harmful waste, and light-weight products to reduce fuel consumption. Today, Plastic Omnium has two automotive Divisions: Auto Exterior and Auto Inergy, which equip worldwide, one in seven bumpers and one in five vehicles in fuel systems respectively.

Plastic Omnium devises products which allow the manufacturers to integrate more functions in order to extend the limit of the "intelligent vehicle".

These evolutions represent the axes of growth for Plastic Omnium to make the vehicle of tomorrow more durable, more connected, incorporating more design features.



A story marked by a strategy of external growth

The recent history of the Group has been marked by the acquisition in July 2016 of Faurecia's Exterior Systems business. This operation has consolidated the Group's position as the worldwide market leader of exterior body systems and components. It enables the Group to reinforce its industrial footprint in Germany, to enlarge its customer portfolio of premium car manufacturers such as Audi and Daimler, and to increase its R&D capabilities.

Acquisition of Faurecia Auto Exterior Systems business



Expertise in key — industrial processes

Close partnerships with 45 car manufacturers worldwide

Firmly established in all key markets, Plastic Omnium offers car-makers its extensive capacity for innovation and its operational excellence throughout the world. Plastic Omnium has built its reputation on its mastery of key industrial processes such as injection-, compression- and blow-moulding, painting, assembly and integration of functions.

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6% of turnover invested in R&D



Present in 30 countries across 4 continents



57% controlling interest owned by Burelle SA



3,500 patents registered worldwide



MULTIPLE INNOVATION CAPABILITIES TO SERVE TOMORROW'S MOBILITY

THE CONSTRAINTS OF THE MARKET ARE THE OPPORTUNITIES FOR GROWTH

The intensification of regulations worldwide, implementation of new environmental standards, the emergence of "smart cities" and new data functions within connected vehicles... be it a matter of safety, of ecology or of technological evolution, the demands of building the cars of tomorrow encourage even more the use of lighter and more complex materials.





engineering centres across the world



3,500 Patents, of which 142 filed in 2015

Reinforce our environmental commitment

Recognizing the need for a development approach to a more sustainable car, Plastic Omnium conceives technologies which enable the manufacturers to reduce harmful emissions. Its expertise allows it to support its customers from the concept phase.

Plastic Omnium's innovations contribute to the light-weighting of body panels, a key factor in vehicle mass reduction and by extension, of the average level of CO_2 emissions. Lighter than steel with excellent mechanical performance, plastic composite parts are reinforced with carbon or glass fiber. Plastic Omnium's product portfolio can generate a weight reduction of up to 200kg, reducing CO_2 emissions by around 20 gm/km.

The aerodynamic offer enables a further reduction in CO₂ of 3 gm/km.

In the fuel systems arena, new construction and materials offer both high strength and weight saving of up to 30%.

Great freedom of design

Beyond realizing an average weight reduction of 30% compared to steel, the properties of plastics and composites offer superior performance to those other commonly used materials in the areas of resistance to bumps and heat, of durability and noise attenuation.

Reduce CO₂ emissions

> Moreover, plastics and composites allow increased freedom of design and an unparalleled flexibility of shape for the customized styling of models. In this way, the next generation of technologies and styling put in place by the manufacturers will thus be more easily integrated and deployable into the manufacturing process.



A RECOGNIZED KNOW-HOW IN EXTERIOR AND FUEL SYSTEMS

Auto Exterior division,

Bumpers and body-panels: a complete product offering

In brief: with more than 26 million bumpers produced and 200 developed each year, Plastic Omnium is the world leader with more than 15% market share. Originally intended to absorb impacts, the bumpers have become an important factor in vehicle design and enables the integration of up to 50 components. (radars, sensors...)

Rear closure systems: technologies adapted to suit all vehicles

In brief: the worldwide leader in composite rear closures, Plastic Omnium produces more than 1 million per annum. Its knowledge of plastic and composite materials allows Plastic Omnium to develop and produce lighter weight, structural solutions offering the manufacturers greater freedom of design and a weight saving of 30%.

The development prospects for the Auto Exterior division are numerous, at the forefront of which are the deployment of front- or rear-end modules and systems fully integrated into the vehicle. Among the other axes of development, the creation of new "shape memory" materials allow multiple possibilities to the manufacturers to optimize the aerodynamics of the vehicles as well as to customize and to improve safety.



Auto Inergy division,

AN ALLIANCE OF TECHNOLOGIES TO OPTIMIZE FUEL EFFICIENCY

And

In brief: Plastic Omnium produces more than 19 million fuel tanks per year and is the worldwide leader with 21% market share. Plastic Omnium has developed its own fuel systems and SCR (Selective Catalytic Reduction) technologies to support manufacturers in their efforts to greatly improve fuel efficiency. Notably, they are designed to meet most stringent environmental standards, and improve overall vehicle performance.

Already offering systems compatible with all types of powertrain, Plastic Omnium now focusses its research on advanced clean technologies development: SCR depollution cartridges, high pressure gas storage, alternative fuels etc.



INNOVATIVE SOLUTIONS TO MEET CHALLENGES OF TODAY AND TOMORROW



2016-17 INNOVATIONS PRESENTED AT THE MONDIAL DE L'AUTOMOBILE 2016

EXTERIOR SYSTEMS

LightAir, Aerodynamic bumper LightAir

Concept: LightAir is an innovation bumper concept prefiguring the evolution of the front end of the vehicle. This technology integrates active aerodynamic systems allowing the opening and closing of the grille, air inlets and deployable spoiler at high speed in order to manage the air flow according to the engine cooling requirements.

Environmental contribution: thanks to LightAir, the aerodynamic of the vehicle is optimized by 15%, CO_2 emissions can be reduced by 3 gm/km for an SUV, and fuel consumption reduced by 0.5 L/100 km.





Higote Concept, a light-weight and multi-functional variation of the rear closure system

Concept: Higate Concept is a rear closure system that perfectly illustrates the potential for light-weighting, design freedom and function integration for cars. Allowing a weight reduction of up to 50%, it integrates electronic and mechatronic equipment as well as fiber optic lighting to enhance owner comfort - contactless opening of the tailgate, an active spoiler system which adapts to driving conditions.

Environmental contribution: the lightweight structure allows a reduction in fuel consumption of up to 0.5 L/100km

ENERGY SYSTEMS

Tanktronic, smart fuel system for plug-in hybrid vehicles

Concept: A reinforced, electronically controlled fuel system, managing PHEV vehicle fuel vapors in all situations.

Environmental contribution:

40% lighter than its metal equivalent, this pressurized plastic fuel system contributes to the overall vehicle weight and CO_2 emissions reduction.



Concept: A mechatronic system for managing AdBlue[®] in the vehicle. Through regular AdBlue[®] refills, SCR (Selective Catalytic Reduction) technology enables a significant reduction of nitrogen oxide emitted by diesel engines.

Environmental contribution: up to 95% of NOx can be eliminated by using SCR technology.

INFINITE INNOVATION

Nobody knows what the future will look like. But at Plastic Omnium, we know what it will take to shape it. The future will be about brave choices and about having an entrepreneurial mindset. It will be about working with the right people and the right material. The future will be about innovating every second of every day to transform and create the cars of tomorrow. The future holds infinite possibilities and we can't wait to be a part of it.

Compagnie Plastic Omnium, SA, 19 bd Jules Carteret 69007 Lyon, RCS Lyon 955512611, Capital de 9148 603,20 euros.



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Come to visit Plastic Omnium at Paris Mondial de l'Automobile, Hall 1, aisle B, stand 222